

MASTER

MULTIMEDIA -CULTURE AND ARTS

SYD Live CV: A new proposal for work overview.

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Junho de 2019



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Abstract

The significant grow in the job search and personal valorization has the attention of researchers, economists, psychologists and entrepreneurs. With the growth of digital social presence, networking and the development of next generation human resource management, some solutions for the job market problematics have appeared. By reviewing the literature on the subjects of Human Resource Management, e-HRS, HRIS, Recruitment, Employee Branding, Human Capital, Resume Screening and Applicant Tracking Systems, we have noticed that the majority of the data gathered in order to hire a potential employee is available only to the hiring party. There is very little information and examples of an Interactive Live Curriculum Vitae, it is certain that many platforms, companies and organizations possess Portfolios and CVs with some degree of interactivity and regular updates, however, there seems to not be any Live Curriculum Vitae constantly synchronized with the owners' professional path. This thesis aims to test the hypothesis of a live curriculum vitæ based on the content aggregation of the Creative Industry employee's professional activity.

Resumo

O crescimento significativo das áreas de procura de trabalho e valorização pessoal tem a atenção dos investigadores, economistas, psicólogos e empreendedores. Com o crescimento da presença digital, o estabelecimento de contactos e o desenvolvimento da próxima geração de gestão de recursos humanos, algumas soluções para a problemática no mercado de trabalho emergiram. Revendo a literatura acerca dos tópicos: Gestão de Recursos Humanos, e-HRS, HRIS, Recrutamento, *Employee Branding*, Capital Humano, Analise de CV e Sistemas de Rastreamento dos requerentes, notei que a maior parte da informação obtida sobre um potencial empregado é limitada e por vezes disponível apenas para o empregador. Há pouca informação e exemplos de um Curriculum Vitae Interativo, é certo que muitas das plataformas, empresas e organizações tem Portfolios e CVs com algum nível de interatividade e atualizações regulares, no entanto a existência de um Curriculum Vitae Vivo, constantemente sincronizado com o desenrolar do caminho profissional do usuário não está em vista. Esta tese tem como objetivo testar a hipótese de desenvolvimento de um curriculum vitae vivo baseado em agregação de conteúdos e atividades dos profissionais da Indústria Criativa.

Acknowledgment

I would like to use this opportunity to express my gratitude to those who help me pursue my dream. To everyone involved in the process of writing this thesis, to my colleagues and teachers, to friends and strangers. I am deeply grateful to my family for all they do and lucky to be in their pack.

Stanislav Solonenco

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Abbreviations and Symbols

e-HRM Electronic Human Resource Management

API Application Programming Interface

APP Application

ATS Applicant Tracking System

CV Curriculum Vitae

GUI Graphic User Interface

HTTPS Hypertext Transfer Protocol Secure

PWA Progressive Web Application

SYD See Yourself in Data

UI User Interface
UX User Experience

WWW The World Wide Web



Introduction

1. Introduction

"A man must always live by his work, and his wages must at least be sufficient to maintain him. They must even upon most occasions be somewhat more; otherwise it would be impossible for him to bring up a family, and the race of such workmen could not last beyond the first generation."

— Adam Smith¹, The Wealth of Nations, 1778.

Employment, work or other streams of income have a direct influence on the level of live. The motivation for this thesis can be traced along the life of the author. As a child in post-soviet country of the Republic of Moldova, immigrant in Portugal, job seeker in multiple countries across continents and a diversified laborer, employee and contractor he has lived and noticed many challenges in the employment market. One of the basic issues is the way a job seeker is evaluated. Curriculum Vitae, Portfolios, employment networking are different approaches to the same theme. How does a company select an employee; Does the traditional CV serve its purpose; How is it possible to improve the CV of a Creative Industry Professional with the use of content aggregation; these are the questions we would like to investigate in this thesis.

This thesis aims to contribute to the field by bringing some new perspective about employee valorization and transparency in the recruitment processes and by re-imagining the current CV model. The proposed model presents expandable information of work overview in a user-friendly way.

¹ Adam Smith – Scottish economist, philosopher and author, also known as "The Father of Economics", 1723 – 1790.

1.1 Project

SYD LIVE CV concept and prototype is a result of previous non-academic research, since 2016, SYD System is an applicant facilitator, employment solution and Live² CV service-providing platform. SYD is the acronym for "See Yourself in Data". SYD Platform is under development since 2017, powered by SOLDAC (INPI ° 43132, 2017). The first prototype was designed in 2017 and registered as a product of SOLDAC Trademark in the National Institute of Intellectual Property, Portugal (INPI).

During its incubation sections as: market research, business plan, legal, first wireframes and mockups as well as the design were briefly covered. For next steps of research, optimization and development it was intended to use the academic environment of FEUP and especially the Master of Multimedia course as a learning and investigation platform. The result is this thesis. The task of this thesis investigation was to comprehend on a deeper level the topics of 2016-2017 and gather new feedback on the matter in 2019. As a result, an updated version of SYD Live CV Model and a high-fidelity interactive prototype, sustained by research results and user interactivity results was developed. The prototype can be accessed by reaching the author via e-mail at: avislan.s@gmail.com

1.2 Problem and Objectives.

The main problem we identified is the lack of transparency and clear understanding of applicant data using traditional work overview models such as CV, Portfolio and their online counterparts. In order to obtain some clarity on the matter, during this thesis it is intended to answer the question: How is it possible to improve the CV of a Creative Industry Professional with the use of content aggregation? Content aggregation purpose is of fetching, sorting and showing applicant data in one centralized platform in a clear, transparent and comprehensive manner.

1.3 Investigation Methodology

Having in mind the objectives, the motivation and the time allowed for the realization of this thesis, an ongoing research and development process was designed with literature review, a qualitative research approach during the first part of research followed by a quantitative method. To analyze the obtained data from the Quantitative research descriptive analysis method was used. In the Qualitative, research stage the discourse analysis method was used. The use of these

² Live – In this context is referred to real-time processing of an event or function instantaneously.

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methods benefitted in the creation of a solid ground based on literature review crosschecked with up to date methods and processes used in Recruitment.

1.4 Dissertation Structure

Besides the introduction this thesis contains 6 more Chapters. In **chapter 2** the state of the art is examined in order to build the research from ground up. In this section the reader can find a brief introduction to the Curriculum Vitae, predominant human resource management methods, technologies and observations that bring the investigation to the next stage. Followed by **chapter 3**, where the prototype inception is divided into sections, one can read on the process that took place in the development of the initial prototypes of SYD Live CV. In **chapter 4** the developed prototypes are field tested with Human Resource professionals of various creative fields finalized by observations, comments and results as well as the most recent SYD Live CV prototype with HR users in mind. **Chapter 5** summarises this thesis presenting conclusions and future steps. At the end of the document one can find the references supporting the work, as well as additional documentation and prototype progression in the Annexes.

2. State of the Art

In order to better understand the subject, the academic study for this thesis starts from the ground and builds upwards. By approaching the subject in this matter, this thesis presents relevant information on the topics of Curriculum Vitae, Human Resource Management, Recruitment, Selection and Assessment followed by Technology, Design and Interface topics.

This thesis draws some of its initial inspiration on existing e-Recruitment and Employment Networking platforms such as: LinkedIn; Glass Door; Adecco; Xing, from e-HRM software such as: Bullhorn; Zoho; Oracle HCM Cloud; and from the existing European standard CV *Europass* recommended on 11 of March 2002 and adopted 15th of December 2004. Also, for the Literature Review and academic research, topics from the European Network of Recruitment and Selection Researchers (ENESER) were consulted.

2.1 Introduction to Curriculum Vitae

Curriculum Vitae, from Latin "the course of your life". Since 1482 until 1950 the CV was still an informal document used by very few and known by even less people around the world. Only after 1950 the CV becomes formalized and expected from the applicants in a vast majority of companies and organizations, (UK National Career Service Infographic, 2017). Nowadays the CV gained form and actually reveals some information about the candidate, making the beginning of a more organized Human Resource Management.

The first CV was a Resume rather than a CV. The distinction between the two is the complexity and the information presented in the document. A Resume is a brief letter, usually one or two pages long, with only some highlights of the candidate and a CV is a more complex document with more details on each project and can present more information about the candidate (Surbhi, 2018).

The first case known in history of such a Resume is the case of Leonardo da Vinci when he applied to work for the Duke of Milan³ after learning that the Duke was searching for craftsman to build weapons for the upcoming war. Leonardo da Vinci has written a short letter of motivation and included some of the experience he had and also included some of the war machine prototypes he was meaning to build. During almost five hundred years the CV and the Resume have been used by many seeking employment while traveling or for applying to the apprentices' position. Not long ago with the commercial release of the Word Wide Web in 1995 the CV was introduced to the Internet and right after the launching of Google.com in 1998 the streamlining of job-seekers' online searches has further increased. With the introduction of LinkedIn in 2003, a platform for job networking and recommendation, other web tools have rapidly started introducing the use of CV online. By 2007, YouTube and other video sites, allowed video CVs to become common and even, in some cases, mandatory. Today big tech companies apply many of their resources of Machine Learning and Artificial Intelligence towards the Hiring Industry creating Recruitment Software powered by algorithms, neural networks, and big data, (Arnaud,B. 10 European startups with the potential to disrupt the HR industry, 2018). 4

2.1.1 Main CV characteristics

The CV used to be composed of little information and evolved into a more detailed document, however alongside its evolution some of the main characteristics remain. The CV is mainly a platform that contains within itself Activities that represent and justify someone's skills, talents and competencies. Skill described as "the ability to use one's knowledge effectively and readily in execution or performance" (Mirriam-Webster, 5 Feb 2019). Talent on the other hand is something mostly described as natural endowments of a person. The concept of 'competence' has captured attention from multiple disciplines such as linguistics (Chomsky, 1980), psychology (Boyatzis, 1982), and strategic management (Prahalad and Hamel, 1990). In relation to this thesis competence is considered as the ability to perform a professional activity with required knowledge, skills and attitudes, demonstrated through behavior and measured in terms of proficiency levels (CEN⁵, 2010; EQF⁶, 2008). Competencies can be assessed through several techniques and they can be related to time in order to account for obsolescence (Harzallah and Vernadat, 2002). The semantic perspective consists in identifying the core constructs related to the concept of competence, such as the knowledge, skills and attitudes referred to a specific context (e.g., process, project, organization, or industry), or acquired by the actors (e.g., learners,

³ Ludovico Sforza 1452 - 1508

⁴ Retrieved from https://www.eu-startups.com/2018/07/10-european-startups-with-the-potential-to-disrupt-the-hr-industry/).

⁵ The European Committee of Standardization.

⁶ European Qualifications Framework, supporting instrument for European cooperation in education and training.

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employees or job finders, organizations), and documented with certificates or recommendations (Zhao, 2012).

Overlooking many other factors of a human being and focusing primarily on two factors we can look at the competencies. As a result, the competence is the quality or state of having enough knowledge, judgment, skill, or strength (as for a particular duty or in a particular respect). We have focused our attention on the above due to its continuous relevancy along the CV and Resume development timeline. These factors, despite many other fields have appeared as preferred and, in some cases, mandatory on a CV template, remain in the core of any Curriculum Vitae.

2.1.2 EUROPASS

Europass was, still is, a step taken forward for the professional movement of EU citizens. "Whereas the Council Resolution of 3 December 1992 on the transparency of qualifications invites the Member States to take steps to increase the visibility of qualifications and competences through the introduction of a common format for the presentation of individual skills (portfolio), a part of which should be a common format for CVs." ⁷

This single Community framework for the transparency of qualifications and competences was developed under the EU guidance and firstly adopted by state institutions across the EU. The Europass-CV is a personal document, which contains self-declarations written by individual citizens. Its format includes categories⁸ for the presentation of:

- information on personal matters, language proficiency, work experience and educational and training attainments,
- additional competences held by the individual, emphasizing technical, organizational, artistic and social skills,
- additional information which might be added to the Europass-CV in the form of one or more annexes.

Since 2004 and until recently the Europass is still widely used by national institutions and some private organizations, however and due to the shift from traditional CV templates many of these Europass CVs are overlooked and remain piled up. This happens mostly due to the time needed to investigate the submitted applications.

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OMMISSION RECOMMENDATION (2002/236/EC) Adopted by DECISION No 2241/2004/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004.

⁸ Official Journal of the European Union, (2002/236/EC)

2.2 Exploration of Human Resource Field

Even in prehistoric times, consistent methods for selection of tribal leaders were present (Jones & Bartlett, 2014). From as late as 2000BC to 1500BC, the Chinese used employee screening techniques, still used today, the Greeks used the apprentice system. (History of Human Resource Management, 2010). Guidelines for safety and health while hunting were passed on through generations. Early employee specialist called personnel managers, a term still in use today, were tasked with a set of functions or activities regarding recruitment and management of employees.

The development of personnel management in the United Kingdom and the United States was earlier than in Australia and Asia Pacific countries, a response to an earlier adoption and development of mass production work processes. Industrialization created many jobs that were monotonous, unhealthy and even hazardous consequently leading to division between the management and the "working class". In order to achieve changes in the factory's conditions of employment, workers had to unionize and get the attention of the public. At the time Humanitarian, Cooperative and Marxists theories of the early 1900s highlighted the potential conflicts between employee and employer, situations that laid the foundations for the growth of the trade unionism and industrial relations systems, important elements of contemporary HRM. (Nankervis et.al, 2011). Many times, the government of the United States and the United Kingdom became involved in the establishment of laws to regulate the hours of work for women and children, establish minimum wages for male labor and to protect workers from unhealthy or hazardous working conditions.

Following these actions, and by necessity, Human Resource Management was entrusted with a much more complex array of tasks in order to mediate between the various elements of labor.

2.2.1 HRM Theories and Methods

Since Human Resource Management has been recognized as a field for further academic and scientific research many schools have appeared. We will state some of the main schools, however for the purpose of this thesis we will focus mainly on the latest management theories.

2.2.1.1 The Bureaucratic Theory

The Bureaucratic Theory by Max Weber⁹ and the term bureaucracy was first described in his book "The Protestant Ethic and the Spirit of Capitalism" in 1905. The bureaucratic theory is defined by many layers of division, making the working environment a meticulous following of

⁹ Max Weber – German intellectual, jurist, philosopher and political economist, one of the founders of Sociology, 1864-1920.

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strict rules and positions in an organization. This theory is a rather impersonal approach to human resource management. Today, bureaucracy is the administrative system governing many large institutions, whether publicly owned or privately owned. (Bureaucracy Definition. Investopedia. 2019-02-08). ¹⁰

2.2.1.2 The Classical School

"The Scientific Management" or *Taylorism* was founded by Frederick Taylor¹¹, firstly published in the monograph "The Principles of Scientific Management" in 1911. His theory is best exemplified by the Henry Ford¹² in his vehicle manufacturing plants. The Scientific Management places its emphasis on the job itself and the efficient adaptation of workers to work process. Taylor believed that by calculations of exactly how much time it takes a man to do a task, or his rate of work the employer can reduce time waste and increase productivity. The Scientific Management was one of the first attempts to treat management and process improvement as a scientific problem, considered as the founder of modern industrial engineering. Although by 1930s this school of thought was obsolete, most of its principles are still important parts of industrial engineering and management today. Some of these values reflect upon standardization, transformation of craft production into mass production and knowledge transfer between workers and from workers into tools and processes.

2.2.1.3 Fordism

Fordism is a manufacturing system designed to produce standardized, low-cost goods and afford its workers enough wages to buy them. (De Grazia, 2005. p. 4.). Also described as "a model of economic expansion and technological progress based on mass production: the manufacture of standardized products in huge volumes using special purpose machinery and unskilled labor." (Tolliday et.al, 1987). This system continues the Taylorism method and treats the worker as a tool, looking out for quantity rather than quality from the employee. These methods coming from the industrial era are still present today (as one can realize through e.g. an online search) and act as the basis to modern examples of standardized mass production and mass consumption. Items such as: canned goods, household appliances and prescription free medicine, are just a few examples.

2.2.1.4 Behavioral Management Theory

¹⁰ Retrieved from https://www.investopedia.com/terms/b/bureaucracy.asp

¹¹ Frederick Taylor – American mechanical engineer known for his input in industrial efficiency and efficiency management, 1856 – 1915.

¹² Henry Ford – American industrialist, business magnate founder of Ford Motor Company and key figure in the assembly line technique of mass production, 1863-1947.

In the early 1920s, a shift away from the classical management style was necessary as theorists began to consider the human side of an organization, the social needs and work-related satisfaction of employees. The new school had the name of "Behavioral" and was mostly influenced by Elton Mayo's Hawthorne Studies. The Hawthorne experiments consisted of two studies conducted at the Hawthorne Works of the Western Electric Company in Chicago from 1924 to 1932 by Mayo and Fritz Roethlisberger. These studies primarily investigated the working conditions effects on the worker such as the lighting but have surprisingly revealed that the workers responded better to social factors such as the interest the manager gave to them and the appreciation of their work. Further studies showed that factors as team member interaction and later tested 5- and 10-minutes breaks twice a day that had much more impact than the lighting conditions. The roots of Behavioral Theory in Management can be traced to the father of Behavioral Psychology, John B. Watson, who described behaviorism as following: "Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors." (Watson, J. B., 1913). Subsequent management theories, (e.g. systems theory, contingency approaches) attempt to build structures to benefit both the employees and the employers.

2.2.1.5 The contingency theory

The contingency theory of leadership was proposed by the Austrian psychologist Fred Edward Fiedler in his landmark 1964 article, "A Contingency Model of Leadership Effectiveness." Contingency theory is a holistic approach to the organization that looks at the leader in two separate ways. On one hand the leader can be task motivated, thus entrusted with scheduling, planning and overlooking the process of completion of a task, on the other hand the leader is relationship motivated, taking into consideration the fellow employees needs and applying a more social and interpersonal approach to the working environment. As a result, the contingency theory doesn't believe that there is one best way to lead an organization and emphasizes a constant change and adaptation to its environment.

2.2.1.6 System theory

System theory was proposed in the 1940's by L. von Bertalanffy, a biologist, as the basis for the field of study known as 'general system theory', a multidisciplinary field (1968). Some influences from the contingency approach can be found in system theory. A System by its definition is a set of things working together as a part of whole mechanism either man-made or by nature. Systems can be very complex structures that work in correlation to achieve a special goal, thus in organizations understanding the system, or fabricating one can bring upon effective ways to achieve goals. For systems theory communication is important and is not perceived as an isolated action but rather as a whole (University of Twente, 2017).

State of the Art

2.2.1.7 Excellence Theory

Excellence Theory is a general theory of public relations that "specifies how public relations makes organizations more effective, how it is organized and managed when it contributes most to organizational effectiveness, the conditions in organizations and their environments that make organizations more effective, and how the monetary value of public relations can be determined". (Grunig, J. E., 1992). The public relations approach by excellence theory positions PR officers on the executive bench, for it believes in achieving excellence by creating bonds with its public by means of lowering bad publicity and by creating targeted products. This approach suffered some criticism from scholars such as Van der Meiden, (1993) and Murphy, P. (1991), due to the way it operates on a two-way method of the organization and the public relationship, which can lead to prioritizing one side more than the other.

2.2.1.8 Kaizen (改善) / Improvement.

Kaizen is a method to eliminate waste by constant improvement. In the activities of this system all the employees take part, from the assembly line workers to the CEO. Kaizen method is also used in other spheres such as healthcare, psychotherapy, life coaching, government and banking. This system grew from the arrival of the USA Training Within Industry or TWI Job Methods program to Japan after the 2nd World War and under the Marshal Plan as an aid in rebuilding the Japanese Industry (Misiurek, Bartosz ,2016). American occupation forces flew in experts and developed training programs to improve Japanese management skills and teach statistical methods. In order to introduce the TWI's three "J" programs: Job Instruction, Job Methods and Job Relations a training film titled "Improvement in Four Steps" in Japanese Kaizen eno Yon Dankai was shown, thus introducing kaizen to Japan in 1951. The cycle of kaizen activity can be defined as: Plan \rightarrow Do \rightarrow Check \rightarrow Act, also known as the Shewhart cycle, Deming cycle or PDCA (Tague, N. R., 2005). Following kaizen, many other workplace improvement methods have appeared in Japan and have spread to other countries and environments even used as a selfimprovement method. Just to name a few of the many principles of Kaizen: fast identification of the problem and solution, keeping the workplace environment clean and organized, maintaining a good team spirit and motivation by small group activities and aligning specific goals.

2.2.1.9 Employer brand

The concept of employer branding emerged as a result of the application of the marketing principles to human resource management (i.e. internal marketing). Internal marketing views its employees as customers and their jobs as products. "To have satisfied customers the organization must first have satisfied employees" (George, 1977). Attracting and retaining highly talented employees is one of the principles of employer branding. Internal marketing uses many strategies to guarantee the retaining of their employees, in many cases it comes to satisfaction of this

employees wants, needs and even emotional attention. In consumer marketing, it is widely accepted that brand success relies on making promises that add value for the customer. In recent years these promises have taken on strong emotional content (Schmitt, 1999; Thomson et al., 2005; Gobé, 2010). Emotions strengthen attachment and may lead customers to buy a product, even when it carries a premium price. (Susana Fernandez-Lores et.al, 2015). These principles also add value to the culture of the organization resulting in a better image and closer bonds with its customers.

2.2.1.10 Human Capital Theory

Human capital is a quantification of the economic value of a worker's skill set. This value relies on the skillset, experience and education of the employee; thus, many companies invest in their employee development. The original idea of human capital can be traced back at least to Adam Smith in the 18th century. The modern theory was popularized by Gary Becker, an economist and Nobel Laureate from the University of Chicago, Jacob Mincer, and Theodore Schultz. The Human Capital Theory highlights the idea of investing in the human being and perceiving the added value by the development from within the system. As we progress through the Human Resource Management theories, we can observe a shifting position from what organizations use, in various situations, in order to build value.

2.2.1.11 The Brand Called You

In the Fast Company Magazine, the article titled The Brand Called You written by Tom Peters in 1997, gave a different approach on branding, the article is about self-branding. As Tom Peters wrote "It's a new brand world." and "Regardless of age, regardless of position, regardless of the business we happen to be in, all of us need to understand the importance of branding. We are CEOs of our own companies: Me Inc. To be in business today, our most important job is to be head marketer for the brand called You.". This article calls the reader to act upon his own image, his own self as a brand. Peters encourages the reader to use branding and marketing techniques to run the business of You Inc. a representation of individual skills assessment and development. This might seem to be yet another self-improvement and self-help article. Despite even getting a dose of criticism from peers and business managers regarding this individual approach as disruptive to an organization's holistic behavior, Tom Peters was right. Today this individual branding approach is used by many, since the unstoppable growth of the social networking, platforms and content circulating the internet, many self-proclaimed individual Me Inc. have surfaced, and many are doing just fine with their own brand. This approach, at first might appear as deviated from previously stated theories and methodologies of human resource management, however many of the human resource management methods are still used even for the self-branded individuals. Due to a hugely competitive online market, self-branding requires

much effort in management, marketing and strategy alongside content creation and interaction with the public.

2.2.1.12 HRM in the Times of Emerging Digital Economy

The emergence of Digital Economy taken together with globalization, means that the firms are in one jurisdiction, the freelancers are dispersed globally, and the firms themselves operate 24/7 across time zones. The digital economy has also shifted the managers from a local face-to-face basis to a virtual and digital interaction, thus creating more space for trust issues and opening the possibility to cheat. For example, at Uber a sharing economy firm, once the contractual Drivers are hired the HR managers interact with them virtually, through the App or by video, rather than in person. HR managers now must learn to deal with a broader array of challenges such as: complying with regulatory requirements across the world multiple location means different laws, manage a dispersed workforce using their APP interface and balance a multicultural globalized team within the core principles of a local driving service company. This "Glocal" aspect of management is necessary for Local resolution of challenges without losing the Global infrastructure of the organization.

For instance, HR managers in any of the Digital Economy firms have to be prepared to deal with freelancers affected by local events and at the same time build a stable global infrastructure with common goals that is composed of such freelancers.

2.2.1.13 e-HRM

The electronic human resource management, or e-HRM, is a strategic approach of implementing HRM policies and practices in organizations through the full support of ICT¹⁴ and web technologies (Marle, Fisher, 2012). Studies in the area show a significant growth of interest, especially for knowledge-intensive and hyper-specialized industries (Malone et al., 2011), in the area of HR, thus requiring a constant need to assess and develop their competencies (Harteis,2012). The applications are scanned and organized accordingly using specialized software. Many companies use Applicant Tracking System software which allows the staffing company to follow the development of the applicant, for example other jobs and projects. There are commercial software systems to take care of recruiting and staffing processes, like Zoho, Financial Force Human Capital Management, Artist, Tribe HR, but these programs only deal with

¹³ Glocalization - the simultaneous occurrence of both universalizing and particularizing tendencies in contemporary social, political, and economic systems. (Encyclopedia Britannica, https://www.britannica.com/topic/glocalization, last accessed on 23-09-2019)

¹⁴ Information and Communication Technology

the documentation of applications. Since the process is not fully automated and the recruitment process goes through various stages, better tools for further analysis are needed. During the recruitment process the applicant usually passes a series of tests and interviews, these serve the purpose of aiding the recruiter in better allocating the recruit. One of the tests is the Psychometric test, one of the modern tests used since 1919 by the United States Army is the Woodworth Personal Data Sheet, (Ari Visa et. Al, 2015) and another modern example is the Myer Briggs Personality Type, (Myers, I. B., & Myers, P. B. 1995).

2.3 People Analytics, the link between HR and Tech

Any result could be achieved more effectively through better use of data. From data or Information which can be understood as a gathering of facts on a systematically presented context, provides the knowledge, a relevant and objective information gained through experience, thus "ipsa scientia potestas est", a Latin saying, Knowledge itself is power. Power on one hand is described as "the ability or capacity to do something or act in a particular way" on the other hand it is "the capacity or ability to direct or influence the behavior of others or the course of events" by the Oxford Dictionary, fetched from URL, (2019). Following this logic, effective understanding of data can provide knowledge, thus provide power, and for any Individual, Organization or Being power is a way to "move forward with great speed and force." Regarding HR, these can translate to making better decisions, assisting the necessity of the company and of the individuals with a more precise and effective way. Since much effort goes into the applicant screening, assessment and appointment, from the application to the final interview the technology can bring up to speed these processes and benefit productivity and the coefficient of happiness. "Keeping job satisfaction high among workers can be of tremendous benefit to any organization, as happy employees will be more likely to produce work effectively. "(H. Mirabzadeh Ardakani, S. Heidari, B. Sefidgaran, 2017). Fortunately, with today technology, it is possible to automate much of the work of matching people to requirements. People Analytics has recently become a big buzzword, build on existing practices and ideas long used in the HR fields. People Analytics consists of 4 methods, each method delivering specific results and insights. Those methods as mentioned in the paper "People analytics: novel approach to modern human resource management practice "(Gupta et. al., 2018), are the:

 Contextualized text analytics, where the text is analysed and the data is grouped and matched by the candidate's location, travel time and professional information with the requirements.

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¹⁵ Power – Definition by Oxford Dictionary, https://www.lexico.com/en/definition/power, last accessed on 23-09-2019.

- Machine learning deals with the improvement of the matching algorithms by user behaviour observation and feedback, this method relies on artificial neural networks processing.
- Predictive analysis, anticipates necessary changes in the staffing plans, in times of organization reconstruction, and forecasts market trends that help develop specific employee skills.
- Visualization is the method of combining gathered data from the CVs/resumes, detailed descriptions of the candidate professional path, notes and reviews, profiles and skill development in a structured or unstructured form for qualitative or quantitative analysis, this method aim is to have a complete overview of the candidate.

People Analytics or PA, use technology such as Big R text analytics, Big SQL, and IBM's Hadoop for Enterprise, BigInsights, which provides storage and processing engines. Data visualization and extended text analytics are handled by IBM Watson Explorer, see Figure 1.

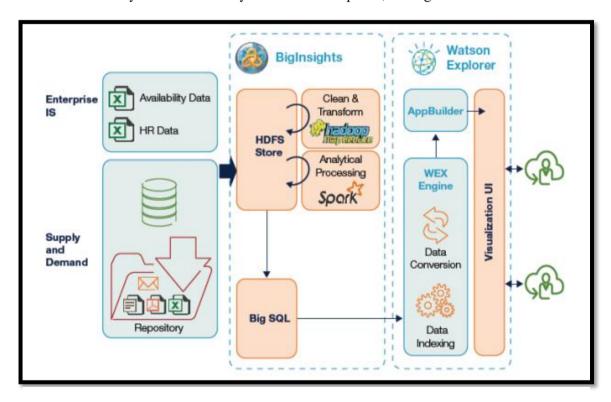


Figure 1. IBM Watson Explorer Architecture, fetched from International Journal of Engineering Technologies and Management Research, "People analytics: novel approach to modern human resource management practice "(Gupta et. al.,2018).

In this thesis, the focus is not the PA or the implementation of these processes, since the timeframe is limited and the resources are scarce, however we have decided to add this information as a bridge connecting the HR with the Necessity of technological advancement.

By observing these developments, one can see further the need of such tools. However, in this thesis the idea is not of a PA but rather a simpler unifying platform with the already existent data ordered in an appealing way, opening the possibility of the implementation of such tech as PA and other software.

2.4 Applicant Screening

Applicant Screening can be traced back to primitive times, as mentioned in section 2.2, however a much more modern example is the Federal Bureau of Investigation Profiling Method used to detect and classify the major personality and behavioral characteristics of an individual based upon analysis of the crime or crimes the person committed (Douglas, Ressler, Burgess & Hartman, 1986). The process of CV Screening is very similar to the FBI Profiling method, the conclusions are based upon the investigation and analysis of the Curriculum Vitae and the final judgment is made relying on the wit and experience of the superior in charge of the department. For the human eye reading, a CV (resume) or a job ad is an easy task. These semi-structured documents are usually separated in sections and have layouts that makes it easy to quickly identify important information. In contrast, a computer system that parses CVs needs to be continuously trained and adapted to deal with the endless expressivity of human language. Another example of applicant screening is the psychotechnical test or personality test that assists in the identification of the area where the applicant can perform better. One such test is the Myers-Briggs Personality Type, a tool for mapping employee personalities. Considering these facts this thesis approach for sorting data, at this level, will rely on CV Parsing software in the future. Parsing, syntax analysis, or syntactic analysis is the process of analyzing a string of symbols, either in natural language, computer languages or data structures, conforming to the rules of a formal grammar. The term parsing comes from Latin "pars + orationis", meaning "part + of speech" (Blakely, Rachel, 2017).

2.5 Content Aggregation: Feeds vs web service API's

This section of the thesis aims to briefly introduce the main technologies that make the centralization of an applicant's information possible. We will distinguish between feed aggregation techniques and the use of site-specific methods to collect data (via web service API's).

In computing, a feed aggregator or simply aggregator is a client software or a web-based application with the main task to gather desired web content in one location for easy viewing, (Miles, 2009). Many aggregators rely on a synchronized subscription system such as RSS (Really Simple Syndication or Rich Site Summary). RSS uses extensible markup language (XML) to structure pieces of information to be aggregated in a feed reader that displays the information in a user-friendly interface. The history behind feed aggregation can be traced to several attempts of

web syndication, a way to make content available from one website to another, starting with the development of Meta Content Framework (MCF) by Ramanathan V. Guha and others at Apple Computer's Advanced Technology Group between 1995 and 1997. After the project was discontinued Gunha joined Netscape and alongside the XML (Extensible Markup Language) cocreator Tim Bray implemented MCF into XML thus contributing to the RDF (Resource Description Framework) consortium. By looking at the history of the development of web syndication we can observe a dense number of changes from 1995 until 2007 and even further. One of web syndication proposals, RSS, has in fact been widely used after its adaptation on the Safari 2.0 and Internet Explorer 7 Web Browsers in 2005. However, and due to new development of HTML5 and other web technologies web syndication tools evolved and continue to evolve.

An alternative to the use of standardized feed formats such as RSS is the use of site-specific web service API's. An Application Programing Interface or API is a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application or other service. A web service API is an API that is accessible via web. The main differences between using a web API vs RSS technologies, in the task of aggregation, are the higher control that API's typically provide over the data, in terms of filtering, collecting and even changing or updating it, when compared to RSS.

2.5.1 Online social media platforms API overview

To investigate the hypothesis of content aggregation from leading online social platforms, identified during the research, this section of the thesis gathers information on API terms and conditions for each of the platforms. The following list of online sharing platforms, by their nature and their users, contributes to the development of SYD Live CV primarily focused on the Creative Industry by already providing a network of Creative Industry Professionals or Amateurs.

• LinkedIn - The American business and employment-oriented service that operates via websites and mobile apps can contribute, in the future, for the SYD Live CV users feed aggregation by providing overall professional experience data. "The LinkedIn API uses OAuth 2.0¹⁶ for user authorization and API authentication. Applications must be authorized and authenticated before they can fetch data from LinkedIn or get access to member data. There are several third-party libraries in the open source community that abstract the OAuth 2.0 authentication process in every major programming language. "fetched from the https://docs.microsoft.com/en-us/linkedin last accessed on 29/06/2019.

¹⁶ OAuth 2.0 is the industry-standard protocol for authorization. OAuth 2.0 focuses on client developer simplicity while providing specific authorization flows for web applications, desktop applications, mobile phones, and living room devices. Retrieved from URL: https://oauth.net/2/ Last accessed on 24-09-2019

- **Behance** The Adobe Computer Software Company owned online platform focused on showcase & discovery of creative work, was identified, during the investigation, as a go-to platform for designers, illustrators and photographers, therefore useful for the SYD Live CV development. "Requests are limited to 150 per hour and are measured against the public facing IP of the server or device making the request." ... "All project contents on Behance are made up of "modules" that can be one of five types: image, audio, video, text, embed. The response for the /v2/projects/project_id endpoint will contain an array of modules that make up the entirety of the contents of the project." fetched from https://www.behance.net/dev/api/endpoints/ last accessed on 29/06/2019
- **Instagram** Facebook, Inc. owned online photo and video- sharing social networking service at the moment is a crucial service used by content creators and many Creative Industry professionals. "The Instagram Graph API allows apps to access data in Instagram Business Accounts and Instagram Creator Accounts. By using the API, you can build apps that help Businesses and Creators manage their photos, videos, stories, albums, comments, and hashtags at scale, as well as measure social interactions with other Instagram users.... Common Uses: getting and managing published photos, videos, and stories; getting basic data about other Instagram Business users; moderating comments and their replies; measuring media and profile interaction; discovering hash tagged media; discovering @mentions; publishing photos and videos (currently in closed beta) ... Limitations: The API cannot be used to access non-Business or non-Creator Instagram accounts. If you are building apps for non-Business or non-Creator Instagram users, use the Instagram Platform API instead. Currently, Business Discovery only returns data about Instagram Business Users. Content Publishing can only be used Users." on behalf of Instagram Business fetched from https://developers.facebook.com/docs/instagram-api last accessed on 29/06/2019
- IMBd The Internet Movie Database online platform, for now does not provide an API, however there are many other third-party solutions one of which is The Open Movie Database. "The OMDb API is a RESTful web service to obtain movie information, all content and images on the site are contributed and maintained by our users." fetched from http://www.omdbapi.com/ last accessed on 29/09/2019. There also are several alternative public API sources for example Movie Database (IMDb Alternative) Open API, also the IMBd.com platform provides a daily refreshed dataset located at https://datasets.imdbws.com/ for non-commercial and personal use for its customers.
- Facebook Being the biggest social networking and service company in the world,
 Facebook throughout its existence gathered a big collection of data which can benefit
 the aggregation of specific user content on the SYD Live CV Application. "The Graph
 API is the primary way to get data into and out of the Facebook platform. It's an HTTP-

based API that apps can use to programmatically query data, post new stories, manage ads, upload photos, and perform a wide variety of other tasks." fetched from https://developers.facebook.com/docs/graph-api/overview last accessed on 29/06/2019.

- Vimeo As one of the biggest ad-free open video online platforms Vimeo is used by many content creators and creative industry professionals. "The Vimeo API is a REST API. REST, or representational state transfer, is an architectural style or design philosophy for interacting with online resources (like videos) using standard HTTP methods like GET, POST, and PATCH." fetched from https://developer.vimeo.com/api/guides/start last accessed on 29/06/2019.
- SoundCloud an online audio distribution platform and music sharing website based in Berlin, Germany enables its users to upload, promote, and share audio. This platform also provides API access for developers. "Our API allows you to get permission from a SoundCloud user to access SoundCloud on their behalf. This means that you will have access to their account, including any private sounds or sets that they have created or have had shared with them. You can also use SoundCloud for your app's registration and sign-in process ... SoundCloud authentication uses OAuth 2.0, a popular open standard used by many popular API providers. OAuth 2.0 allows users to authorize your application without disclosing their username and password." fetched from https://developers.soundcloud.com/docs/api/guide last accessed on 29/06/2019.

After reviewing the terms and conditions of the API use by the above-mentioned platforms this research now can move forward with the hypothesis of feed aggregation using OAuth 2.0, REST and GRAPH architectures and services.

2.6 Visual Representation of Data

In order to better understand how to improve the perception of information the investigation led to the challenge of the visual representation of data. As a reference, this thesis draws some observation made by the Dutch computer scientist, professor and expert in visualization of information Jack van Wijk PhD and the article "Structuring visual exploratory analysis of skill demand"¹⁷. The observations drawn from this source are important for future and more in-depth development of the SYD Live CV software, however at this point of the research the main concepts derive from a holistic observation rather than an in-depth comprehension of the visualization of information subject, due to its complexity. "Modern society is confronted with a data explosion. Acquisition devices like MRI-scanners, large scale simulations on

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¹⁷ A.-S. Dadzie, E.M. Sibarani, I. Novalija and S. Scerri published in the Web Semantics: Science, Services and Agents on the World Wide Web on 11th of December 2017.

supercomputers, but also stock trading at stock exchanges produce very large amounts of data. Visualization of data makes it possible for researchers, analysts, engineers, and the lay audience to obtain insight in these data in an efficient and effective way, thanks to the unique capabilities of the human visual system, which enables us to detect interesting features and patterns in short time.", (van Wijk, 2005). By studying the above referred publications, we can deduct the following: complex data sets can be understood faster and with more accuracy by using our human abilities of pattern recognition and by transforming alphanumeric content into visual format these patterns can be created. In the (A.-S. Dadzie, et al., 2017) paper a great effort was made to create the Skills and Recruitment Ontology (SARO),see Figure 2, a result of cooperation and inspiration from structural frameworks such as: schema.org and the European Skills, Competences, Qualifications and Occupations, that provide insight into the context of skills, competencies and the qualifications needed to fill a job role. This structured interpretation of a group of ideas within the job marketplace domain identified 6 interrelationships core concepts: The User, Skill, JobPosting, Qualification, Curriculum and AwardingBody.

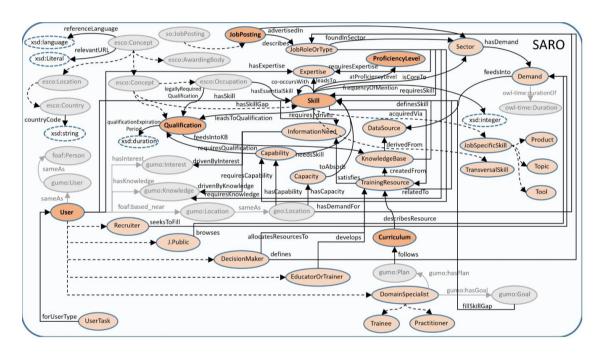


Figure 2. SARO - Skills and Recruitment Ontology 2017, (A.-S. Dadzie, et al., 2017).

Since this thesis hypothesis relies on improvement of a Curriculum Vitae, a rather simple data set in comparison, it too can benefit from the observation found in SARO, mainly the 6 core categories that through a complex set of interactions with other classes remain interlinked. From here onward this research can benefit from two ideas, one on the visual component and the other on the interrelationship of presented information. Continuing this train of thought and in order to approach the initial development of the prototype the literature review arrives to another angle for visualization of information.

2.7 Design and interactivity considerations for CV

One of the principles underlying this thesis is the improvement of the understanding of professional and personal traits of a person by enhancing the online CV with content aggregation, visualization and interactivity. This section addresses the need of considering design and interactivity in the development process of the SYD Live CV software and services.

Design is defined by the Oxford Dictionary as "The art or action of conceiving of and producing a plan or drawing of something before it is made". Choices regarding the *arrangement of the information* (page 21), *interactivity* (page 25) and the *layout framework* (page 25) had to be made and for that purpose an overview of existing examples, UX/UI current practices and related information have been checked.

2.7.1 Information Arrangement.

By looking at CV/Resume standards like EUROPASS or similar printable CV (Figure 3), personalized¹⁸ (Figure 4) and professionally made (Figure 5) examples we concluded that the categories included in them follows a very similar arrangement and serve for the presentation of:

- 1. Personal matters, language proficiency, work experience and education and training achievements;
- 2. Additional individual competences, highlighting technical, organizational, artistic and social skills;
- 3. Complimentary information added to the CV in the form of one or more annex(es).

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Personalized definition - used to describe an object that has someone's name on it, or that has been made for a particular person. Fetched from URL: https://dictionary.cambridge.org/dictionary/english/personalized, last accessed on 29-09-2019

Jason Buchanan

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OBJECTIVE To acquire an entry level career position in accounting or finance

SUMMARY

Familiarity with accounts payable, accounts receivable, billing, general ledger, and journal entries Organizational, analytical, and problem solving skills Competent in MS Excel analyses and report building Experience in teamwork and project leadership

EDUCATION

Bachelor of Science in Accounting State University of New York GPA: 3.75/4.0

Associate of Science, Accounting May 2016
Kingsborough Community College

Est. Spring 2018

EXPERIENCE

Valet Parking 2014 - Current Manager (2015-Current);

Valet Parking Attendant (2014-Current) Park cars and manager other valets

SUNY College Program 2013
State University of New York Representative New York, NY
Helped drive marketing and recruiting efforts for Company Internships and Programs
Presented College Program information to students and faculty
College Program Participant in Accounting New York, NY

College Program Participant in Accounting Corporate culture, and processes of a large entertainment corporation

Guest services and transactions

Deloitte & Touche (June, July, August 2017) (June, July, August 2016) (June, July, August 2015)
Internship
New York, NY
Worked directly with client accounts; general ledger, client information, accounts payable, accounts receivable.
Handled journal entries. Financial statements

SKILLS, TRAINING & ACHIEVEMENTS

Project administration: developing work breakdown structures, building project plans in Microsoft Project SQL Essentials Training, 2015
SPSS Statistics Essentials Training, 2015
Graduated high school 1 year early, and was awarded a State Scholarship for scholastic achievement

NOTE

I am four classes away from completing my bachelor's program, and I am currently enrolled in two of those classes. Due to pre-requisite requirements I cannot accelerate the program; however, I can complete the degree by taking night classes. Therefore, I am looking for a long-term professional/career-oriented position, and I will finish the remainder of my program through night classes.

Completed yearlong capstone project in Entrepreneurship

Figure 3. Resume example before optimization by Monster UK careers and recruitment resource website.¹⁹

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¹⁹ Fetched from URL: https://www.monster.com/resumes/writing-services-faq, last accessed on 29-09-2019



Figure 4. Personalized CV example.

Jason Buchanan

Brooklyn, New York

(718) 452-5555 | jrbuchanan@yahoo.com | LinkedIn

ENTRY LEVEL ACCOUNTING & FINANCE PROFESSIONAL

ACCOUNTS PAYABLE | ACCOUNTS RECEIVABLE | BILLING | GENERAL LEDGER | JOURNAL ENTRIES

Ambitious, energetic, and highly responsible accounting major leveraging strengths in leadership, creativity, tenacity, critical thinking, and relationship building. Dynamic team builder able to tackle business challenges in a positive manner with impeccable follow-through on commitments. Consistently delivers excellence, reliability, and accountability both academically and professionally. Relevant academic courses include:

- Intermediate Accounting
- Financial Accounting
- Managerial Accounting
- MS Office (Advanced MS Excel)
- Auditing
- Cost Accounting
- Project Administration
- SQL Essentials
- Accounting Information Systems
- Taxation
- Accounting Analysis & Reporting
- SPSS Statistics Essentials

ACADEMIC ACHIEVEMENTS

Bachelor of Science, Accounting/Entrepreneurship minor, (May 2018 expected graduation)

STATE UNIVERSITY OF NEW YORK

Capstone Project in Entrepreneurship: Completed a one year project supporting a minor in Entrepreneurship. Addressed contemporary global challenges, with a focus on working within complex social and economic systems. Shadowed a business professional in an entrepreneurial environment; created a viable business plan, received faculty support and expertise; successfully launched a startup that was entered as a finalist in a national entrepreneurship recognition program.

Associate of Science, Accounting, 2011

KINGSBOROUGH COMMUNITY COLLEGE

PROFESSIONAL OVERVIEW

VALET PARKING; New York, NY

2014 - Present

Manager (2015-Present); Valet Parking Attendant (2014-Present)

Oversee valet operations supporting three high-end restaurant locations in a continuing effort to deliver outstanding guest service. Lead and motivate a staff of up to 22 valet parking attendants.

- Ensure all parking transactions and deposits are accurate; report discrepancies to senior management.
- Interview, train, supervise, schedule, and assist in evaluating valet team members.
- · Monitor and maintain all parking equipment and report needed repairs.
- Respond to guest related concerns and claims.

SUNY COLLEGE PROGRAM; New York, NY

2013

State University of New York Company Campus Representative

Partnered with Company College Recruiting to motivate students to attend both online and live Company College Program presentations. Shared personal college program experiences and promoted the advantages of Company internships.

 Increased student and faculty awareness of the Company College Program at the State University of New York via live interaction, social media, newspaper articles, posters, fliers, e-mail, and other marketing media.

Company Program Participant in Accounting; New York, NY

Selected to participate in a local company's one-of-a-kind career development experience to network with business leaders, take part in personal and career development classes, and build transferable skills.

- Identified and evaluated the corporate culture and processes of a large entertainment corporation.
- Provided personalized and interactive guest services and transaction processing.

INTERNSHIPS

DELOITTE & TOUCHE; New York, NY

Summer Intern 2015, 2016, 2017

Audited client information (AP/AR) for a national firm providing accounting, tax and consulting services to a vast array
of small business clients. Posted journal entries to client general ledgers. Reviewed monthly financial statements.

Figure 5. Optimized Resume example after optimization by Monster UK careers and recruitment resource website.²⁰

²⁰ Fetched from URL: https://www.monster.com/resumes/writing-services-faq, last accessed on 29-09-2019

2.7.2 Interactivity.

As per its definition, interactivity is "the involvement of the users in the exchange of information with computers and the degree to which this happens", (fetched from URL: https://dictionary.cambridge.org/dictionary/english/interactivity, last accessed on 29-09-2019.). In our case interactivity was identified to help the user navigate through big amount of information, such as the example of a CV or Resume, without exhausting the users cognitive load²¹, or mental effort used in the working memory. "Although the information that learners must process varies on many dimensions, the extent to which relevant elements interact is a critical feature." (Fred Paas, Alexander Renkl & John Sweller, 2003), large documents containing specific information supported by important dates and remarks can be tiresome to comprehend, such can be the case of a complete CV. However, the flow of information varies from low to high element interactivity. Low element interactivity occurs when each item can be understood and learned individually without interrelation with another and high element interactivity is the process of learning and understating the items by comprehending the links with other items. In each case the learning and understating can be specific to one item, however in case of high element interactivity the elements must be understood with the implied ramifications and references, (Pass, et.al., 2003).

The Cognitive Load Theory (Sweller, 1980), differentiates three categories: Intrinsic cognitive load, represents the inherent difficulty in certain tasks or activity; Extraneous load, represents the way how the information is presented to the person and is caused by bombardment of unnecessary information and the consecutive interference caused by it; Germane load is the result of constructive methods of handling complex information that results in learning and long-lasting storage of knowledge. From these observation about mental effort one can conclude that by creating ways of smooth, effortless navigations and interactions the user can comprehend elements, items or information without stressing its extraneous cognitive load thus transitioning the acquired knowledge into the germane cognitive load, resulting in long-lasting knowledge.

For SYD Live CV these observations can translate in the future as a user-friendly interaction and effortless learning processes of the platform's navigation and configuration, as well as to the interaction with one's life's work in a pleasurable and comprehensive way.

2.7.3 Layout design.

As mentioned in the previous section, mental effort during the comprehension of information is a relevant point to keep in mind when thinking about the potential user of the platform. Thus, in order to ensure the usability of a product several topics had to be addressed to. In the case of a CV, the information is, by itself tedious, normally represented by words and numbers, but behind those dry words and numbers there is a person's career path so how does one approach the organization of such information in an appealing way? Google's introduction of material design structure, Apple's flat design and Microsoft's Metro design show a current tendency toward

²¹ Cognitive Load Theory or CLT, in psychology refers to the used amount of working memory resources. CTL differentiates into three types: Intrinsic, Extraneous, and Germane. Fred Paas, Alexander Renkl & John Sweller (2003).

minimalistic grid like systems with modular structures. Modular design, in interface design sphere, can be traced back to grid-based design, a layout structure based on the division of the working area by straight or curved lines. Layout creation by modules started trending since 2011 and is still an ongoing trend in the community with constant improvements. However, the core remains: creation of individual element in a modular system. This approach creates lean interfaces, easy to navigate and in some cases allows the user to interact, configure and rearrange easily the layout to his/her individual preferences. For SYD, modular design was identified as the essential organization tool for features, information and media placement see section 3.5.1.

2.8 Technology for SYD CV Implementation

Since the beginning of the thesis the possible technology for the SYD Live CV implementation was uncertain, however and due to recently published articles, a new buzzword in the tech field emerged, Progressive Web Applications. This made me study closer the literature and the possibilities of the PWA over the traditional Web App along the way discovering many fields and technologies of which we were not aware. Since Google launch of the PWA in 2017 there was a rapid growth and adaptation of this new technology, which by itself is a combination of other technologies with the same baseline, but with a different structured workflow. The standard development of apps is rather based on the native software development kit or SDK, usually provided by the vendor of the mobile platform. This approach is more tailored for the specific platform; the only downfall is the limited programing languages. In the case of iOS, Objective-C and Swift; for Android the Javasuperset language Kotlin is widely used and for the Windows platform multiple languages are used from C++.C# to Visual Basic and JavaScript "Device features can be accessed through the platform's own application programming interfaces (APIs)." (Tim A. Majchrzak, Andreas Biørn-Hansen, Tor-Morten Grønli, 2018). The difference between a WebApp and PWA is that PWA use Service Workers²² instead of Application Cache (HTML 5²³ method) which in turn enables a cross-platform development outside just mobile sphere. Google Chrome OS users may install PWAs on their devices, be it a mobile or a PC, thus expanding the ecosystem of the operating system. PWAs are defined by a set of concepts and keywords including progressive, responsive, connectivity independent, app-like, fresh, safe, and discoverable, re engageable, installable, and linkable, (Osmani, 2015).PWAs utilize new, modern

²² Service Worker - "A service worker is a script that your browser runs in the background, separate from a web page, opening the door to features that don't need a web page or user interaction. Today, they already include features like push notifications and background sync." Matt Gaunt Article, fetched from URL: https://developers.google.com/web/fundamentals/primers/service-workers, last accessed 25-09-2019.

²³ HTML 5 – "Hypertext Markup Language revision 5 is markup language for the structure and presentation of World Wide Web contents. HTML5 supports the traditional HTML and XHTML-style syntax and other new features in its markup, New APIs, XHTML and error handling.", fetched from URL: https://www.techopedia.com/definition/1891/html5, last accessed 25-09-2019.

web APIs, most important are the Service Workers and a Web App Manifest²⁴. Besides a regular App uses much more stored data and leaves a bigger footprint on the device than a PWA.

To recap:

- PWAs can load much faster compared to regular Web APPs despite the network connection.
- Maintain the appeal of a regular APP and serve as a cross-platform approach to the app development.
- Alongside a faster loading time, PWAs can be easily downloaded and installed on any computer, as an APP.
- Has the potential of automatic background updates, saving and deleting entries.
- Possible offline use.

2.9 Conclusion

The *Curriculum Vitae* has been around for many decades, evolving from a simple handwritten list of skills and accomplished works to a standardized piece of the recruitment process. The labour market underwent great changes since the first CV in 1482, and it is observed in the way how the management of such market has sprung into a scientific field and occupies an executive role in many organizations. By looking at the timeline of Human Resource Management one can observe different practices developed throughout the years to assist particular industries and cases.

Recently with the technological innovation we can observe the appearance of new tools to aid in the recruitment processes. Data overview of a potential applicant, applicant tracking systems, resume screening and algorithmic approaches are potentially better practices for human resource management, compared to the ones used in early HRM Theories. Furthermore, into the review we have noticed a possibility to improve the existing traditional CV. By inspecting the existing online social networks, content sharing and recruitment platforms there seems to be mere digitalization of a resume rather than a new model, hence the opportunity for an Interactive and Live CV. These observations bring us to the next chapter, where we will discuss the SYD Live CV proposal.

²⁴ Web App Manifest - "The web app manifest is a simple JSON file that tells the browser about your web application and how it should behave when 'installed' on the user's mobile device or desktop. Having a manifest is required by

Chrome to show the Add to Home Screen prompt. A typical manifest file includes information about the app name, icons it should use, the start URL it should start at when launched, and more." Retrieved from URL: https://developers.google.com/web/fundamentals/web-app-manifest/, last accessed 25-09-2019.

SYD Live CV is intended to be an improved CV model architecture over the exiting traditional models and a PWA application with the purpose of fetching, sorting and showing users work related data in one centralized platform in a clear, transparent and comprehensive manner.

In order to establish guidelines for the creation of a prototype we have revisited previous notes and observations. Taking into consideration previous work and the limitations of time and resources for this thesis the following flow was envisioned: Conceptualization, Market Research, Quantitative Research, Qualitative Research and Interface.

The Conceptualization and Market Research for this product have been briefly covered before the start of this Master course. To do so first, the sectors of Creative and Communication economy in Portugal and Worldwide were consulted by evaluating the economical tendencies, number of jobs and the average wage; second the HR market was observed for its services, fees and processes; and third the existing job market solutions and processes for Creative Industry professionals were researched. The results of these steps identified the fields of Evaluation and Presentation of a person's resume as our primary field of interest with a focus on the Creative Industry, due to the complexity of this economical branch and work-related processes.

For the research a mixed methodology structure was used. For the first stage a Quantitative Research (page 31) with the use of an online survey was designed to find out more about the targeted audience, their relationship with the CV/Resume, Recruitment, Online Social Network Platforms and to open the pathway for the SYD CV proposal. To analyze the feedback, we applied the descriptive analysis method. During the Qualitative Research (page 56), we applied a discourse analysis method (as referred in section 1.3) by carrying a set of individual semi-formal interviews divided into 2 parts. The first part (page 56) dealt with a deeper understanding and feedback of the user and their relationship with the traditional and digital CV/Resume and Portfolio methods, followed by a second set of interviews (page 60) with the presentation of a low fidelity mockup designed in InVision Studio²⁵, UX/UI design and prototype software. Other choices like Adobe XD, Balsamiq and Sketch were considered.

²⁵ InVision Studio online platform and software is a relatively new free tool previously available only on Mac OS until April 4, 2019 when the software was updated for Windows OS, the choice for this prototyping solution was due to its novelty, free use and for its leading in the market software.

After a careful examination of the gathered feedback during the previous steps, the building of a high-fidelity mockup began and lasted more than 4 weeks, part of it due to lack of experience with prototyping software and design. During this time one complex SYD CV interactive prototype and three simpler and yet high-fidelity mockups where developed. With the developed prototypes already presenting a higher degree of interface design the next and final step of the research was to test the prototypes (page 62), based on real subjects who offered their CV and Resumes, and evaluate.

3.1 Methodology

This section of the thesis begins with an online survey conducted in order to identify the potential user, gather feedback on existing solutions and overall relationship with the CV in the Creative Industry field (section 3.3). With the obtained data, the following process was to analyze the existing competition and to establish if the wireframe for SYD drawn in 2017 was viable at the time of this thesis (sections 3.4 and 3.5). Without mentioning the wireframe to the subjects the research continued with a set of 10 individual interviews aimed at creative professionals, both male and female, to gather more feedback (section 3.6). So far, the accumulated feedback served to create a low fidelity mockup of the SYD Model which was used with the same group of people to evaluate the proposal (section 3.7). The last subsections contain the final structure proposal where a set of design and implementation suggestions are listed and briefly described (section 3.8). Final prototype evaluation and discussion can be found in the next section (section 4) as well as the final prototype proposal after field tests with HR Recruiters (section 4.1.2).

3.2 Previous Work

This section focuses on a deeper research and development of one component for the SYD SYSTEM online platform under development since 2016. During its incubation, sections of market research, business plan, first wireframes and mockups as well as initial design efforts were briefly covered with the purpose of a more in-depth approach in the future. From 2016 observations it was deduced that the Creative and Communication sectors in Portugal where on the rise, however many professionals with whom we have spoken had concerns regarding the wages, employment and security in this sector of the economy. The following sections are based on previous nonacademic observations in its incubation state and are developed furthermore with the use of new feedback and research done in 2019.

SYD System initial stage of development was concerned with creative professionals and beginners. Due to a big range of difficulties and a lack of one solid, accessible and comprehensive platform for artists and creative professionals to get their work exposed in one place the necessity of SYD System in this industry arises. Since SYD System is a visual representation of a professional career, it aims to make the job hunt for creators easier and manageable. The Layout

and Interface of the Interactive Live CV will provide the viewer with the top works, views, followers, download, reviews and more upon request. Each work will have an embedded media player for the media content accessible by a simple click. SYD System also focuses on providing Personal Strategic Guidance, Transaction and Account Manager, Travel and Logistics Assistance and Legal Help for Upgraded and Premium Members. For Business and Film Crews, SYD System will help find the best crew for the job with our network resources.

3.3 Survey

In order to get more information on the matter we have opted for a quantitative survey with the use of Google Forms to create the survey and University of Porto Dynamic email for a broad range of possible samples. We have trimmed down the sample pool by sending a short dynamic email with the description, purpose and the link to the survey, a standard method used by other thesis authors in our University. Since our master's degree is composed by multiple faculties, we have used this possibility to use the dynamic email service from several faculties instead of relying only on the Faculty of Engineering. In doing so we have selected only the Faculties that, from a general idea of the courses, may have more Creative Industry Professionals or interested in the area candidates. From the following faculties of the University of Porto: Faculty of Fine Arts, Faculty of Letters, Faculty of Engineering and the Faculty of Economy giving a total of approximately 4000 possible samples of which 80 have replied to the online survey.

The Survey was divided in 4 Parts.

- Introduction covering the Age, Gender and Background.
- **Professional Experience** covering the Field, Current state and years of experience.
- **Curriculum Vitae** covering the general questions of the CV, location of the CV and the main platforms used to showcase the CV.
- SYD CV the last part was designed to test out the initial state of the unified centralized and interactive SYD CV hypothesis, covering questions as per preference of using multiple or single platforms, feedback access and general suggestions and comment area.

3.3.1 Results

The first part of the survey is composed of introductory general questions. The second part of the survey was designed to discover and gather some insights into the working experience of the subjects, thus providing a better understanding of the targeted audience. Since the Creative Industry is a field with multiple branches, and according to Howkins, John (2001) and London, UK: Department of Culture Media and Sports (2006) consists of at least: advertising, architecture, art, crafts, design, fashion, film, music, performing arts, publishing, R&D, software, toys and games, TV and radio, and video games, this survey opted to identify the most concentrated areas.

1. How about we start with how old are you?

80 responses

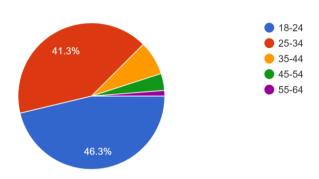


Figure 6. Age statistics of the survey.

2.Are you

79 responses

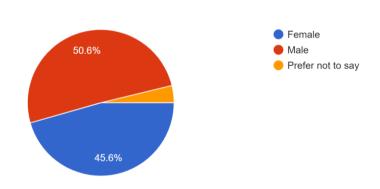
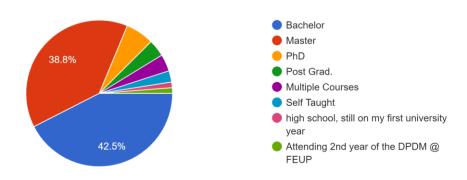


Figure 7. Gender statistics of the survey.

3. What about that cool background?

80 responses



³Figure 8. What about that cool background?

By the versatile nature of this Industry, this question was designed to gather more than one option per subject. Since the subject could choose and add more than one option, the total sum of all options in percentage excels 100%. By looking at the results, see Table 1, this survey can identify that the most concentrated areas were of; Graphic, Product, Fashion, Sound, Illustration and Game design; Entertainment and Advertising; and the IT, Software and Computer Services. The following questions were asked to understand the subject's current employment status and the years of experience, see Figure 9. From the collected data, the results show that 52.2% (42) are students, 27.5% (22) are employed and 16.2% (13) are freelancers. From 80 responses, 36.3% (29) have less than a year of experience followed by 23.7% (19) with 4-7 years of experience and 22.5% (18) with 1-3 years of experience, see Figure 10. The remaining 17.6% (14) have more than 8 and even more than 20 years of experience in the field.

4. What field of the creative industry you work in?



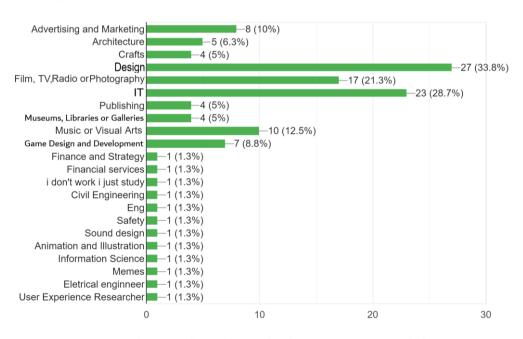


Table 1. What field of creative industry you work in?

5.Are you working now?

80 responses

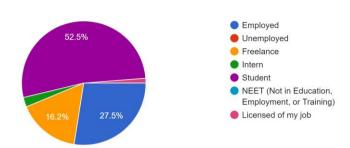


Figure 9.Are you working now?

6. How many years of experience is that?

80 responses

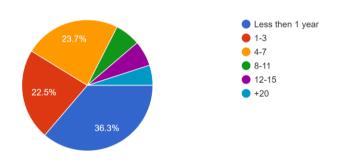


Figure 10. How many years of experience is that?

7.Do you have any of these?

80 responses

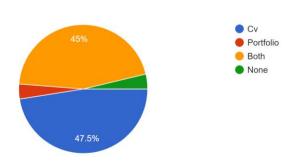


Figure 11. Do you have any of these?

The following part aimed to identify the format and usability of a CV. By examining the results we can observe that the enquired subjects either have a CV 47.5% (38) or have both a CV and a Portfolio 45% (36) with the remaining 7.4% (6) divided between subjects who prefer to have a portfolio or have none of the above, see Figure 11. After asking the subjects if they keep their CVs online, and why, we can notice that the most common words where: ease, access, update and share. From the enquired subjects only 60 have their portfolios online and of those 41.7% (25) use a public online platform, 36.7% (22) use multiple platforms and 21.7% (13) use a private or a personal website for their online exposure, see Figure 12. The next question has helped to narrow down the public online platforms used by the enquired participants, thus identifying the following ones to be the preferred go to platforms, in order of concentration: LinkedIn, Behance, Vimeo, Instagram, SoundCloud and Facebook, see Table 2. The remaining tail of platforms had less than 3 preferences and for that reason it is not relevant to this study. To conclude this section, we have asked the online participants to answer how honest are they in their CV, the result was 86.5% (64) fully honest and 12.2% (9) mostly honest leaving only one participant who is sometimes embellished in his/her CV.

10.If its online is it on a: 60 responses Public Online Platform Private or Personal Website or Multiple

Figure 12.If it is online is it on: Public, Private or Multiple Websites?

11. What online platforms do you use to share you CV / Portfolio?

80 responses

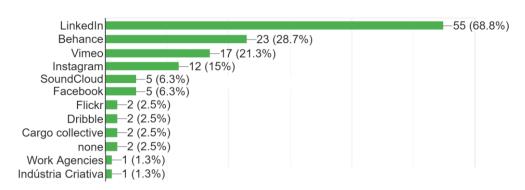


Table 2 What online platforms do you use to share your CV/Portfolio?

The last section of this survey focused on finding out if the feed aggregator, proposed by this thesis as SYD CV, is of interest. For that and by keeping things light, we have asked two questions: "Would you rather access your online published works in one location instead of multiple?" Answered Yes by 58.8% (47), Maybe by 33.8% (27) and No by 7.5% (6) of the subjects, see Figure 13. The next question was designed to have a glimpse into the possibility of aggregating comments, reviews and other online feedback onto the SYD CV. "Is the feedback around your work important to you?" to which 83.8% (67) replied "Yes", 13.7% (11) replied "Only for some works" and 2.5% (2) answered "No".

At the end of the survey a remarks/suggestions/comments area was left at the bottom of the survey, gathering 7 generally positive comments.

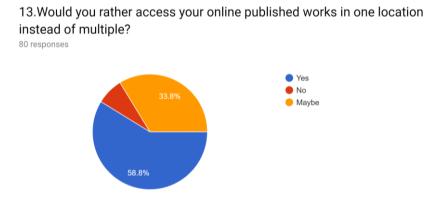


Figure 13. Would you rather access your online published works in one location instead of multiple?

Conclusion: 90 percent of the participants were between 18-34 years old with 10 % aged between 35- 64 years old. The participation was closely divided between Male and Female subjects, see Figure 7, all of them with or attending higher education (as expected given the contact method via university e-mail), see Figure , ranging from a Bachelor to a PhD. Despite more than half of the subjects still studying and having fewer working experience, they already possess a CV or Portfolio and the other half is either employed or a freelancer. The ones who possess either a CV or a Portfolio or Both prefer to keep them on a public online sharing platform, such as LinkedIn, Behance, Vimeo, Instagram, SoundCloud and Facebook; or on a private or personal website, while being either fully honest or mostly honest in their CVs. The preferred fields of the Creative Industry in this survey where: Graphic, Product, Fashion, Sound, Illustration and Game design; Entertainment and Advertising; and the IT, Software and Computer Services. As per the SYD Live CV proposal and the use of feed aggregation majority have demonstrated a high degree of interest in the centralization of ones works and experience in one platform rather than dispersing information on multiple platforms and also the enquired participants are interested in knowing the feedback around their works.

This survey has helped to identify the targeted audience as an adult with higher education and multiple interests in the creative industries. In addition, this survey updated the ideas on the use of the CV and Portfolio, identified the preferred online work sharing platforms and the fields of the Creative Industry and finalized with proof of interest in centralization of work experiences.

3.4 Analysis of competing platforms

From the research done in 2017 and with the additional information gathered during this thesis, we can identify the main competitors as the LinkedIn, Vimeo, Behance, Instagram and the Portuguese IndustriaCriativa.pt social media networking platforms. Although not strictly a portfolio website, some of the referred platforms, such as Vimeo and Instagram are used as such. Other competition is in sight, however and due to the unified use of these platforms, by users in many professional activities and especially the creative industry, as go-to platforms for Sharing and Networking the focus was placed on these companies.

In order to identify similarities and differences between platforms comparing the existing solutions was a logical step in the research.

3.4.1 LinkedIn

LinkedIn is known to users as a Professional Social Networking Website founded by Reid Hoffman and PayPal members in 2002. Since start-up and up to date LinkedIn became the leader in Professional Networking on the Internet with more than 645 Million users worldwide in over 200 countries and territories with a sign-up rate of 2 professionals per second (see Figure 14). Besides users LinkedIn social media platform also has more than 30M companies represented on, 20M open jobs on LinkedIn Jobs, 90.000 schools listed, and 35.000 skills listed. ²⁶

²⁶ LinkedIn Statistics, From URL: https://news.linkedin.com/about-us#statistics, last accessed 25-09-2019.

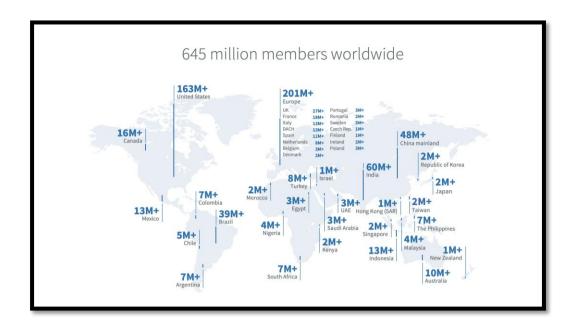


Figure 14. LinkedIn Worldwide Members.

LinkedIn offers Premium Memberships for its users, with features for each plan, see Figure 15. For 29,99\$ month a user with **Premium Career** plan is offered a range of features designed to improve the chances of getting hired, these features include:

- **Applicant Insights** A directed approach to open roles that most suit the user based on their skills, experience, salary requirements and education.
- Who's Viewed Your Profile A feature that enables the premium user to view who has viewed their profile.
- On-Demand Learning A range of LinkedIn Courses.
- Monthly InMail A feature to reach the hiring manager via InMail, according to LinkedIn a more effective method to indicate interest in an open role.

For the business-oriented users LinkedIn offers their **Premium Membership** for 59.99\$ Month and include the following features:

- Monthly InMail LinkedIn communication feature.
- Company Insight Competition insight with data, industry news and analytics.
- Who's Viewed Your Profile A feature for networking and talent discovery.
- Unlimited Browsing Unlimited browsing capabilities to search new business prospects or partners.

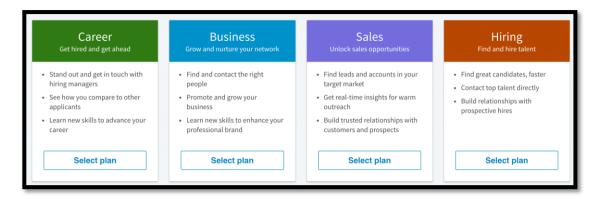


Figure 15. LinkedIn Paid Membership Options.²⁷

LinkedIn also offers **Premium Memberships for Sales and Hiring**. These plans are designated as Sales Navigator Pro and Recruiter Lite each goes for 79.99\$ and 119.95\$ per month accordingly. Sales Navigator Pro offers features for leads and prospects search as well as insights and analytics. Hiring or Recruiter Lite offers features for direct contact with the candidates, top talent identification and insights. Both tiers have the same basic features; however, they do present more options as advanced search filters, sales tools, notes on user profiles and recruiter focused tools. Based on a study by HubSpot.com LinkedIn is regarded as the best Social Network for Lead Generation, surpassing 3 times more than both Twitter and Facebook (Corliss, fetched from URL: http://tiny.cc/ixiedz, last accessed on 25-09-2019). Leads are used to find and close prospects, clients and deals, thus leads vary in price and are sought for by many sales companies. Besides LinkedIn features and the web platforms, the company also has a very great number of patents in their portfolio, ensuring stability, security and economic development. In order to learn more on the LinkedIn US Patents visit https://patents.justia.com/company/linkedin.

²⁷ Image fetched from URL: https://kinsta.com/blog/linkedin-statistics/

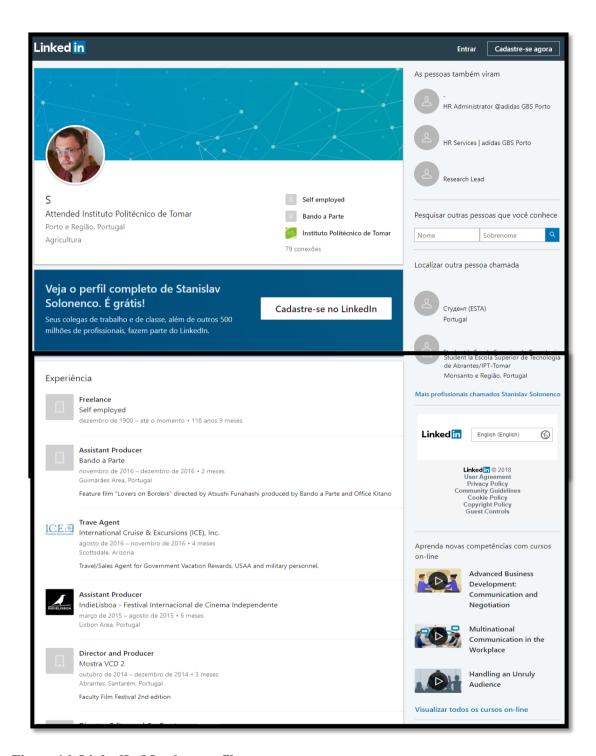


Figure 16. LinkedIn Member profile.

3.4.2 Vimeo

Vimeo is an online sharing community for video creators founded in 2004 by Zach Klein and Jakob Lodwick as well as other indie filmmakers. Today Vimeo is one of the most leading video contents sharing platforms, including films, animations, music videos and other creative video content. With over 80 million creators who use the platform to promote and share their work Vimeo stand out from YouTube by being more art oriented. As previously mentioned, although Vimeo is not strictly a portfolio website, many use it as one. Vimeo offers a range of tools and features for their users depending on their membership, however even a free user can get insight on their creations, see Figure 17.

Some of the features developed by Vimeo are:

- **Uploader**: Uploading video files can be done from local computer or a cloud drive as Google Drive, Dropbox, OneDrive or Box account.
- **Enhancer**: A creator can choose to enhance their video by adding a music track from the websites catalog, some tracks are free of charge.
- Collections: A feature to collect videos to portfolios, albums, channels or groups.
- Video School: Big range of tutorials and lessons on how to create videos.
- Music Store: Vimeo's collection of music tracks.
- Creative Commons Videos: A range of CC Videos are available on the platform that can be used for the users own creative work.
- Video Stats: Statistic report on how many plays a video had, which videos are played more often comments and trending view.
- **Tip Jar**: A recent feature for tipping the video creators with small cash payments.
- Sell Videos: Upgraded Members can sell stock video and creations on the On-Demand Feature of Vimeo.

For users who only go to Vimeo to see other works, there are features that assist this process. Feature like Staff Picks of the day, Categories for ease of search, Channels created by members, Groups to bring the community closer, Couch Mode which plays videos in full screen one after another. Vimeo has three membership tiers depending on the user: Free, Plus and Pro. The features of each evolves with the tier as well as the amount of upload space per week for a free user it is 500MB and for a Pro user 20GB per week. If the user is in need for more features Vimeos offers the Business Membership tier and the Premium Tier. Business Membership for 40 Euro/Month, has a total of 5TB of storage and no weekly limits, can be shared with 10 team members and offers tools for lead generation, engagement graphs and Google Analytics besides the Pro Tier features. Premium Tier for 89 Euro/ Month, offers everything in the Business Tier and includes a 7TB of total storage space, unlimited live streaming and viewers, live events, Live stream to multiple destinations, live Q&A, graphics and polls, audience chat and more analytics.

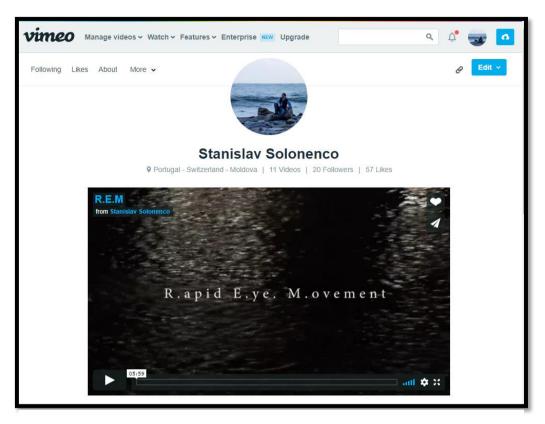
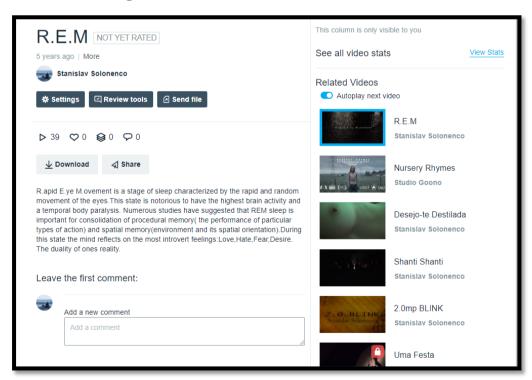


Figure 17. Above and Below, Vimeo Member Profile.



3.4.3 Behance

With the widespread use of web technologies many online creative communities appeared. They have significantly increased the production and sharing of artworks by promoting a participatory structure instead of the traditional proprietary nature of traditional art practice (Kim, 2017). Online platforms such as Behance have helped artists expand their audience, distribute artwork and network with important people. What makes these creative communities different from other social media websites is the targeted approach to creative professionals, delivering tools and features to aid creative professionals, more often visual artists, to create, share, interact and learn with other creators, see Figure 18 and Figure 19. Behance goal is to create equal opportunities for talented creatives to showcase and promote their original artwork using the platform as a social portfolio site.

Behance was founded by Matias Corea and Scott Belsky in 2005, after 7 years it was acquired by Adobe Systems and since then developed features that work with Adobe products. With more than 10 Million users, Behance is a reference for creative professionals as an online portfolio, closely cooperating with companies and art schools further promoting the possibility of opportunity for its users.

On Behance the user can find a range of features, the main features are the:

- Creation of a collection of projects displayed on the profile page,
- Basic Information such as location and user statistics,
- A user can choose up to three topics for each project (creative work) working as a tag,

Furthermore, like other social network sites the user can view, appreciate or comment on other creators' projects as well as follow and be followed by fellow users, view statistics on their personal work such as views, counts and appreciations. Behance also supports direct messaging between users, browsing of people and teams and social metrics.

From a statistical research made by Nam Wook Kim from Harvard University in 2017, the results show the number of male users overcoming the female users more than two times, comparing to the Pinterest where 90% of users are female. The main field of the creative industry are the graphic design, illustrations and art direction. Despite the number of followers being a strong measure for the users influence the most important factors were found to be the number of project comments, views, counts (appreciations) and specializing in a certain topic (ex. Illustration) rather than multiple topics. Another conclusion made by Nam Wook Kim's research is being male attracts more followers and appreciations, specialist users who follow fewer topics tend to appreciate creative works of the same topic and grayscale colours convey less appreciations.

Behance's counterpart can be considered the IndustriaCriativa.pt a Portuguese website, designed for the Creative professionals in Portugal and Brazil. On this website one can also find the graphic and illustration design as being a considerable part of the platform.

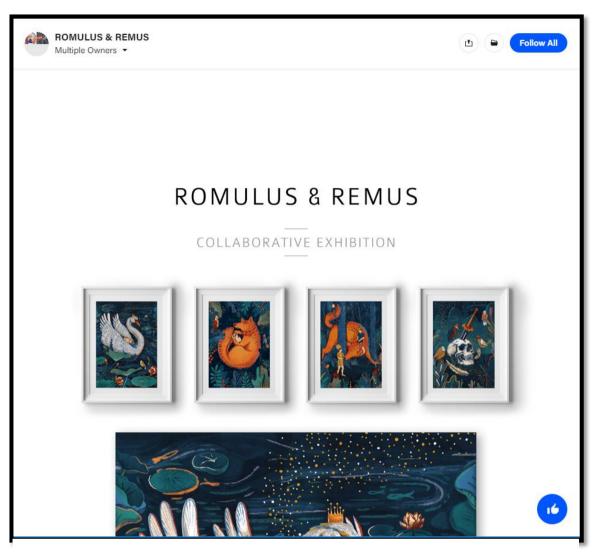


Figure 18. Above and Below, Behance Member Profile.



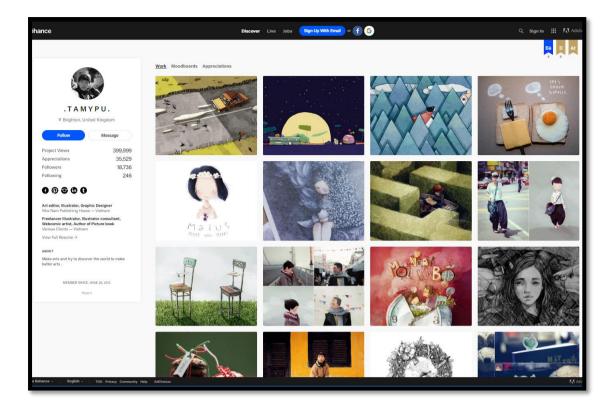


Figure 19.Behance Member Profile 2.

3.4.4 Instagram

Another example of a non-strictly portfolio website is Instagram, a photo and video-sharing social network, see Figure 20, founded by Kevin Systrom and Mike Krieger in 2010, currently owned by Facebook, Inc.

Instagram is focused primarily on mobile devices since its launch, exclusive for IOS and later on for Android and other mobile OS systems, however a limited website is also available for the users. This App allows users to upload photos and videos, see Figure 21, which can be edited with various filters and organized with tags and location information, latter Instagram introduced new features for live streaming, live chat, story sharing and IGTV feature for longer videos. Instagram APP currently has more than 500 Million users daily from all around the world and serves for multiple purposes depending on the interest of the user. Currently this application has developed a marketplace for its users to sell products on the Instagram service. From the conception of Instagram and up to date many things have happened due to the spread of interest and use of this app, the spread of Influencers activity (Users with millions of followers) on the platform has created ways of income for its users with paid marketing for businesses and products, sharing and distribution of content and networking. Marketing is a big part of the Instagram service, spanning millions in cash flow. Instagram filters and patents also make it a big competitor on the

marketplace with their AI and streaming technologies. For creative professionals Instagram has proven to work as a tool to share creative work, even if limited by strict upload settings such as uploading from a mobile device, format and length restrictions and censorship. Due to its nature, Instagram serves as a tool to promote work for a broad audience, hence it is not considered as a real direct competition for SYD Platform since SYD is concerned with the professional valorisation and visualization of a user's life's work as a whole. However, it is important to observe the features and the functionalities of this platform to draw conclusions for the building of SYD.

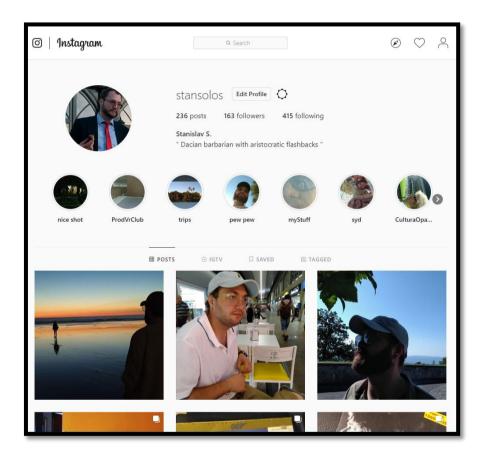


Figure 20. Instagram Member Profile.

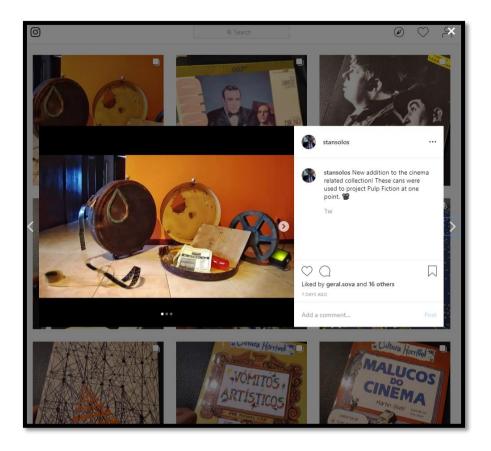


Figure 21. Instagram Content Selection and Highlight.

3.4.5 IndustriaCriativa.pt

IndustriaCriativa.pt is an online platform dedicated to the creative market in Portugal, cofounded in 2016 by Pedro Lobo. The idea of this platform is to create a centralized place for the creative industry professionals to share their portfolios as well as search for jobs, post job offers and learn, see Figure 22 and Figure 23. The user can browse projects, similar to Behance, by applying search filters such as: most popular, categories, location, interests and schools, interact with fellow members through chat and follow and be followed by other members.

This platforms aids creatives or customers to find each other. Since many of the creatives are freelance based IndustriaCriativa helps find the best freelancer for the job after going through a process of explaining the desired outcome. Hiring companies can also list open positions on the

website, at the moment there are not many jobs offers on the platform. According to the website there are more than 20.000 users and 2000 companies signed up on the IndustriaCriativa.pt and their aim is to open a branch in Brazil and create a mobile APP.

It was envisioned by the European Commission that Portugal will grow its creative industry in the 2020 National and EU economic development plan, since its launch many cultural associations, creative hubs and companies have emerged all over the country and the necessity of a centralized place for the creative community was on the minds of many professionals for a long time.

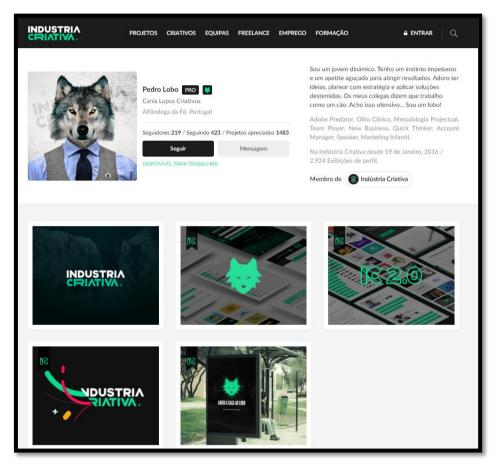


Figure 22. Indústria Criativa Member Profile.

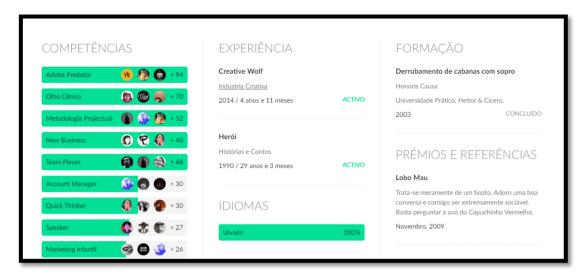


Figure 23. Industria Criativa Member Profile/Statistics.

3.4.6 Conclusion

To conclude this section, we would like to point out some similarities and differences between the above-mentioned platforms in terms of their nature, targeted audience and features.

Social media websites have become a way to engage and socialize for a considerable part of the world. At the core of social media platforms, we can always encounter mechanisms to enhance the feeling of community and belongingness. Features developed to show appreciation, to communicate and to share are spread among the 5 above mentioned platforms.

In the cases of LinkedIn, Behance, Vimeo and IndustriaCriativa we can observe a strong sense of focus on a specific population, the professionals. LinkedIn is more general in terms of which professionals it services, Vimeo on the other hand is more focused on the video creators, Behance as the results show is more for the Graphic Design, Illustrators and Creative Directors, IndustriaCriativa is in start-up stage and appears to have a diverse user pool, however graphic design, illustration and web design is highlighted. On the other hand, Instagram is as broad as its parent company Facebook, and yet has specific niches in the market due to its popularity, algorithms, patented technology and photography filters that entertain the users. The main similarity we have noticed is the social mechanism, the motivation that comes from it, to show something for oneself, to share, to be acknowledged and to prosper from it.

Many of the features are shared among these platforms, see Figure 24, and to identify the origin of them would be a good subject for a research in the future.

Each of the platforms has its own goal, objectives to follow and a specific audience to answer to, in the end the stakeholders are the users.

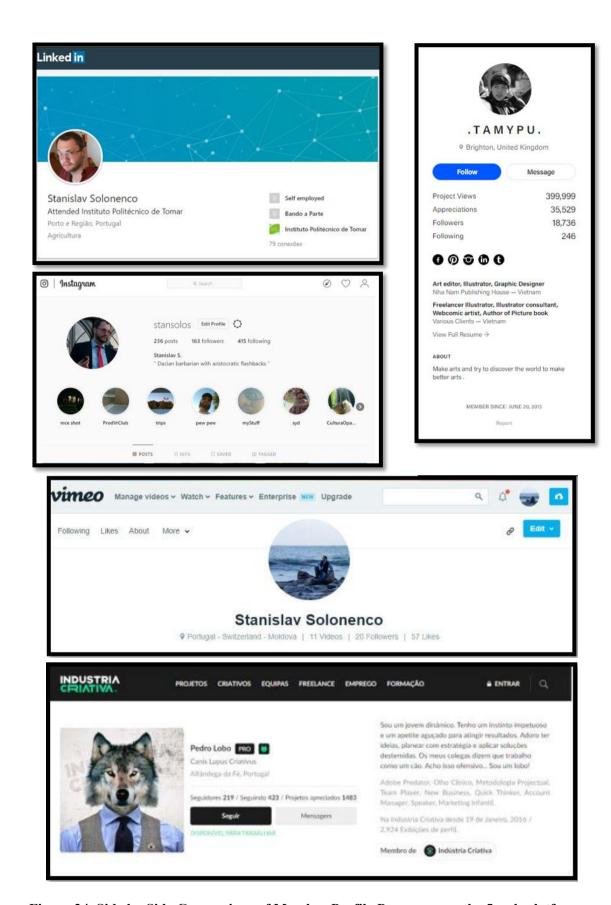


Figure 24. Side by Side Comparison of Member Profile Pages among the 5 web platforms

3.5 Initial Wireframe

In order to develop the design of the mockups we have opted for a thorough study on the newest UI trends and consulting with a specialist in the area of Design and Illustration, who has previously assisted in other contexts. After the comparison and comprehending the similarities and by reflecting on what we have gathered during previous years on the subject we have developed SYD's first wireframe followed by a high-fidelity mockup back in 2017. The wireframe design started out with brainstorming ideas on how to implement the features in a coherent and user-oriented way. During the first sessions we have discussed the block division of the layout, see Figure 26, the features and the interactivity. Block division layout, modular design or grid design was identified as a reference in the UX/UI community back in 2017. Modular Design, as referred to in the State of the Art section on page 25, is a design framework used since 2011, in order to move forward with the layout we had first to clearly state the desired features and their order of appearance, see Figure 25. These features resulted from research and previous work done on the subject. Initial features were identified as the following:

- Area, Sub Area and Specialization
- Work related data
- Persona or Psychometric test results.
- Social Network Data
- Profile summarization

The Area of the user would result from the experience data inputted by the user or aggregated from other destinations, for example an existing CV, Portfolio file or an online source. Sub Area would result from the detailed information of the users' career path, be in direct working experience or soft skill acquisition. Specialization results from the personality test overview and users' interest when crosschecked with the users' experience data. Work related data, referred to the spread of the value the user has given while performing a certain job or project. In theory, this process could bring more details on the weight of the project and the weight of the responsibility, thus resulting in comprehension of the value of the users input on the overall project. The relevance of Social Network Data feature aids the processes of previous features (mainly the Sub Area and Specialization) and helps the user as a standalone feature for statistical overview of shared online content. Profile summarization deals with holistic overview of users' profile in an interactive graphic. These features have been modified during this dissertation, and are inserted in modules or sections that compose the SYD Live CV.

We have identified, as a trend in the UX/UI community, the minimalistic user interface design style. From there we have researched more on this style and found, among other design trends, the Flat Design, introduced by Apple Inc., and Material Design, introduced by Google Inc., visual languages, see Error! Reference source not found. section of the State of the Art. At the time, the decision was harder to conclude, however due to new feedback on technologies foreseen in the implementation of the platform; Google's Material Design was likely to be used.

Bellow appear some of the notes taken during the brainstorming and ideation process, followed by the initial wireframe and the proposed design layout in 2017. For more figures please check the annexes, (section 7.1)

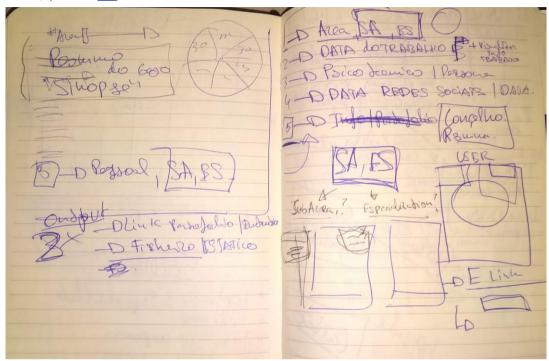


Figure 26. Layout Sketches 2017.

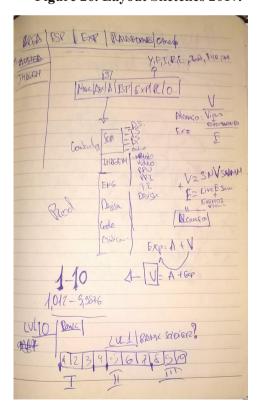


Figure 25. Features development in 2017.

3.5.1 Modules/Sections

During the investigation done in 2019 for the current thesis, the features identified in 2017, referred to as SYD version 0.1 or simply v 0.1, have undergone slight changes evolving into SYD v 0.2 and later into v0.3. SYD Live CV divides into 5 modules or sections: Introduction, Personality Type, Social Media, Education, and Experience as a refined upgrade to the previously stated: Area, Sub Area and Specialization; Work related data; Persona or Psychometric test results; Social Network Data; Profile summarization.

3.5.1.1 Introduction or Business Card Module.

This module represents a quick summary of the user, Figure 27. The features designed for a rapid and comprehensive presentation are the following: Image, Academic title(s), years of experience, total number of experiences (found later in the experience module), percentage representation of the three main categories (for ex. Cinema, Music, Graphic Design).; Name, job title or interest, description, right now section: current job title and the company name, current location, phone number, website or email.; Spotlight section consists of four most relevant works (either auto-generated or user chosen).

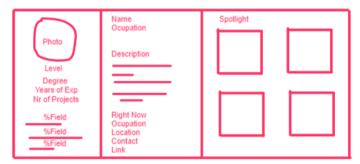


Figure 27. Business Card Module, v 0.1.

3.5.1.2 Personality Type Module.

Personality type model, Figure 28, as per this thesis research was identified as a more controversial section of the proposed platform, however and after more feedback from possible users this model is intended to be activated by the users own choice and/or shared upon request by another user. This model was designed with the Myers–Briggs Type Indicator (MBTI) mentioned in the Applicant Screening section just to give an idea without further investigation to support it.

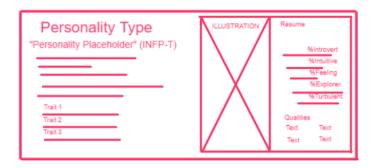


Figure 28. Personality Type Module.

3.5.1.3 Social Media Module.

This section of the SYD CV presents the users most relevant works shared on third party social media pages. To maintain a clean minimalistic yet functional design three blocks are presented at a time with the possibility to see more. The social media blocks feature, see Figure 29: The name of the social media site, users nametag and information, the most relevant work (either automated by trending count or by users choice), title of the publication and a details line, tailored to each social media site, with: likes, shares, downloads, views, comments, etc..

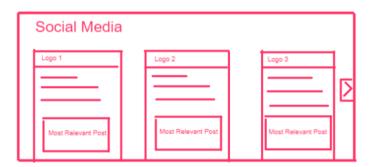


Figure 29. Social Media Module.

3.5.1.4 Education Module.

This module has been modified from v0.1, see Figure 30, to v0.2, during the investigation. Education is perceived here not solely based on academic development but also features courses, seminars, workshops and other ways of accountable and valid knowledge gathering sources. This model is expandable upon interaction, providing more information on each achievement. Relevant features in this section are: The name of the experience, institution, country, final grade, description, achievements and documents, languages, skills and certificates. For further development of this section in the future. We have noticed that this section lacks a more precise

representation of what is actually to earn a degree or a course. For that we propose to enhance this segment by the introduction of time invested in the degree, course. This can be calculated by the following equation: Total ECTS of the individual x The Value of 1 ECTS in Hours by Issuing Country = Minimum number of hours invested in the degree. For example, Bachelor of Arts in Film in Portugal is 180 ECTS, 1 ECTS in Portugal is 28 Hours hence in order to complete the course a total of minimum 5040 Hours must be invested. If the individual earns another degree let's suppose from Finland an MA in Photography then the 120 ECTS, 1 ECTS in Finland is 27 Hours hence in order to complete the course the individual invested 3240 Hours. This process can be automated with the resource of a database containing the number of ECTS required per degree or course, in a specific country or region. This can be further expanded with the individuals' grade and accomplishments.



Figure 30. Education Module v0.1.

3.5.1.5 Experience Module.

Previously this module was designated as Professional Experience in v 0.1, see Figure 31, also found across many CV templates and traditional models, however and after the progression of this thesis the prefix *Professional* was left out in the latter versions, see Annex I page 124, since the aim of SYD CV is an attempt for improvement of the traditional model and create a tool to help understand the person in a wider sense of value. The feature in this module are: Year, Position, Project/Company/Organization name, Location, Duration, Description, Multimedia window (with the work, logo, image or other relevant information), Media and Events (appearances and recognitions). Since this model is tailored to individual user's experience and career path, the features also vary. For example, a Cinema professional features include: Details of the film (length, production details, synopsis, highlights), Awards and Nominations, Crew, Reviews and online trending statistics.

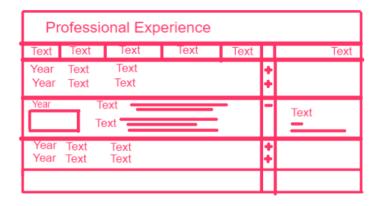


Figure 31. Professional Experience Module v0.1

3.6 Interview-based validation

To better understand the subject and to further the research we have opted for a qualitative research based on Interview, Interactivity and Feedback.

To approach the subject of recruitment on a more personal level and to better understand the general user we have devised the first part of the qualitative research aimed at a possible Candidate / Job seeker. The second part aimed at the Employer / Human Resource counterpart.

To do so for the first part of the research an interview was conducted with volunteers who were still finishing their studies and with experienced professionals in order to have a perspective of a novice and a more experienced professional on the recruitment process and job search. The interview was designed to gather feedback about CV, Recruitment, E-Recruitment and the SYD CV proposal. A total of 10 interviews were made, 5 men and 5 women.

3.6.1 First Interview

From 10 people who took the survey 5 were men and 5 women. All the participants had higher education, and professional experience in the field. The male group, see Table 3, at the moment of the interview was between 24 - 35 years of age, the female group, see Table 4, was between 22 - 28 years of age. The male group consisted mostly of master's degree graduates in the areas of Film and Media production, Graphic Design, Music and Sound Design. The female group was a bit more diverse and consisted of master's degree graduates in the areas of Psychology, Literature, Communication and Marketing, Nutrition, Graphic and UX/UI Design. 9 of 10 had both a CV and a Portfolio and the same ratio resulted in the online exposure of their work, either by using online sharing platforms or a personal professional website. By asking to identify the online platform(s) used to share and keep track of their working experience and their works the volunteers have chosen the following ones: LinkedIn 9/10; GitHub 1/10; Vimeo 1/10; Flicker 2/10; Blogs 1/10; YouTube 1/10; UpWork 1/10; Behance 2/10; Instagram 1/10; Tumblr 1/10; Personal Website 1/10; InVision 1/10; Prototype 1/10.

Table 3 First interview participants general overview, Men

 Age group
 24-25

 Education
 Master's degree or Equivalent

 Areas of Interest
 Film and Media production; Graphic

 Design; Music and Sound Design.

Table 4 First interview participants general overview, Women

Volunteers –5 Women	
Ager group	22-28
Education	Master's degree or Equivalent
Areas of Interest	Psychology; Literature; Communication and
	Marketing; Nutrition; Graphic Design and
	UX/UI Design.

All participants have stated that not all of their work is exposed, some prefer to have their work offline, some prefer to share only upon request by an employer and other prefer to share only some of their works online. Most of the participants have, at some point, had a job offer due to LinkedIn or Instagram profiles, however none have actually landed a job with direct aid from these platforms. The difference between SYD and other platforms is that at SYD the idea is to aid individual users throughout the process of landing a job instead of ad placement. By asking the participants their general opinion on the e-recruitment and online sharing platforms and by overlapping the answers together one can summarized the following: The evolution of recruitment is a logical consequence. The existing tools are promising yet not within their full potential. The negative prominent words spoken by majority of the volunteers were hoax, illusion, pyramid scheme and appear to follow the logic of receiving many jobs offers that seem untrustworthy, deceiving information in form of offers and comments. On the other side the positive feedback can be resumed to innovation, ease of access, necessity, networking, referencing and in some specific areas of the job market, especially fashion design, even land jobs for the users, however not in the case of the interviewed group.

By asking the following question," Would you prefer to access your professional info and works in one location? "the interview aimed to answer the question of centralization of work and professional related activities to what the answers were very curious. 100% have answered yes to the idea, but some had a few concerns regarding their work being summed in one location, due to the desire to highlight some expertise and work more than others. Centralization through content

aggregation, Interactivity and Individual approach make SYD Live CV different from other competitors. Another concern spread among the males was the network itself, the positioning of the network as a standardized and recognized platform for job related search and networking would bring more weight on the decision of using such a centralized CV platform. A minor remark was to pay greater attention to the design and the tailored approach of the platform than the competitors.

As the interview was approaching the last question, aimed to identify, from memory, what part of the CV would they rather see improved, to that the answers were rather unanimous and demonstrate desire to see a more appealing, personalized, revealing and enriched CV, not only covering the professional experience but also taking into account soft skills, hobbies, digital competencies and other experiences and interest that could help better understand and value the candidate.

3.7 Prototype Lo-fi

After the interviews, keeping in mind the outlines of the mockup from 2017, the observations found in 2.7 section, a low fidelity interactive mockup of the SYD Live CV Professional Experience Tab, see Figure 32, was made using InVision Studio APP and a full non-interactive SYD Live CV website mockup in Webflow APP, see Figure 33. The evolution of the prototypes can be seen in the Annexes section pages 119-124.

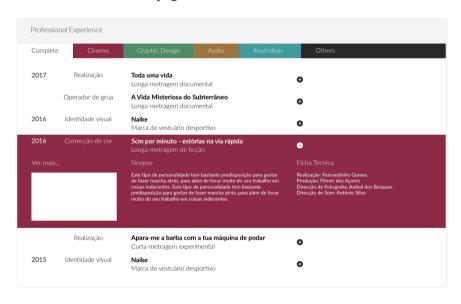


Figure 32.Interactive Professional Experience Module v0.1.

SYD

Welcome Back!



Master in Multimedia Thesis Research

2019

Figure 33.Non-Interactive SYD Live CV Webpage, developed in Webflow APP.

3.7.1 Prototype evaluation interviews

In order to gradually approach the development of the high-fi prototype, this thesis focused on two testing options at this stage. Firstly, a full non-interactive version of what would be the SYD CV webpage was presented to the interviewed person, the aim was to get an overall feedback and feel of the proposed model. After answering short questions, the interviewed volunteer was shown the second exhibit, a low fidelity interactive part of the SYD CV the Professional Experience Tab, with the feed aggregation emphasis and a more detailed visual representation of the candidates' professional experience in mind. The aim was to gather feedback on what is the most resilient and unchanged part of the Curriculum Vitae since its first use, the professional experience section, and to determine if content aggregation, interactivity and organization of data in a simplified yet more detailed way could in fact benefit in the improvement of a CV and furthermore in presenting a better chance for the candidate to get hired for the desired job.

Follow up questions after the SYD CV presentation and interaction. Webpage:

- 1. What do you think? elaborate
- 2. What features do you consider the most important in this model? elaborate
- 3. Which features were least useful? elaborate
- 4. Would you use such a model? yes/ no / maybe

Interactive Professional Experience Section:

- 5. Did you find it easy to navigate? yes/no
- 6. Was the information displayed in a clear way? yes/no
- 7. What features did you enjoy the most? elaborate
- 8. What features did you find least useful? elaborate
- 9. In your opinion, will this model improve your chances of getting hired? yes/ no / maybe
- 10. Did you feel this method can bring transparency and clarity to your career? Yes / no/maybe
 - 11. What would you improve? Elaborate

The interview was conducted with the same group of volunteers as before, in order to follow up. We have begun the interview by suggesting looking at the prototype and take their time doing so. First, and in order to break the ice, the questions started light with a simple overall opinion. The first impressions were good, the general opinion was that the information was presented in a clear and organized way, capable of containing all the information about the person behind the CV. The idea of centralizing information now has taken shape and the enquired volunteers have responded positively to this format. Features like Spotlight, Social Media and Experience Tab have taken the praise as one of the favourite and important features of the model that could benefit and improve the existing CV models. To go further into the question of the features I have asked the subjects to identify the most and the least useful features in their opinion, see Table 5. The answers were leaning again towards Spotlight, Social Media, Experience Section and the overall

visual representation of a candidate's information. A more controversial feature was identified, by all participants, the Personality Tab, which in the opinion of many would be better as a complimentary option with the possibility to show or hide from the general public. This response was supported with the idea of personality type being controversial, vague, subjective and in some cases debilitating, however all the volunteers understood the importance and the use of this information by the recruiters.

Table 5. Overall SYD features feedback from interview.

Most Useful Features	Least Useful Features
Spotlight	Personality
Social Media	
Experience	

After the first series of questions and answers some suggestions were made for the model. This suggestion relates more on the design and layout part of the model, another suggestion was to elaborate more on the Academic Studies section of the model and the introduction of non-academic cultural background and personal interest in the model. To close this section, we have asked the volunteers to answer if they would use themselves such a model to what the answers where 8/10 Yes and 2/10 Maybe, Table 6.

Table 6. How many of the interviewed volunteers would use SYD Live CV model over other models based on the Yes/No/Maybe answers in the interview.

Yes	Maybe
8/10	2/10

The doubt of use of such a model came, as we understood by asking to elaborate on the answer, from the widespread and the use of this model by the recruiters instead of other existing online sharing platforms and the standard CV templates. Other than this, 80% of the volunteers would gladly use this model to understand and see their own data.

To continue the qualitative research and to focus more on the crucial part of any CV models, templates and online sharing platforms the next part dealt with the Professional Experience section, which was the actual starting point of the author's journey into this field of interest since many years ago and kept him uneasy in different parts of the world during job searching adventures. In order to focus on this section a low fidelity interactive prototype was made using InVision Studio, a freeware cloud-based prototype software. The mock-up itself served as a starting point for the remaining questions. For starters a simple "yes/no/why?" question was asked to see if it was easy to interact with such a layout and the answers were yes, with suggestions flowing right away. The suggestions once again had to do with small design corrections, text arrangement and font sizes. In order to focus more on the features presented by this model in this specific section I have asked the subjects to identify the most and least enjoyable and useful features, see Table 7. Most enjoyed features where the: Details, Statistics, Expansion and Navigation, Reviews, Crew, Metadata, Division by Sectors and Media windows. The least enjoyed feature was the technical specifications in the details section. In the next question the aim was to get an idea rather than a concrete answer due to its nature.

Table 7. Features overview of the Professional Experience section in the SYD Live CV.

Most enjoyed features	Least enjoyed features		
Details, Statistics, Crew, Reviews, Metadata	Technical Specifications		
Expansion and Collapse of tabs			
Navigation			
Division by Activity Sector			
Media windows			

"In your opinion, will this model improve your chances of getting hired? yes/ no / maybe", majority have answered maybe, but hope was in the air, some have even imagine themselves as recruiters and stated that they would definitely prefer this model rather than be looking for information about the candidate in multiple places, others have agreed that this model, if widespread, can benefit both sides of the job marketplace. Since one of the goals of this thesis was to bring transparency between Employee/Employer by using this method the next question was straightforward "Did you feel this method can bring transparency and clarity to your career? Yes / no/ maybe" the general answer was Yes, backed up by comments on how it would benefit to understand one's career wise interest.

To end the interview, we have asked for suggestions and what could be improved in SYD CV model. In short, the suggestions reflected more upon the design improvement, the colour scheme, layout and shortening of the steps necessary to get to the point in mind. Other suggestions include the implementation of soft skill listing, networking through project member identification and creation of a social network for film and media professional with additional schools and production companies listing.

After taking into consideration the results and the feedback from previous interviews, the online survey and by examining the previously identified preferred existing and widely used online sharing platforms, the process of building the SYD Live CV 0.2 version begun. Recalling the gathered feedback, the desired improvements of a CV were in fact close to the initial prototype designed in 2017, see page **Error! Reference source not found.**, however and due to recently obtained information from the volunteers and the enquired subjects some changes were addressed.

3.8 Final Structure Proposal: SYD Live CV v.02 Prototype

3.8.1 Interface Design

The SYD v0.2, developed in 2019, served as a template for the creation of 3 SYD CV mockups used in the testing stage of the research. The designed layout is customizable for each user and serves the purpose of identifying a standard way for the platforms look and UX/UI research. Below an example is presented in Figure 34.Landing Page. and Figure 35.Business Card Section v0.2., for further information check the annexes section of this thesis.

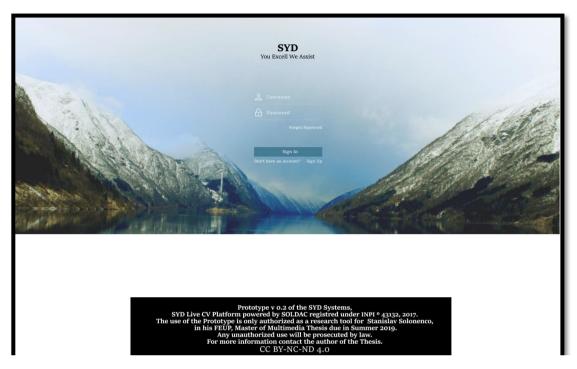


Figure 34.Landing Page.



Figure 35.Business Card Section v0.2.

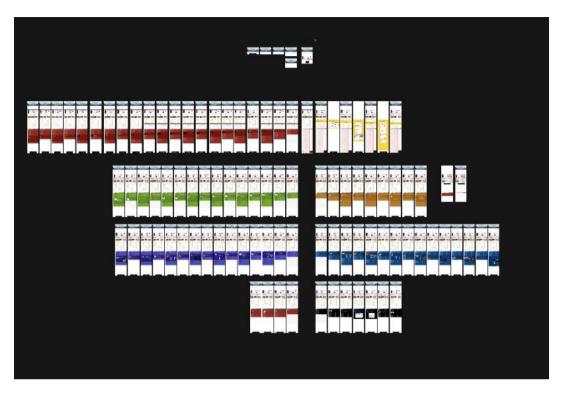


Figure 36 SYD v0.2 Prototype Screens, InVision Studio

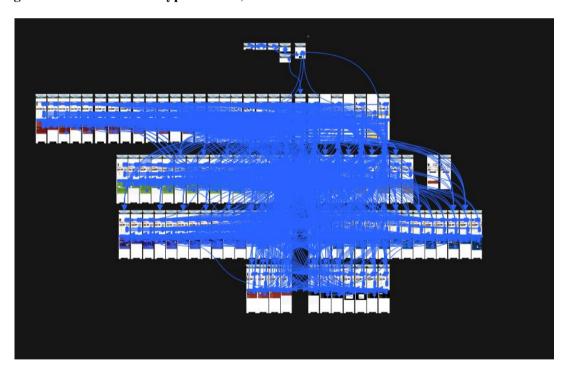


Figure 37 SYD v0.2 Prototype Screens Interactions, InVision Studio

3.8.2 Implementation Suggestions

In this section a brief overview of possible technologies for future implementation of SYD Live CV is reviewed and compared.

3.8.2.1 Web App vs. PWA

For the development of the tool designed for fetching, sorting and showing applicant data two options were considered: Web App or PWA. By developing a tool, based online and accessible remotely from any browser the Syd Live CV can be monitored, twitched and examined remotely by the team. A Web App is a client-server computing program which the client accesses through the web browser. The PWA, on the other hand gives the possibility to trim down the APP size and provide a stable connection even with a low internet access or even offline, moreover the PWA technology also makes the possibility of creating a Web Page and a mobile APP at the same time in one layout and package. We therefore decided for the Progressive Web Application or PWA. Since the rapid development of internet technologies and the emergence of faster and more reliable cloud hosting solutions, the internet as a platform, is fast, easy to use and reliable. For the development of the PWA, services of rental servers and cloud hosting will be used to cut down costs and to guarantee constant access.

3.8.2.2 SYD Live CV PWA

For the future development of the SYD Live CV PWA, considering that the application consists of two ends, one for the client and the other for the server, the app will be developed in two separate ways. In order to assure a fast and reliable workflow a tailored Agile method will be used to ensure the follow through. For a more flexible writing of the application web app frameworks such as Django, Ruby on Rails, and Symfony are considered. At this point these are the following technologies foreseen for the development of the App based on brief research:

a) Front-End

Front-end web development is the practice of converting data to graphical interface for user to view and interact with data through digital interaction using HTML, CSS and JavaScript. This frontend layer or the 6th layer of the OSI model of computer networking is the presentation layer. The presentation layer is responsible for the delivery and formatting of information to the application layer for further processing or display.

b) Back-End

This layer of the web development process is responsible for the backbone of the application. Also referred to as the data access layer or (DAL). "A data access layer (DAL) in computer software, is a layer of a computer program which provides simplified access to data stored in persistent storage of some kind, such as an entity-relational database. This acronym is prevalently used in Microsoft environments." Wikipedia (21 August 2017).

It is intended that at this layer the App will fetch and sort upcoming data. Also, at this time the Applicant Screening or CV Screening will take place.

c) Hosting

For the hosting of the application, online hosting services will be used with the already owned www.sydsystem.com domain.

3.8.2.3 Minimum System Requirements

In order to use the platform minimum requirements, have to be met:

- 1. A computer (portable or stationary) with a minimum screen resolution of 1280*800px is recommended. A tablet, smartphone or other device with big enough screen for proper viewing and interaction with the platform. The use of PWA facilitates responsive design, however for a better experience it is recommended a bigger screen.
- 2. Internet connection with at least 2mbps speed, the PWA technology makes it easier to access pages at a low speed and weak network connection, however, at some point, for a better user experience the application may require faster internet connection.
- 3. Since SYD CV relies on PWA technology the APP can be downloaded from APP Stores and accessed directly from the device, however it is recommended to have a web browser previously installed on the device. Web Browsers such as: Chrome, Edge, Firefox and Safari.

3.8.2.4 Architecture

Unfortunately, the implementation of the SYD Live CV has not been achieved in the course of this dissertation, in part due to the limited resources, however for the future development and to paint a picture of how the platform could work we drew architectural diagrams. These diagrams are general overviews based on ideas rather than thorough research. The platform as it is, is intended for two types of users: The General user or the Applicant and the HR professional or the Recruiter. For the General user or Applicant, the interaction scenario are shown in Figure 38, Figure 40 and

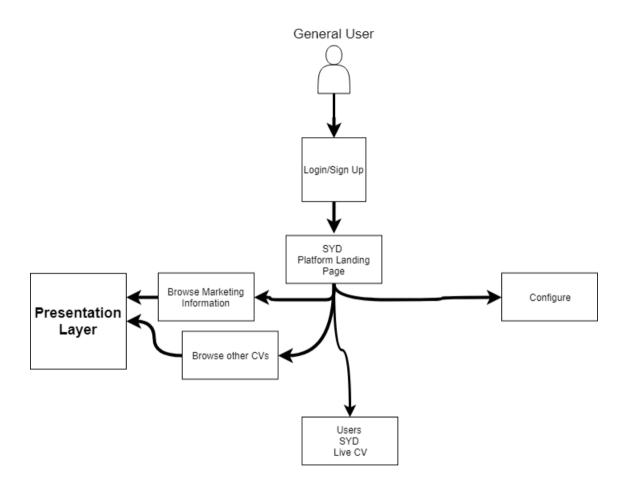
Figure 41.

After the user goes to www.sydsystem.com the welcoming page appears were the user can log in or sign up. After the user logs in, he or she can:

- Browse the landing page for marketing material, terms and conditions, information about the services and the general information of the platform.
- Browse other CVs found on the platform.
- Browse his/her interactive SYD Live CV.
- Configure preferences regarding external feed aggregation, configure already existing SYD Live CV, request for an automated SYD Live CV generation or create multiple Vistas for different job application as well as create and share encrypted links with recruiters.

For the HR user or the Recruiter, the interactions scenarios are similar to the General user with the exception of more search filters and Applicant Tracking System (ATS) support, see Figure 39.

Inside the Configuration section of the App, see Figure 40, it is intended to fetch, sort and present users specified data with the use of API and Feed Aggregation. It is hypothesized to work with the use of Access Tokens, granted by the user to the system, for the fetching of data from external locations, storing the desired data on the SYD server and sorted to the preferences of the user. In case the user decides to create multiple Vistas, the modular design interface assists in the highlight of chosen information. In case the user finds it difficult to do so, it is envisioned the creation of a support system, be it a live chat, chat bot or customer support via VoIP communication. The reader can also find a holistic overview of the system in Figure 42.



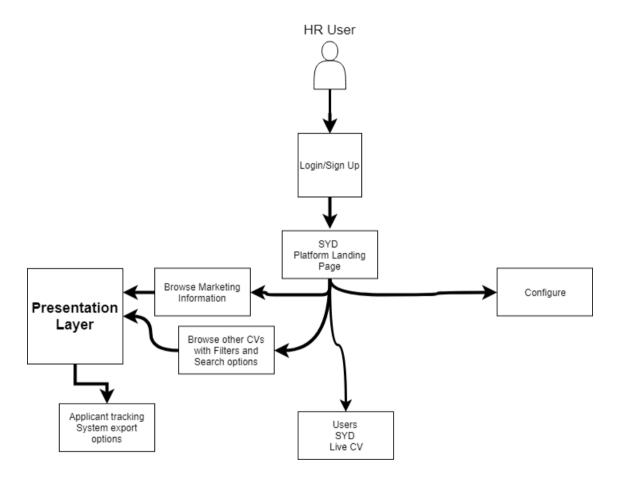
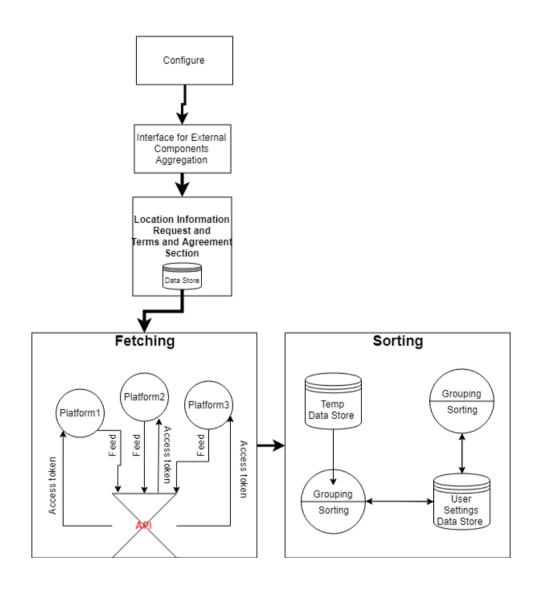


Figure 39. HR User Landing Page Architecture Proposal.



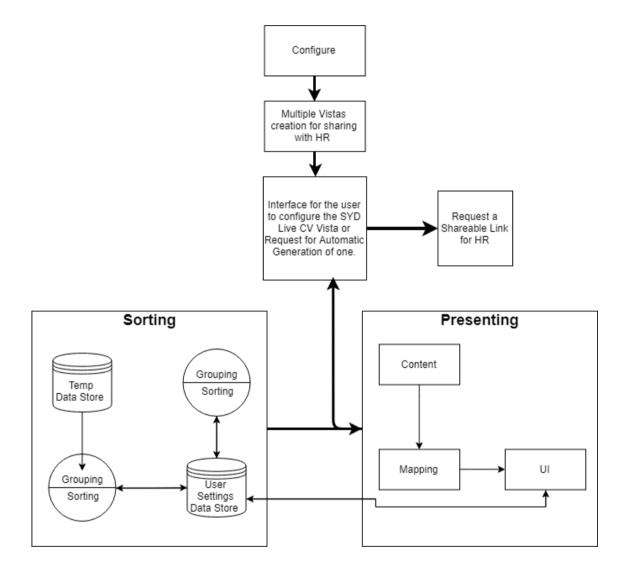
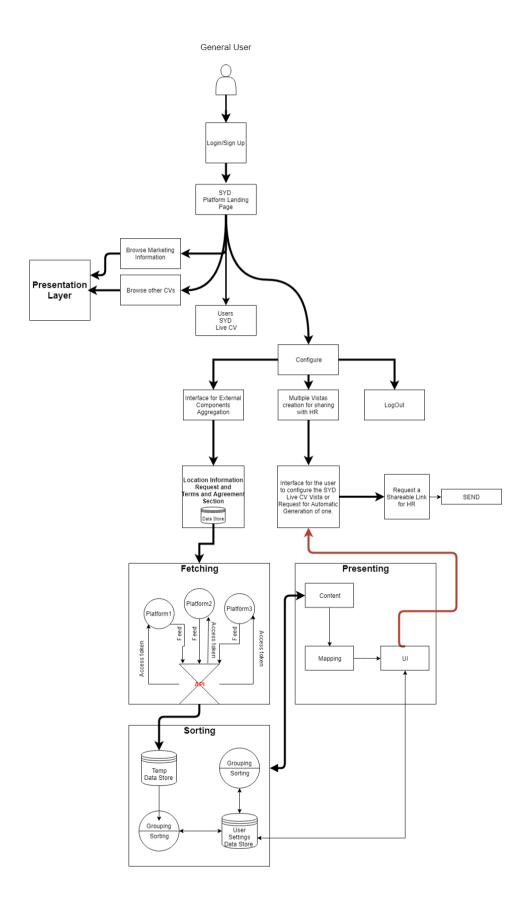


Figure 41. Multiple Vistas Creation Interface Proposal.



4. Final prototype evaluation and discussion

After presenting the first mockups and gathering more feedback from the previous group of people a high-fidelity interactive mockup of the SYD Live CV was developed in InVision Studio. Followed by 3 SYD CV Models based on real CVs submitted from volunteers. The high fidelity mockups of the SYD CV where used to test the concept with actual Human Resource workers in order to get closer to the answers for this thesis questions; is content aggregation and improvement for an online CV, is the SYD visual model of data representation better and will it actually improve the chances of a Creative Industry Professional to find a job? To answer these questions, we have presented each of 7 HR workers with 3 candidates each with a different CV model: SYD, see Figure 46, personally designed CV, see Figure 44, and a CV downloaded from LinkedIn, see Figure 45. The use of these CV models resulted from previous research and enquires with the HR professionals and volunteers before the interviews as well as a brief search on CV trends. Each candidate had three versions of his/her CV with the equal information on all of them, except SYD model which was enhanced with information found from other sources. HR workers who took part in the experiment where from different locations and companies and the CVs where shuffled based on the Latin square principle, see Figure 43, thus keeping the experiment further from biases.

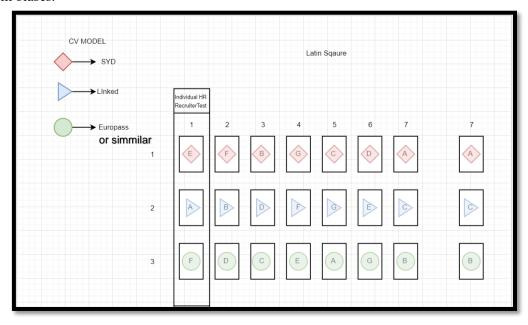


Figure 43. Latin Square Shuffle for HR testing.

As a result of the previous section of the Research, the SYD model underwent some modifications. First, the personality type feature was left out and remains in the model as collapsed tab with the *request from user* option, leaving the possibility to incorporate this feature for some users. Education section was developed, with the integration of features as: achievements, grades, documents, certificates, location, pictures and more details on each course or degree. For the Professional Experience section, slight changes were made to aid the user experience, and the sections was renamed to *Experience*. Following the last part of the Research and after user testing with HR professionals' valuable feedback was generated that gave some indication on how to improve the SYD model even more, with simple yet useful UX/UI alteration.

The following section was designed to test out the proposed model, keeping in mind the question Can SYD CV increase the chances of an applicant in the recruitment process?

In order to perform the test a set of tools where compiled for each professional. These testing tools where: Personally made CVs (4 in total, 2 male and 2 female), same volunteers CVs downloaded from LinkedIn and 4 SYD CV elaborated by compilation of information from submitted CVs (Personal + LinkedIn) and from other online sources like: Instagram, Vimeo, and other platforms. Due to the lack of details presented in the submitted CVs in the SYD CV some details of the candidate were added from other existing SYD models, in order to fill in the spaces and represent the idea with more clearance rather than leaving the spaces empty.

To perform these individual tests:

- First, a Google Drive Cloud folder was created containing three CV models: personalized created CV, a LinkedIn downloaded CV and a SYD CV, each CV representing a different person. The SYD CV was located on the InVision App cloud thus in the folder only the link was located.
- Second, an interview flow, see Figure 48, was elaborated to streamline the process and guide the interviewed professional.

We would always certify beforehand if the interviewed person has access to one or if we should find a solution, all of the test where made on the interviewed subject's computer and at their workplace or nearby. The interview would usually start with an Introduction, and then we would send a link to the shared folder, tailored to the interviewed professional, using a Nokia 6.1 smartphone and the Voice Recorder App we would start the recording and then follow the

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guidelines finalizing with closing the links and stopping the recording. We would also ask if they know someone who would be interested in taking part in this test. The interviews span from 10 minutes to 90 minutes with an average of 25 minutes.

4.1 Samples of used CVs for Testing

 Personalized CVs made by the applicant was identified as a common template send to the recruiters.

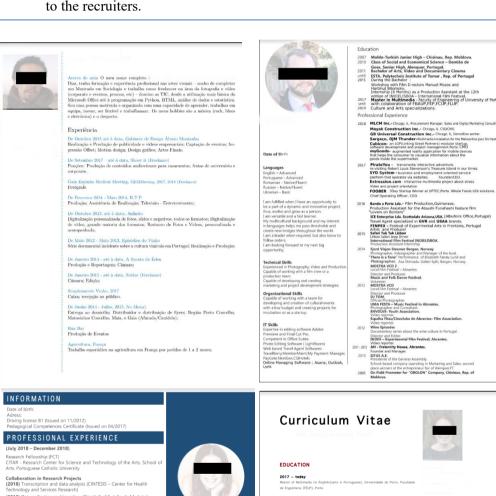
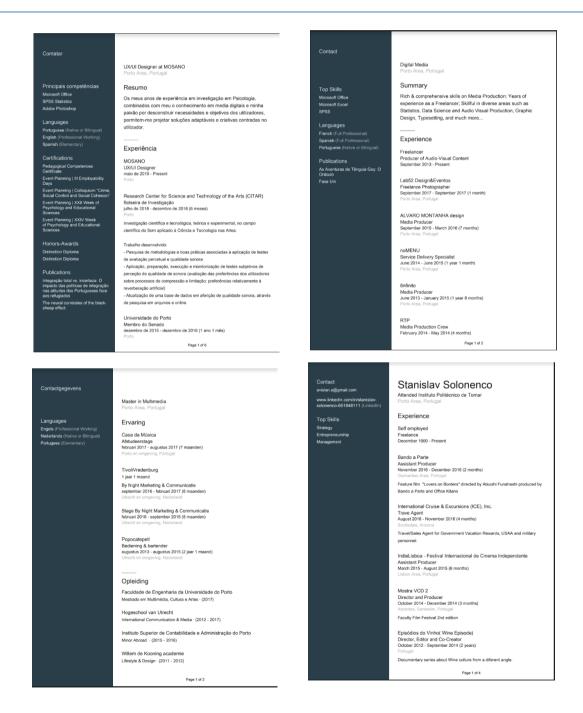






Figure 44. Personalized CVs made by the applicants.

• LinkedIn downloadable CV, similar format to Europass CV, was identified as a very common CV template received by the recruiters.



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• SYD Live CV template manually crafted from the volunteer's CVs.

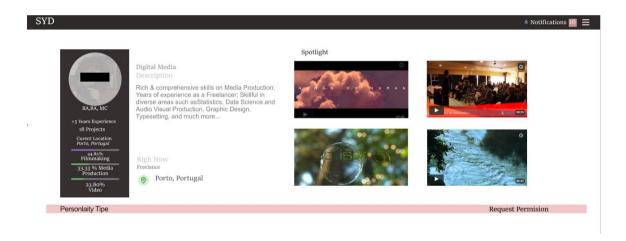


Figure 46. Above and Below: Screen Captures of the Business Card/ Introduction Section from two different SYD CVs used in the test.

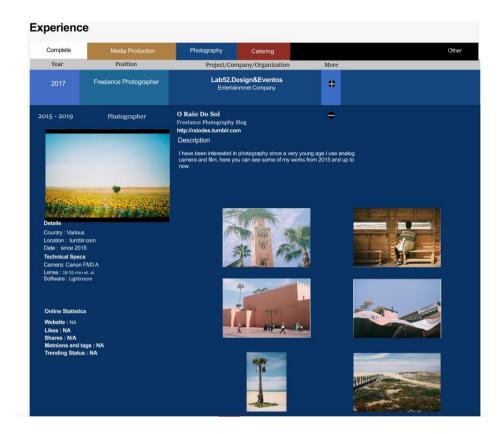


• SYD Live CV revealing more information on the applicant, the aggregation of information was done manually from external sources.

Education						
Academic Studi	es					
Years	Institution	Course		Location	More	
2007 - 2009	University of Porto	Bachelor in Philosophy		Porto, Portugal.	•	
2011 - 2014	Escola Superior de Technologias de Abrantes, Polytechnic Intitute of Tomar.	BA in Documentary File	m	Abrantes, Portugal.	•	
2016 - 2018	University of Porto	Master in Sociology		Porto, Portugal.	•	
2017	Modatex Porto	Intensive InDesign Course		Porto, Portugal.	0	
Languages		Skills		Certificates		
	ative	Technical	•	Junior High Senior High	0	
	luent	Soft Organizational	+	BA	ŏ	
	luent luent	Organizational IT and Software	•	MA Driving Licence 3DS UPTEC 2017 ENEM 2019	Ď	

Figure 47.Screen Captures from two different SYD CVs, Above: Education Section; Below: Experience Module.

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4.1.1 Interview Flow

1. Introduction

Thank you for taking your time and assisting me in my research. The aim of this test is to identify the most effective method of individual professional, skill and experience related information representation.

For research purposes this conversation will be recorder, do you consent to that?

Could you please briefly introduce yourself?

(Name, position and workplace.)

Thank you.

Next, I will ask you some questions, you can answer as briefly as you wish.

2. Questions

In what form do you usually receive an application and the applicants CV?

(A link, email, paper, website or by internal software or third-party software.)

What is your usual process of viewing an application?

What form do you prefer and why?

3. Test

I will present you with 3 candidates, each using a different model for his/her CV.

Please choose one of the candidates.

Could you please verbally confirm the one you have chosen.

Why did you choose this one?

Did the way how the information was represented influence you in your choice?

If you would like to give some feedback or maybe add something, please go ahead.

Thank you and have a great week.

For the above-described test 7 professionals have been interviewed and asked to interact with SYD CV. The professionals were highly related to the recruitment process in their companies. These companies range from Tech Start-ups to Government Institutions. Here is the list of the interviewed professionals and their brief description, listed by date. Despite consenting to the use of recorded information and names, the surnames of the Interviewed professionals are shortened for privacy purposes.

• Joana R.: People & Culture Manager at Barkyn.

Pet food and accessories e-commerce startup.

Joana studied psychology, started in clinical psychology and changed to organizational psychology and now is in the HR for the past 3 years.

During these years has worked in different areas of HR: employee engagement, culture, innovation and recruitment. Took part in developing the recruitment processes and stages identifying which skills to assess and at which phase. During this developing process, Joana had an important experience a result to a practice of reuniting the interviewers in a committee to discuss the candidate in a more human approach. The committee would talk about technical skills, emotional skills, social skills and discussed about feelings and how would a candidate feel about joining the team, in a specific strategic point of view.

 Ana P.: Talent Acquisition specialist and coordinator of the recruitment process at Veniam.

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Technology startup operating in the field of the Internet of Moving Things with their Intelligent Networking Platform that moves huge amounts of data between connected vehicles and the cloud.

Ana studied psychology, worked in the HR for the past 4 years focused primarily on the recruitment process although Ana has also experience in HR management. At Veniam is tasked with talent acquisition, coordinating and developing the recruitment process besides interviewing some applicants.

• Andre S.: HR Manager and recruiter at Multipessoal Group.

A 1993 established Portuguese company in the Human Resource and temporary work agency field current leader in Portugal by sector.

Andre has previously worked in the national professional integration program, GIB (Gabinete de Inserção Profissional) a branch of the National Institute of Employment and Vocational Training IEFP (Instituto do Emprego e Formação Profissional). For the last year is employed at Multipessoal Group Porto as an HRM.

• Joana A.: Producer at Um Segundo Filmes.

Production company in Porto and Cultural Producer in Portugal and abroad.

Joana studied architecture and worked in the field before shifting to cultural and audio-visual production.

• Diana R.: Managing Partner at Agente A Norte.

Actors agency and audio-visual producer in Porto.

Diana has extensive experience in producing many television programs and series, worked with Miragem, NBP and Nova Imagem production companies, was the production director in FilBox and LT-Studios companies and since 2014 has opened Agente A Norte Agency and Production company with her managing partner Marta Lima in Porto.

Isabel M.: Superior Technician at the Professional Integration Office (GIB) of IEFP,
 Porto.

Isabel has interest in helping unemployed population find employment, aids them with the creation of the CV, links the persons with the employer and assists them in the employment process.

 João C.: Cathedratic professor of the Department of Informatics Engineering at FEUP (Faculty of Engineering University of Porto), a senior member of IEEE (Institute of Electrical and Electronics Engineers), a member of IEEE Computer Society, and a senior member of ACM (Association for Computing Machinery).

Professor Cardoso has vast academic background and professional experience. Professor Cardoso also takes a crucial part in the recruitment process of alumni, technicians and other professors.

In order to test the SYD model four industries where targeted, for the analysis of the gathered feedback we have grouped the interviews, this way the tests and the gathered feedback bring insight on: Tech It, Software and Computer Services; Entertainment and Advertising; Staffing; and Academia. Before Multipessoal we have tried to arrange an interview at Sitel staffing company and Egor staffing company, both have required an official email with a detailed description of the purpose of the study and only after the approval of the director we could arrange a meeting with one of their employees, since time is scarce, we continued the search in other places. In the next section a brief resume of the results will be presented in four groups according to industry.

4.1.2 Tech IT, Software and Computer Services: Joana R., Ana P.

From the interview with Joana and Ana from Barklyn and Veniam startups the following was deduced:

First, we aimed to understand briefly the recruitment process in the Tech Startup field and asked both to briefly talk about it.

Both Joana and Ana identify three main phases in their recruitment process, the first one is a brief look on the application, less than 5 minutes, the second is a more thorough examination of the applicants CV and the third is an interview to better understand the applicant and to find if the cv matches with the applicant and if the applicant has the necessary skills. These steps are made in order to save time and resources for the company, sometimes more steps occur during the recruitment process however the first three steps are more common in the HR field. Both Joana and Ana more often receive CVs Europass model or plain text attached to an email and very often receive a LinkedIn profile link in the email as well, both use ATS²⁸ software internally to keep the applications in the database and to double check with the submitted CV. Joana find that many people do not know what information to write down in their CV most of the cases it either useless information or it lacks information and details.

After the introduction and moving to the test the 3 models where presented to the subjects. First the Personally made CV, second the LinkedIn downloaded pdf and third the SYD CV model.

²⁸ ATS – Applicant Tracking System software.

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On the first model Joana found it necessary to write a Curriculum Vitae as the title, since its sub intended, and rather write the name of the applicant, Joana suggested repositioning the education and experience section in order to highlight the experience more, even if an applicant has less experience than education, more detail on fewer experience could improve the CV. Ana also suggested adding more details on the technical skills part, to comprehend where do these skills come from and on what projects they were used, Ana also suggested compiling less relevant experiences in one category, for example summer jobs.

On the second model, the plain text example LinkedIn pdf like Europass, both Joana and Ana find it exhausting to read, less appealing, no colours to assist highlighted areas and lack of details. Achievements and work description, team size and other related experience could improve the chances of an applicant to pass the first steps.

The third version, SYD CV, was much enjoyed by both Joana and Ana, they could not identify something that is unnecessary but rather gave feedback on how to improve the model for the Recruiter side by creating a more comprised version of it which will expand to the full version on the second step of the recruitment process, the use of a pie chart instead of the percentage bars and make a day in work pie chart feature to highlight some daily work activities.

By following the guidelines of the interview and the experiment we have asked the participants to choose one of the three models that could relate to the initial aim of the test: to identify the most effective method of individual professional, skill and experience related information representation.

Both Joana and Ana have chosen the SYD CV model for its layout, representation of information in a visual and organized way, interactivity, the expansion of details with media content to highlight the experiences even more and the overall presentation and features. Joana noted that this type of a model shows right away a more technology driven and aesthetic sensitive person who did put more effort into their presentation on the job market, "I would say to you, If a person would apply to HR with this kind of site I would probably interview her or him in the next day and just going to say let's talk about it because it's a technology driven and we really need that kind of people in HR to make a difference and to reshape the field". Ana noted that this type of model would allow the user to keep his/her information updated easier than LinkedIn or other formats," ...I guess it is something much more easier for the candidate to keep updated, much easier than having a word document or the LinkedIn,...". The only remark both have shared is the necessity of optimization of the model for the recruiter, with a compressed version for the first steps in the recruitment process and the implementation of the search function as well as the Applicant Tracking System software integration.

Before finalizing the interview, we have asked the participants to answer if in their opinion the preferred SYD Model could in fact improve the chances of an applicant to which both strongly agreed. This agreement was backed by the fact of SYD CV causing a much better impression, a better way to show the value an applicant can bring to the company and the fact that the applicant is technology driven. Joana even noted that if someone would send this kind of a CV, she would probably be looking for an interview with that person the following day for some simple follow up questions and to assess if the person matches the company's culture.

4.1.3 Entertainment and Advertising: Joana A., Diana R.

I followed the same principles firstly asking a brief introduction on the recruitment process in their areas followed by the test and the follow up questions.

In both cases the process is very similar, the applicant usually either comes by the office and present himself/herself or sends in an email with a brief description and a document as an attachment. The CV documents are most of the times Europass models which are briefly looked into and saved in their database. In case of Joana, who is a producer, she noted that for applying to film budgets from institutions (Institute of Cinema and Audiovisual, ICA) either public or private they use the Europass model, this plain text contains the latest works and is kept very short. This method is also very common for Diana who deals with producing and managing actors and audio-visual productions. References and word of mouth also works as a linking bridge between a potential applicant and the Entertainment and Advertising industry. Diana works closely with applicants who are eligible for the paid internship program by IEFP and only hires, for a longer period, those who meet this requirement. Other hired employees are usually freelancers for a precise period or project.

By looking at the three models both had relevant notes. Joana has advised to switch the education and experience section on the first CV, in order to highlight more the experience of the applicant, Diana has noted that the description section is something that is important for her in the recruitment process, despite knowing by experience it is mostly only words. Both agreed that the second model is something they receive often and despite it being clear and organized it can be exhausting to read through.

Both preferred SYD model to other ones, the representation of information, more detailed approach, layout and interactivity where highlighted as their influence of choice. Joana suggested some alterations on the model to make it more HR oriented, in order to inform the recruiter in a fast way she suggested comprising the model for the first step with the expanded model on the second more thorough examination, creating more spotlight spaces and tailoring the page for specific position. Diana has found the Social Media section irrelevant in her experience, however she noted it is something that is asked for more often recently.

Joana agreed that the SYD model can in fact improve the chances of an applicant to land an interview and Diana has hesitated between either this model could help equal the possibility or in fact improve the chances of a candidate.

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Notes on slight changes were made by the end of the interview. Joana has suggested the possibility to close and expand sections rather than always leave them open, relocate the social media tab into the bio section, and highlight specific experiences for a specific position.

4.1.4 Staffing Industry: Andre S., Isabel M.

Andre and Isabel both had previously worked for the Professional Integration Office, GIB a branch of the IEFP and despite now Andre working as an HR manager at a global Staffing Group, Multipessoal both receive applicants' CVs in a Europass or Microsoft Word document.

The nature of their industries prefers these formats since in the case of IEFP, the Europass model is a national standard used throughout the European Union, firstly integrated in the national institutions and organizations, the case of IEFP and consecutively GIB on the other hand the human resource and employment focused companies as Multipessoal Group also use this model as the results show. A side remark, personally when the author was abroad in search for a job he has also encountered other national CV forms in Scotland and came across filling in forms for staffing companies like Adecco and Manpower in Switzerland, Norway and in Portugal, all of them following the same standardized structure with slight variations.

During the interview Andre has briefly looked at the first two models without opening the SYD CV and right away chose the first one despite criticizing the fact that it had too much information. He explained that in order for a CV to be noticed by a recruiter in Multipessoal Group and other staffing companies the information should be very short, containing only few most recent job experiences, the last education degree or course, language, location and no additional information, it should take an employee of such a company 1 minute to read the application and either dismiss it or pass it to the second phase for a closer look. Andre did not open the SYD CV model because it was a link for the InvisionApp webpage and he firmly stated they never open links, only documents, due to time limit and security reasons. Due to this fact, Andre's vote will not be accounted for. Also from the interview with Andre we have taken into account one particularity of the recruitment process of a staffing company, they have a checklist to follow, if one of the bullet points are not met the CV is automatically discarded, something Joana from Barklyn has mentioned to always not follow due to its biased structure and shallow approach to the candidate.

Isabel works as a linking bridge between the unemployed and the potential employer, her role is sometimes to elaborate CVs for the candidates and to guide them in the process of employment. Isabel, due to the nature of her position, uses Europass model despite showing a great deal of antipathy with this model. Due to the circumstances of her work Isabel would use the first model as a reference to build the CVs of her clients, however she prefers the SYD Model for its innovative approach, richness in information and features, "...maybe I would chose the first one (Personalized CV) because of the public with whom I work here, but personally I would

choose the third one (SYD). " . Isabel believes SYD model will improve the chances of an applicant in the recruitment process, finalizing by stating that many people send their curriculums and never get an answer, pointing out the need for a different approach.

Both Isabel's and Andre work in a structured and bureaucratic environment where neither of them has much liberty in choosing the model of the received applications. In case of Andre, who in this research will represent the staffing industry, the current models work fine for a fast and first look at the applicant. This model makes the process of resume parsing or CV screening easier which benefits the use of Applicant Tracking System as well. However there seems to be a second phase where the applicant is examined with more care, in this case the SYD model could work for the second phase and even the first phase if recognized as an industry standard, as Europass and LinkedIn is.

4.1.5 Academia: PhD João C.

For the last interview we have considered to understand the recruitment process in the academic environment, since when applying to the Master in Multimedia course each student had to send in a CV and a Portfolio, besides other documentation needed for enrolment. In order to find out about the process we have spoken with the head of the informatics engineering department, DEI, Professor C., who takes a crucial place in the recruitment process be it of staff, students or fellow professors in FEUP.

Professor C. stated that some students send their CVs in Europass model while on a more professional side the CVs are much more extended and contained much more information, thus Europass is not adequate for this task since it lacks organization of information and details. For a professional the CV must contain much more details on each project and each experience.

I then showed Prof. C. the three models and waited for feedback, for the first model Prof. C. has mentioned the lack of information, for the second one he has stated it looks like a brochure and the third one he has enjoyed the most.

When asked why he has chosen the third model, Professor C. has mentioned the SYD Model could help a lot with the extended curriculums, could facilitate the search of information, make comparing curriculums side by side easier. He highlighted the presented possibility of opening more information by expansion and the fact that there can be media content covering publications, news and other appearances, Professor C. also preferred the way the information was presented in a clear and easy way. When asked if this model could improve the chances of a candidate during the recruitment process Professor C. has answered positively. During this interview we have taken some notes on the suggestions made by the professor to list some: possibility of exporting the SYD CV in PDF file, highlight feature for selected fields in order to compare CVs side by side, extract academic CVs ,which can be around 100-200 pages long, into the SYD Model, include the minimize option for the sections.

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Overall Professor C. liked the model and has shown enthusiasm for this project.

4.1.6 Conclusion

The usual process of application reception is either email or direct submission on the website. The email contains a cover letter and a LinkedIn link, email can sometimes come with an attached CV document, most of the times in a Europass Model and sometimes a personalized model. The process of recruiting generally consist of two phases, the first one lasting from 1-5 minutes and deals with a quick glimpse at the application or CV the second one is a closer examination of the CV and the applicant. The main problems identified in the first Personalized CV Model, see Figure 44, where the lack of information or the presence of unnecessary information and the position of the education section ahead of the experience section. For the second model, see Figure 45, the identified problems where the unappealing exhausting layout and representation of information, excess of information and the lack of it in some cases, lack of details on specific projects, achievement and skill use.

Despite the Europass Model and LinkedIn acceptance and use among all the interviewed subjects, 6 out of 6 have preferred the SYD Model for its innovative, interactive, clear and organized form of information representation. From the presented features by SYD one was met with less enthusiasm, the Personality Type Section, and others were highly appreciated. From the interviews and interactions several notes have stacked together and sum up to focusing on the Recruitment side with some simple alterations as suggested:

- Creating a compact version of the SYD before it is opened in full view;
- allowing the minimization of the sections;
- altering the sliding percentage bar with a pie chart;
- incorporating ATS software for HR use;
- introducing the Highlight and Search features;
- introducing the Comparison Mode;
- using the SYD model for Academic Curriculum formatting.

As for the question. Will SYD CV Model improve the chances of an applicant during the recruitment process, 6/6 or 100% have replied with a positive answer and in some cases even stated that if presented with such a CV they would give it more attention than to other models.

4 out of 6 HR professionals had doubted the percentage bar in the Introduction section, stating that despite this approach being very common on the skill description part, most of the times it is false and does not show real skill capacity of an applicant, from a psychological side, Joana R. has even added an interesting fact that, when a person is presented with a bar to fill in and it should reflect upon their proficiency in one particular skill, the person either underestimates or overestimates the percentage. In the case of SYD this percentage bars were meant to reflect the

total number of projects and highlight the most active fields of an applicant, during these tests it was noted that the intent was not clear, Ana P. from Veniam proposed the use of a pie chart instead of the bars to highlight this intent.

• Why have you chosen the SYD Model from other two models?

"I would say to you, If a person would apply to HR with this kind of site I would probably interview her or him in the next day and just going to say let's talk about it because it's a technology driven and we really need that kind of people in HR to make a difference and to reshape the field" Joana R., Barlyn

"I have the information in a much more visual way, and I also like the fact that I can choose to see more or not about something, because if I want to see more I am able to do it and I have the information available if not I don't waste my time going through each paragraph of information trying to find what I need, I guess it is something much more easier for the candidate to keep updated, much easier than having a word document or the LinkedIn, or something like that, I do like the visual presentation, although the information is valuable make it shorter, shorter sentences shorter everything, compress, it is in the interest of the recruiter" Ana P., Veniam

"....it is not necessary for the curriculum to be that long, therefore I find it nice how you on your platform (SYD) shorten the information and I think it can be a hypothesis, of course it can."

Diana R., Agente A Norte

"...maybe I would choose the first one (Personalized CV) because of the public with whom I work here, but personally I would choose the third one (SYD)." Isabel M., GIB.

• Will SYD Model improve the chances?

"YES, absolutely, and depending on the position, it could be even more probable, for positions that are not that tech savvy and positions that are not known for its innovation and in being pioneers, like HR or customer success, or marketing, or even IT technician, if those guys would present something like this I would be like ow wow, this is someone that I probably want in my organization, just going to interview to make sure this is the right person has the right skills and the right background, I would just do that but I would very impressed and kinda it would bias me into wanting that person" Joana R., Barklyn

"If they all had the same skills that are needed, this person would cause a much better impression on me, for sure, it will not replace technical skills, but it will show that this person has a different approach and a different way of doing things, and the tendency for automatization" Ana P., Veniam

Final prototype evaluation and discussion

"...yes, yes, I think, yes, its quiet attractive, it's a different model, creative, it is not, how do I put it, massive, the fact that it is interactive changes a lot of things I think..." **Isabel M., GIB.**

"...I think so, the new technologies come to help.... It obviously shows the information in an easier way to consult...even for comparing (CVs) I can easily look here, and then the possibility of having more information is also helpful..." **Professor João C., DEI, FEUP.**

4.2 SYD Live CV v0.3

By the end of the research, it was clear that SYD CV model was on the right path and with an ongoing Research and Development process could fruition. For now, the SYD CV model was upgraded again; this upgrade resulted from the test with the HR Professionals, and despite being oriented for HR can benefit the Applicant as well. One of the concerns shared among the interviewed professionals was the wide-open page right away, thus a method to reduce the page browsing time without losing the amount of information had to be implemented. Since many of the features expand, upon interaction their minimization as a counterpart will reduce the time spent on each applicant. Also, by taking into account, the instance each HR professional spends on a candidate the whole page was reduced to the Business Card format, where by will and interest the HR professional can access either the full view or specific section view on the second phase of the recruitment process. Another feature that has been modified is the percentage bar for the overall project summary, instead, and by advice, a pie chart will replace the original feature. Along the way SYD Live CV modules have went through some changes beside the Business Card module, the reader can see some examples in the Annexes section. Education module now presents more details than it did in v0.1, the Personality type module is hidden by default and overall details have also been changed. Besides the upgrade in the modules, SYD Live CV layout was changed. It was identified that by arranging the modules according to the applicants experience rather than standardized form can benefit the user. The initial proposition was to move the modules according to experience, for example an applicant who has less Experience, but more Education should arrange and prioritize the models correspondingly. However, this arrangement of modules, after v0.3, is only noticeable in full view mode, or when the user or recruiter opts to see the full SYD Live CV page rather than choose subsection on the Business Card module. conclude SYD Live CV v0.3 is an equivalent of an electronic business card which contains much of the owners work related data. This method could result in the creation of a simple electronic business card easily shared among recruiters via encrypted links, security should be strongly addressed here since the SYD Live CV contains much of private information and can cause harm to the user if shared recklessly.

Final prototype evaluation and discussion



Figure 49 SYD CV V0.3 Business Card Prototype

5. Conclusions

This dissertations aim was to investigate the necessity of a new work overview model primarily aimed, but not limited to, the creative industry professionals that could help users view their work in one centralized place and comprehend better their own professional value. The thesis question was "How is it possible to improve the CV of a Creative Industry Professional with the use of content aggregation?" and to answer this question the development of a prototype was necessary.

To develop the prototype this investigation gathered literature and data obtained from qualitative and quantitative research methods, finalized by field testing the high-fidelity mock-up of SYD Live CV with HR professionals.

The initial goal, besides the creation of a high-fidelity prototype was the creation of a functional piece of software, however and due to the various limitations during the writing of this thesis, this stage of the development has not been reached and the SYD Live CV was developed.

5.1 Summary

This thesis starts its investigation by gathering an overview of the Curriculum Vitae and the Human Resource field, in this way we can find more information about work. Work, as an exchange process of time, effort, skill or any other action performed for a certain gain, is the foundation of this thesis, and since the CV still remains in one way or another a standardized way to apply for a certain job we start the thesis by exploring the history of the Curriculum Vitae and the growth of the practice of management and recruiting of job seekers. This thesis dedicates one section in the State of the Art for Human Resource Management evolution. In this sub-chapter we have summarized some of the techniques and practices of management. The idea was to give the reader some background into the field and bring some light onto the evolution of how a worker is perceived. Due to the growth of employment during the Industrial Revolution, work started to evolve into a much more complex body, which resulted in the establishment of Human Resources as a field of science and recently as an executive field in the organizations. From late bureaucratic theories up to the most recent views of managing the human capital, we can see how the subject,

Conclusions

human worker, was viewed in each generation. From simple dispensable tool the worker has gained more value, much through their own struggle and little by the creation of more dedicated means of understating the workers. As in other fields of science Human Resource evolved through trial and error and continues to this day. Hence the proper way is to understand the past work on present situations and find solutions for the upcoming events in the line of employment and job market. The thesis moves forward with the investigation of existing technologies that could aid the development of SYD Live CV software as well as the overview of the existing online solutions for work overview and professional networking.

The investigation shows that the work overview by CV or portfolio is a limiting experience and does not provide the full spectrum of the workers capabilities, on the other hand some subjects and recruiters prefer the information shortened for fast and accurate first stage screening. Thus, the necessities of the HR and the applicant are not the same. However, and by using SYD Live CV interactive modular selection, one can choose what to see and in how much depth. The interaction, expansion and collapse features, feed aggregation and centralization of work for a creative industry professional has shown indications to be, in theory, accepted and desired by most of the test subjects both the recruiters and the applicants. For a HR professional the first stage of screening is a fast overview of applications and does not pass through applications that take up much time to read through, only after the first and second stage the HR professional will investigate the chosen pool of applicants, the same goes with the applicant, some desire to have a full overview of their work, while others prefer to have tailored fit applications for each specific task or job. Taking also in consideration that the HR process is based on psychology, screening people and understanding behaviors it is impossible at this point to present such information in one platform.

During this investigation, the fact of clear information view and centralization of professional data organized in a clear and user-friendly way has been approved as a feature that can benefit both the applicant and the recruiter. The conclusion was drawn from the surveys, interviews and experiences done with the recruiters and the applicants.

During this dissertation a more recent form of the model was developed taking into account the feedback gathered during the process this new version is intended to satisfy the needs of the Recruiter and the applicant, opening the possibility of using SYD Live CV as a tool for work overview.

This thesis hence presents a proposal that is a possible answer to the question "How is it possible to improve the CV of a Creative Industry Professional with the use of content aggregation?". Judging by the answers from the tested subjects both the recruiters and the applicants where optimistic and looking forward to using such a model, roughly 90% from both groups of tested subjects. What has caught the attention of the most participants was the way the information was arranged, the features presented by SYD and the content aggregation of professional data into one centralized place. The design, the amount of information and the appeal, further show that our SYD Live CV model can be more influential and indeed help a professional

get noticed and support the candidate much more than other forms of work overview. With further improvements SYD Live CV can help both the applicant and the recruiter, even more so can be used as a tool for personal work overview and professional orientation platform.

5.2 Future work

After the conclusion of this thesis it is intended to pursue the realization of the SYD Live CV working independent prototype for further testing and development of this component on the SYD System website. The gathered information in this testis can aid others interested in the field of work overview by linking the human resource backbone, recent technological advancement and the UX/UI approach.

Since the testing pool of subjects was relatively small, a broader range of tests, surveys and interviews is planned. Due to the nature of the proposed software the creation of a final version is impossible since it is an ongoing Research and Development process. Since already many of the main features, models and design were identified during this thesis it is possible to achieve a level of stability within the proposed application in the future and focus only on the details. For the support of the SYD Live CV the SydSystem.com platform will present itself as a business, operating on a startup level, offering its users memberships, guidance, aid and solutions for their career growth. The moto of SYD System is You Excel We Assist, which emphasizes the user centered approach.

Conclusions

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Appendix A. Initial Wireframes and Idealization Sketches

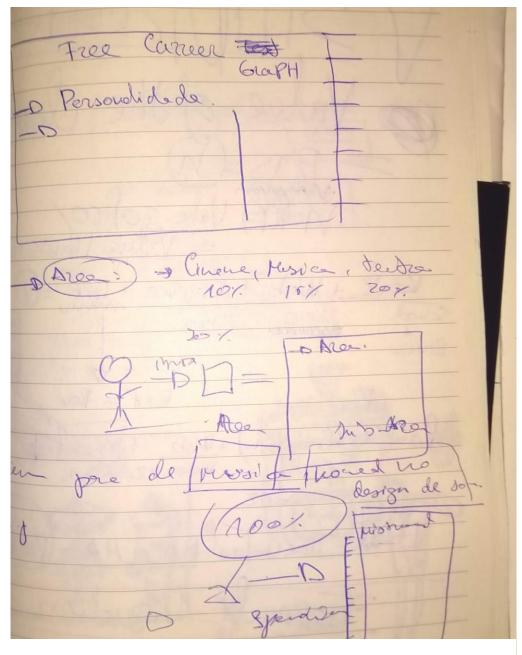


Figure 50.First Sketches.

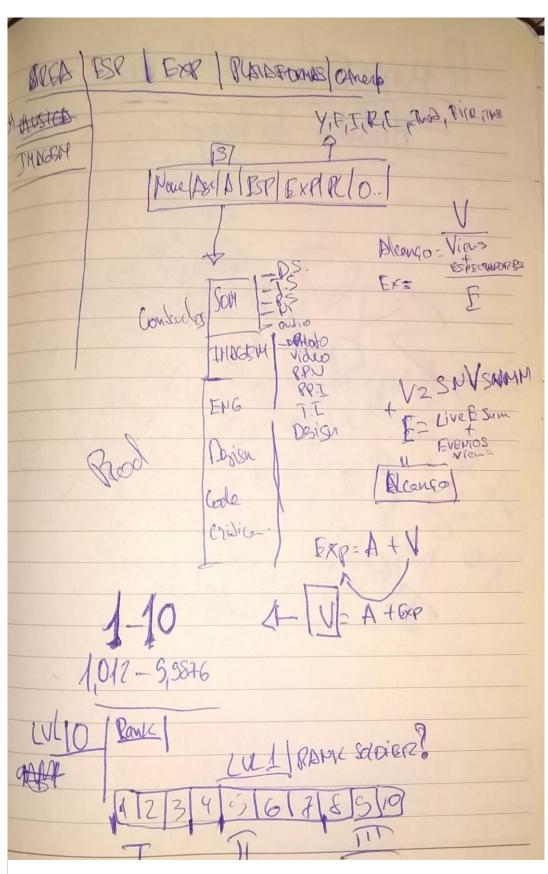


Figure 51.First Sketches.

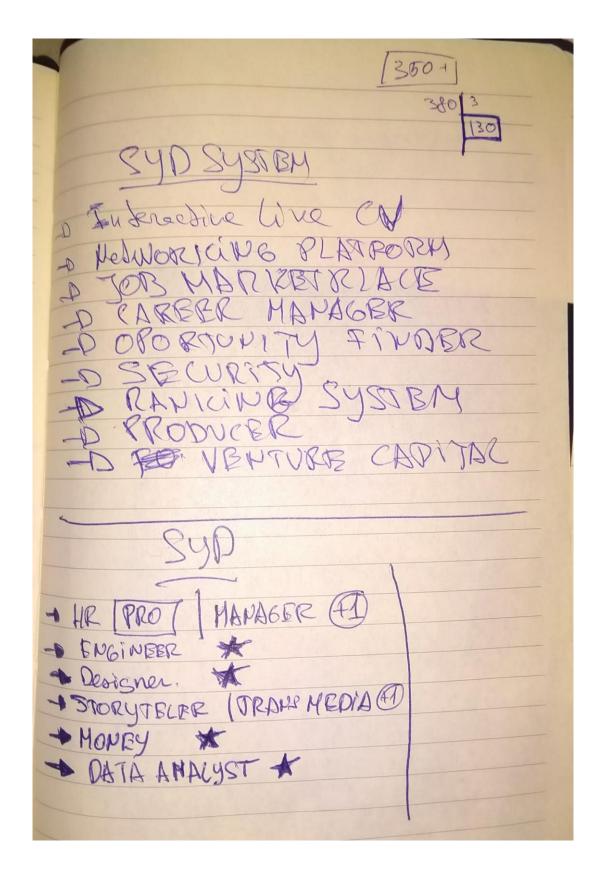


Figure 52.Experience Module Sketches.

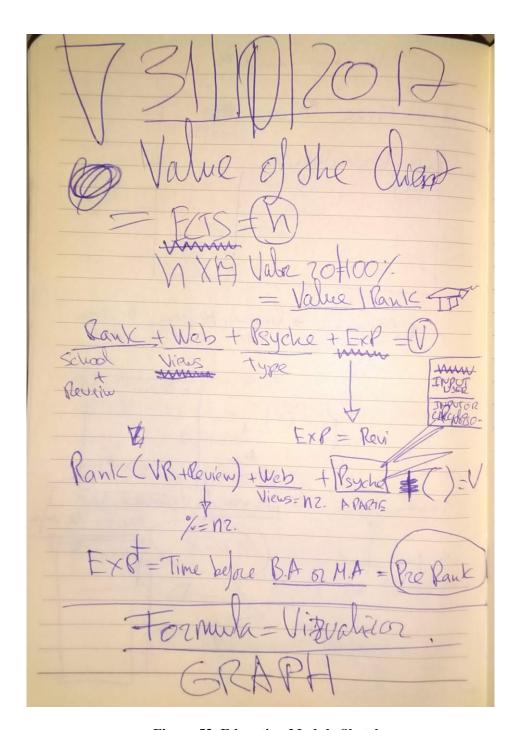
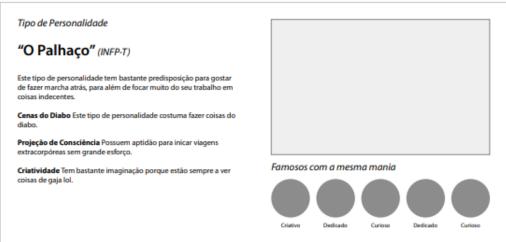


Figure 53. Education Module Sketches.





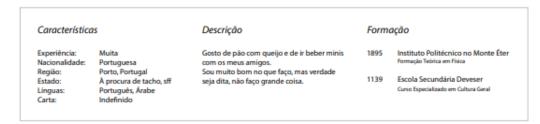




Figure 54. SYD Live CV proposal 1. (2017)

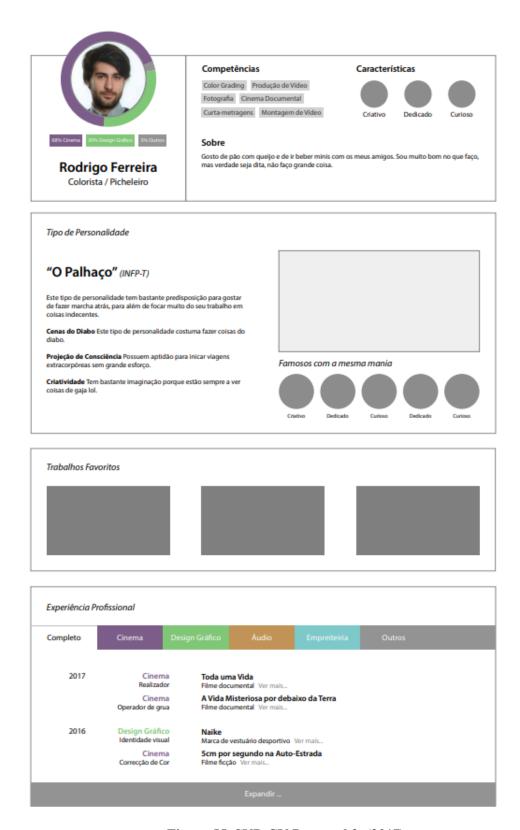


Figure 55. SYD CV Proposal 2. (2017)

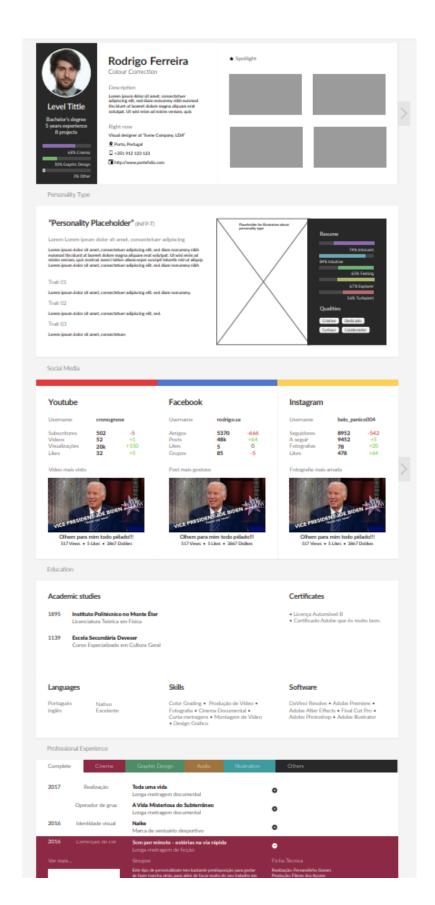


Figure 56. SYD CV Proposal 3.

Appendix B. Quantitative Research Survey

Online Survey sent via the dynamic email service of the Porto University to an estimated number of 4000 students from the Engineering, Fine Arts, Letters and Engineering Faculties of the Porto University.

Hey, hope I got you during some spare time, it'd help me out if you could answer these questions, thanks.

This survey is for study purposes for the Master in Multimedia Thesis by Stanislav Solonenco. The aim of this thesis is to verify the possibility of CV improvement with the help of feed aggregation. "A feed aggregator is a type of software that brings together various types of Web content and provides it in an easily accessible list. Feed aggregators collect things like online articles from newspapers or digital publications, blog postings, videos, podcasts, etc."

Figure 57. Survey Introduction.

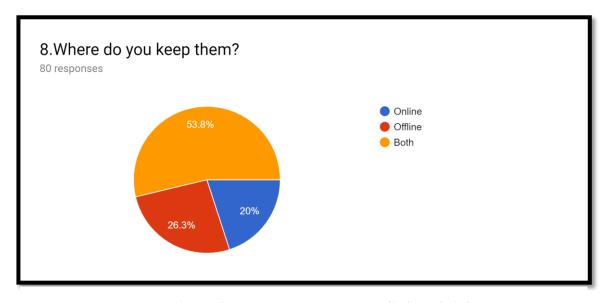


Figure 58. Where to you keep your CV/Portfolio?

9.If it is online, why?31 responses

No

Keep my alternatives open

Search.

So I can share the video portfolio easily.

because in the internet is harder to lose

convenience

Easy update

easy to access

Where else would I have them?

Practical

To promote my work and gain opportunities.

Easily access to others

Used platform's account

It is easier to share, and the websites also has templates that allow me to share my work quickly so, it can be easily updated

Because its easier to share with the recruiters

I AM EVERYWHERE

Because companies ask for

No site

Because from experience, it's an efficient way of sharing my projects and knowledge

Easy of access

To access it any time anywhere

Acaba por ser mais fácil de editar e de enviar

More readily available, easier to update, and leaner on trees

Europass

For using links in profile websites

One day I won't be close to my PC and I will need it (Trust me, I'll be an Engineer)

visibility, especially to outside markets

My online portfolio is in medium, I post articles there. It gives me more visibility to the industry.

Because it is easier to update the info

Em candidaturas e pedido portfolio e CV. No CV podemos indicar um link online, com mais trabalhos que o offline para colmatar alguns trabalhos ou para ter mais do que mostrar.

Figure 59. If it is online, why?

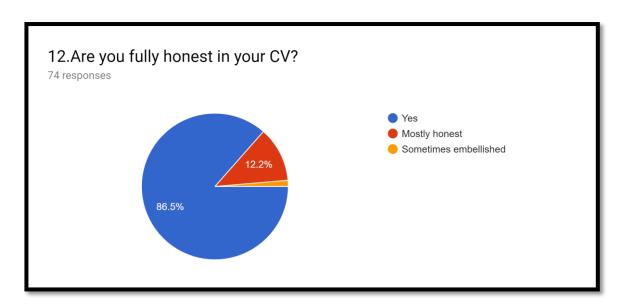


Figure 60. Are you fully honest in your CV?

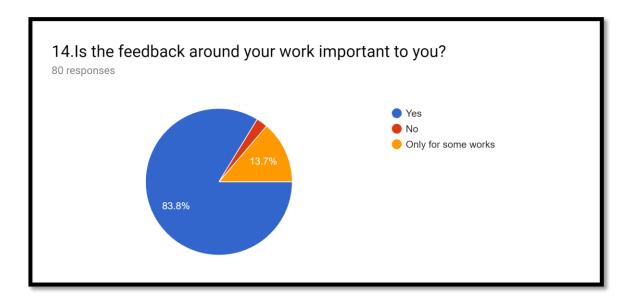


Figure 61. Is the feedback around your work important to you?

Feel free to leave any remarks/suggestions/comments.7 responses Good luck Stan

Not the best survey, I have ever experienced. I don't know what the objective is, but you make some assumptions and structured it to get the answers you desire.

Boa tese! Não esquece dos amigos! Abração! Marcelo Valle

Send me more info, please. My email address is ruymyranda@gmail.com

Força nisso grande Stan, abraço

Good Luck

Quando feita uma candidatura o portfólio deve ser adequado a tal. Isso inclui não só o sei conteúdo como a forma. O uso entre Prtfl online ou offline também deverá ter essa consideração. Dependendo da condição de trabalho, por exemplo os freelancers poderão ter de expor mais o seu trabalho a fim de receberem convites. Existe também um risco em ter todo o trabalho online.

Thank you!

Figure 62. Feel free to leave any remarks/suggestions/comments.

Appendix C. Qualitative Research Interview First Phase (Applicants)

A total of 10 participants 5 male and 5 females with backgrounds in the Creative Industry.

Introduction

Hi, first thank you for your time.

- 1. I would like to inform that this interview and transcript is for research purposes, do you consent to that?
- 2. For the purpose of this research would you please tell me how old are you?
- 3. Could you tell me shortly about your background, education and some of your interests? Jobs and E-Recruitment.
- 4. Do you have a CV or a Portfolio?
- 5. Are they online, if so, do you use multiple online platforms to expose your works?
- 6. Which one is it?
- 7. Did you ever get hired with the help, or by using any of these platforms? Which one?
- 8. What do you think about the e-recruitment and professional networking platforms, what is your opinion on that?
- 9. Would you prefer to access your professional info and works in one location?
- 10. What section of the CV would you rather see improved?

Qualitative Research Interview Part 2 with the same sample group.

After the SYD CV presentation and interaction

Webpage:

- 11. What do you think? elaborate
- 12. What features do you consider the most important in this model? elaborate
- 13. Which features were least useful? elaborate
- 14. Would you use such a model? yes/ no / maybe

Figure 63. Qualitative Interview Flow.

Interactive Professional Experience Section:

- 15. Did you find it easy to navigate? yes/no
- 16. Was the information displayed in a clear way? yes/no
- 17. What features did you enjoy the most? elaborate
- 18. What features did you find least useful? elaborate
- 19. In your opinion, will this model improve your chances of getting hired? yes/ no / maybe
- 20. Did you feel this method can bring transparency and clarity to your career? Yes / no/ maybe
- 21. What would you improve? Elaborate

Figure 64. Qualitative Interview Flow 2.



in vision

João P.B. "More work on the design UX and UI may also need R&D"; PauloT.,"Tá tudo fixe"; Francisco S. "R&D na forma como mostrar as coisas, pensar nas pessoas mais idosas, e ter em conta os conteúdos e a forma de os mostra."; Diogo D.P."Layout, introduce soft skills and check the position of information and more design"; Filipe F. "Tailored made, pablo feron produtor/diretor da república das bananas queria fazer um facebook para a área de audiovisuais, por overlap de informação criava-se o perfil, fazia todo sentido ter uma pagina que as produtoras podem aceder e ver as coisas, até os ranking podem valer a pena para as produtoras ver o profissional checklist, podes ter seguros, escolas, formação, empresas de equipamento, de repente podes unir todo um universo, que não necessariamente só para a área de cinema, informação valiosa, por exemplo se tens um perfil de um location scout, que pode por fotos, vídeos, locais, e isto não tira o trabalho ao locationscout, e além de de-centralizar o trabalho, não deixar só em braga"; Ana L. "Subtítulo para perceber melhor o que cada sector representa, design do conteúdo está adequado, poderia haver a possibilidade de nos projectos adicionar colegas que têm outro perfil e aumenta a rede de networking professional ";Vita V. "A clear overview or summary in the beginning"; Raquel R. "Views count and keep it simple, more work on the fonts and colours, some design improvements"; Isabel T. "Destacar a informação principal mais, fazer hierarquização e diminuir os passo de chegar ao intuito final"; Ana F.,"The colorscheme and the font. It could be more attractive with some not so strong colours and a more modern font. Basically, it could go under a small visual makeover."

Figure 65. Suggestions.

Appendix D. Research Interview Second Phase (HR Professionals)

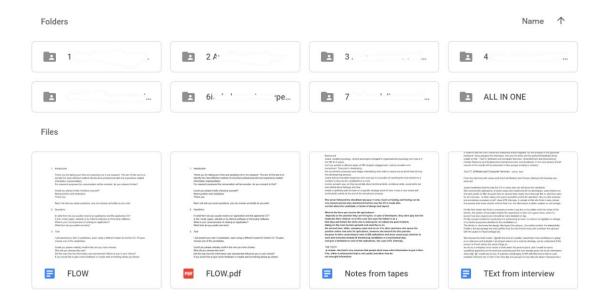


Figure 66 GDrive folder with the test for each proffesional

Appendix E. SYD CV Prototype Introduction Module Progression.



Figure 69. Introduction Module v0.1



Figure 68. Business Card Module v0.2.



Figure 67. Business Card Module v0.3.

Appendix F. SYD CV Prototype Personality Type Module Progression,

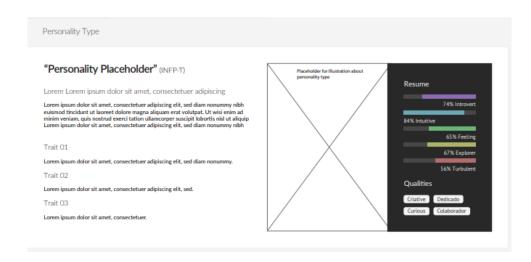


Figure 71. Personality type module v0.1



Figure 70.Personality Type Module v0.2

Appendix G. Social Media Module Progression.

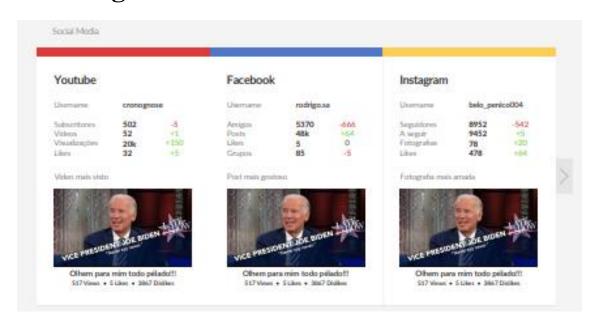


Figure 73. Social Media Module v0.1

Social Media

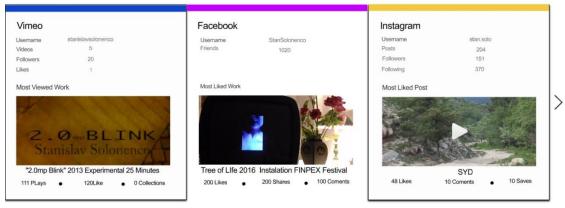


Figure 72. Social Media Module v0.2

Appendix H. Education Module Progression,

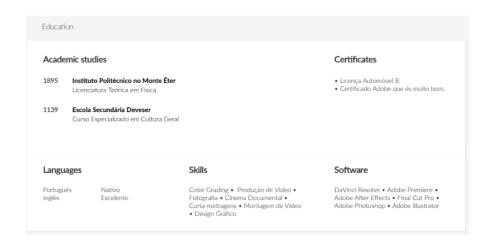


Figure 75. Education Model v0.1

Education

Academic Stu	dies				
Years	Institution	Course	Location	More	
2004 - 2007	"Orizont" Moldov -Turkish Junior High	STEM Fields.	Chisinau, Republic of Moldova	•	
2007 - 2011	Damiao de Goes Senior High	Socio Economics Science	Alenquer, Portugal.	0	
2011 - 2015	Escola Superior de Technologias de Abrantes, Polytechnic Intitute of Tomar.	BA in Documentary Film	Abrantes, Portugal.	•	
2017 - 2019	Faculty of Engineering, University of Porto.	Master in Multimedia Culture and Arts Specialization	Porto, Portugal.	0	
Languages		Skills	Certificates		
Moldovan	Native	Technical	Junior High	•	
Portuguese	Fluent	Soft \$	Senior High BA	9	
Russian	Native	Organizational	MA	0	
Enlgish	Fluent	IT and Software	Driving Licence 3DS UPTEC 2017	0	

Figure 74. Education Module v0.2

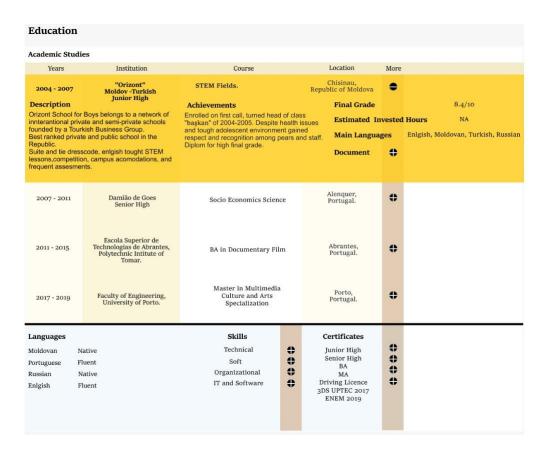


Figure 77. Education Module v0.2, expanded.

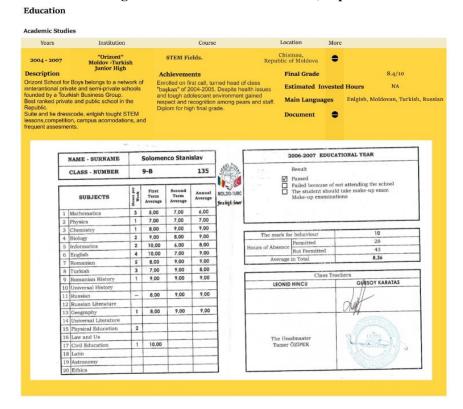


Figure 76. Education Module v0.2, expanded +

Appendix I. Experience Module Progression.



Figure 79. Professional Experience Module v0.1

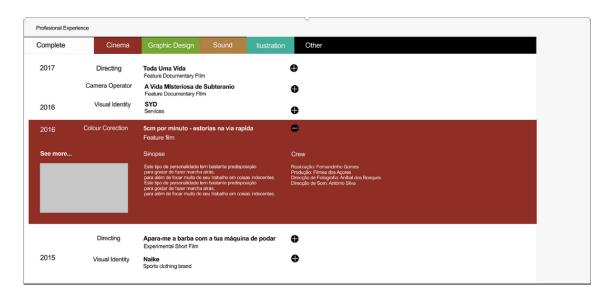


Figure 78. Professional Experience Module v0.2

Experience

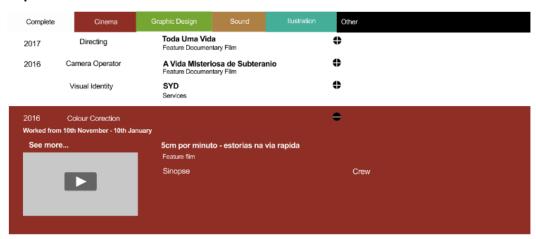




Figure 80. Experience Module v0.3

Experience

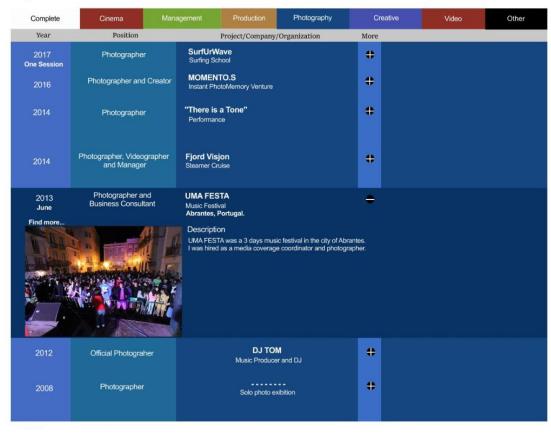


Figure 81. Experience Module v0.3, Photography Section.



Figure 82. Experience Module v0.3, Photography Section expanded.

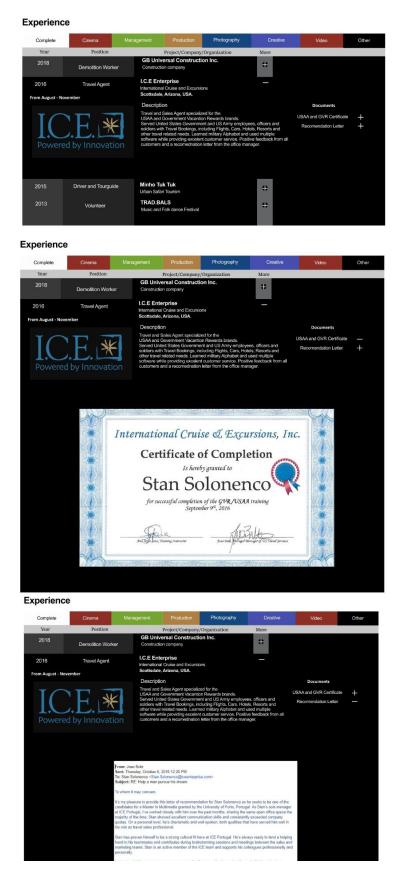


Figure 83. Experience Module Expansion.

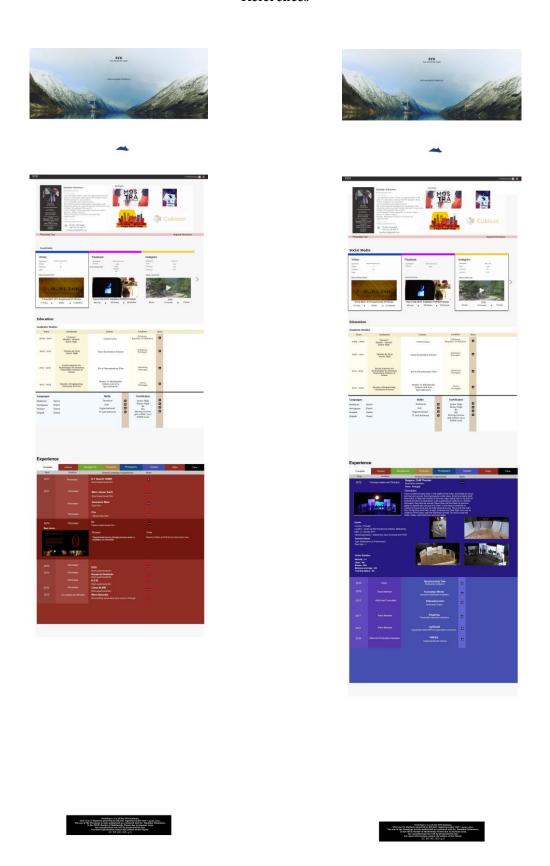


Figure 84.SYD Live CV Full Page, Cinema tab next to Creative Tab fully expanded.

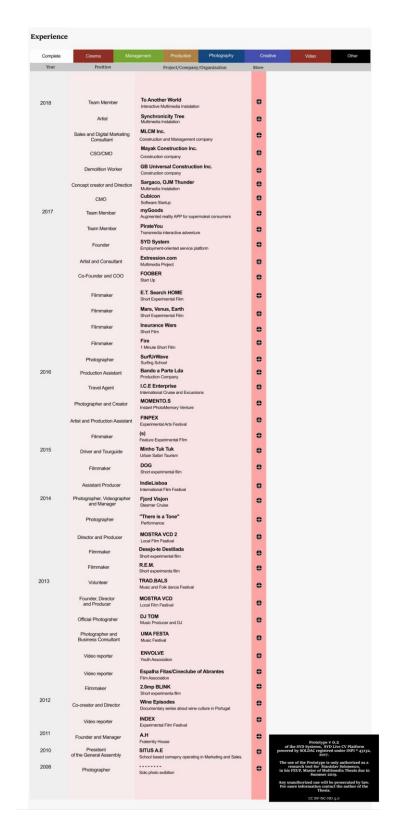


Figure 85.Experience Module Full View.

Appendix J. Other Attachments

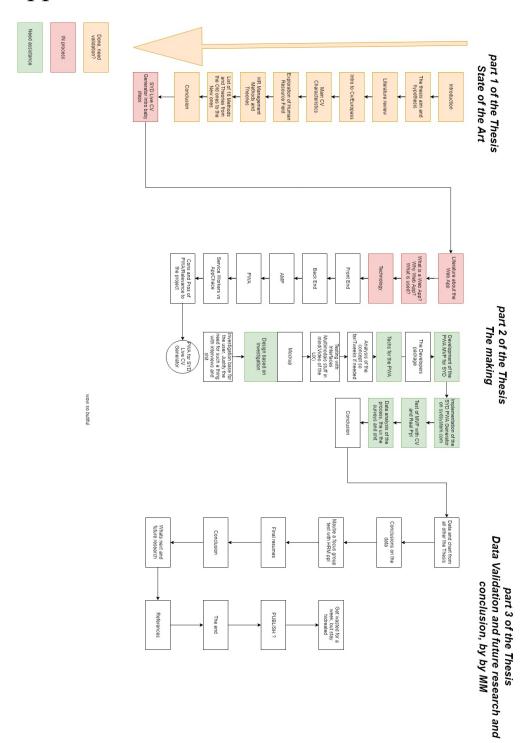


Figure 86.First dissertation flows and guidelines.

SYD LIVE CV GENERATOR PWA

Leading question

Here I wish to settle the course of the Thesis in Order to elaborate the next steps of the Research.

Do We Need A New Method to Keep Track and Value our Professional Path?

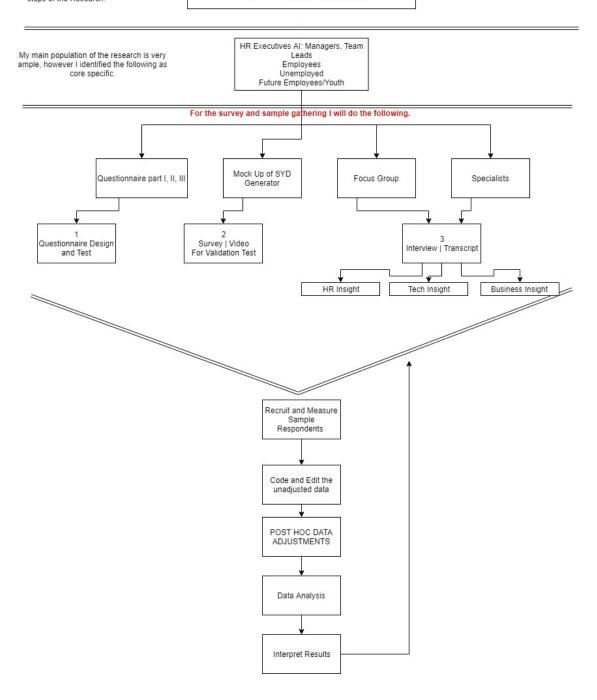


Figure 87 SYD Live CV Generator PWA Flow

Appendix K. SYD Live CV Legal Annexes.



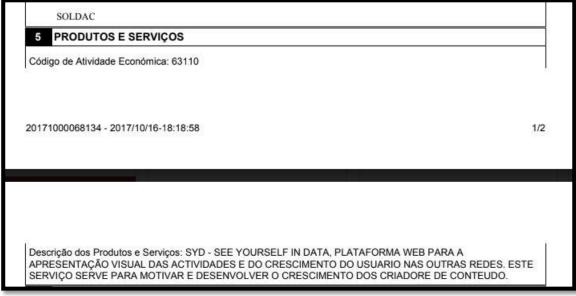


Figure 88. Product registration, SOLDAC (INPI ^o 43132, 2017).



Figure 89. Page 1 of SYD Strategy and Policy Document.

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