



Investigation on the Functional Requirements for Talent Management System – A Case of Performing Arts Freelancers in Malaysia

Nurhidayah Bahar¹, Kasthuri Subaramaniam², Adnan Masoud², Abdul Samad Shibghatullah²(✉), and Mohd Helmy Abd Wahab³

¹ Center for Software Technology and Management, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia

nbahar@ukm.edu.my

² Institute of Computer Science and Digital Innovation, UCSI University, Kuala Lumpur, Malaysia

{kasthurisuba, abdulamad}@ucsiuniversity.edu.my

³ Department of Computer Engineering, Faculty of Electrical and Electronic Engineering, Universiti Tun Hussein Onn Malaysia (UTHM), Parit Raja, Malaysia

Abstract. This study examines job seeking and hiring process between freelancers and agency or event organizer in performing arts industry in Malaysia. The main aim of this study is to develop a set of system functional requirements for Talent Management System – a job portal that can be used to automate and computerized job seeking and hiring process. To achieve the aim, the study employed a qualitative research approach and followed an object-oriented analysis and design with the Unified Process methodology. A total of 10 interviews were conducted with freelancers, agencies, and organizers to gain an in-depth understanding of the process, constraints, and concerns about the current practice. The finding from this study highlighted the important system's functions and provides guidelines on the system design and implementation. Hence, it offers some insights to the system developers who will be working on a similar system. Additionally, this study adds some knowledge to the literature related to talent management system and performing arts. Future studies may want to further design the data access layer, system interfaces, controls, and security.

Keywords: Functional requirements · System model · Use case diagram · User interface dialog · Talent Management System

1 Introduction

The use of web-based system is based on the existence of browser in the devices such as smart phone, PC, tablet, etc. There are various benefits of using web-based systems, such as improving security, updating issues, support, higher usage rates, user tracking and others. According to a research, support system as an effective web-based

information system, mentions that Web technology provides us with more opportunities in terms of information availability, accessibility, and flexibility [1].

One of the effective things that has come along with the innovation of Web-based system, which is online communication, is simply one of the most effective method that people can connect between each other through many online tools such as Social Network, Mobile Phone, and Messenger Video Conferences, etc. The growth is fast and developed into different forms and for different purposes. They include social networking sites, blog feedback, contact forms on websites, industry forums, e-mails, job sites and others. More and more companies offer projects to external professionals through the Web through the social media and these has increased the importance in the context of digital freelancing [7]. It is well noted that there are very few available platforms for digital freelancing that supports the ecosystem of companies and professionals [2].

Therefore, even though there is a lot of job sites available on internet now, still, there are certain people out there preferred not to use these websites for their job searching purpose as they are not able to fulfill their needs, for example, those talented people who looking for part-time jobs to perform, to put their talents in good uses, and so on. However, different kind of job search strategies involve different tools or mechanisms in terms of both subjective and objective career success and growth [9]. One of the main reasons why these people are not able to find the jobs they want from these job sites, such as JobStreet.com [3], Monster.com [4] and others, is because these kinds of jobs come from events, and most of the event organizer are preferred to hire event entertainment agency to help them look for those talented people they needed. In this term, Event entertainment agency plays an important role in term of connection among two parties which is event organizer who is looking for talented people including, artists, dancers, sports and so on to conduct an advertisement, movie or event etc. Meanwhile, another party which is talented people who is looking for any opportunity to invest in their talent in term of both gain money and to sustain their talent.

The study of this project is aimed to provide a job search platform that enable both event organizer and talented people to have direct connection between them without any interaction needed to be done with the event entertainment agency. Therefore, this project is striving to come up with a method that provides an interactive website that enable talented people to list out their talents and skills on the website and explore those events that are required their talents and skills. At the same time, the event organizers are enabling to post position vacancies on this website and directly receive a list of talented or skillful person they needed as well. Moving one, this website enables both event organizer and talented people to share their contact if they are interested in exploring further information or discussing about the position in the event or show [5].

2 Problem Statement

In the current practice, agency works as a middle man between event organizer and freelancers. Once the agencies has received a job from their client, in this case is the event organizer, they will start to send the job invitation via various social media and instant messaging platforms such as Facebook, Twitter, Instagram, WhatsApp, WeChat and so on.

Most of the agencies preferred using WhatsApp or WeChat as their tool to find potential freelancers. They will send the job invitation to those freelancers who have worked with them before and are in good relationship. This leads to a situation where only those in the list would have the chance to be contacted and considered if there is any job as required by the client. Meanwhile, slim chance for those who do not have working experience or not in contact with the agencies. It is tough for the new talents to find suitable jobs for them as it is inconvenient to find job advertisements in their area.

Additionally, the current methods used to contact the potential talent is time consuming as not all the freelancers are able to receive the job invitation in time. Thus, to overcome these problems, agencies will collect and the freelancers' contacts in a manual way. However, the process of updating new and existing contacts can be frustrating and caused inconsistencies.

3 The Materials and Methods

This study employed qualitative research approach to investigate the phenomena of seeking jobs and hiring process in performing arts industry in Malaysia. We typically rely on four primary methods for gathering information: (1) observing directly, (2) interviewing in depth, (3) analysing documents, and (4) examining online materials [1].

In order to develop a set of functional requirements for the proposed Talent Management System, this study follows the activities of the requirements discipline as discussed by Satzinger, Jackson and Burd [5]. According to the authors, requirement discipline consists of six main activities; (i) gather detailed information, (ii) define functional requirements, (iii) define non-functional requirements, (iv) prioritize requirements, (v) develop user interface dialogs, and (vi) evaluate user requirements.

In the first activity, we gathered considerable amount of information from people who will be using the system. We conducted interviews and observed the current procedures. We have conducted a total of 10 interviews with freelancers, event organizers and event agencies. Along with interviews, we observed the current procedures of finding jobs by the freelancers and the hiring process by the event organizers and/or event agencies. We visited eight common job portals used in Malaysia including Monster Malaysia, Jobstore.com, WOBB, hiredNOW, Careerjet.com.my, JobStreet.com, MyStarJob.com and JenJOBS. We searched some job titles or keywords that are related to performing arts such as actor, comedian, dancer, magician, musician and singer. Additionally, we examined websites, Facebook accounts, and WhatsApp or WeChat messages to view job advertisements that are related to performing arts in order to gain better understanding of the current job seeking and hiring process.

As all of the information is gathered, we defined and described the information as functional requirements – what the system is required to do. In this study, we are focusing on functional requirements rather non-functional requirements – a characteristic of the system other than activities it must perform or support [5]. Apart from writing down facts, we also created Use Case diagram to help record and communicate what is required for the proposed system.

In the next activity, we prioritized the most crucial functional requirements. We discard the additional system functions that are desirable but not essential. Finally, we evaluated the requirements with users. We employed an interactive process where we returned to the user for additional input and validation until an acceptable requirements model is developed.

4 Results and Discussion

Based on the interviews with the freelancers, we found they rarely use job portals to find for the related jobs. One of the reasons, none of these job portals advertise considerable number of performing arts related jobs. As we examined job advertisements related to performing arts in those portals, we found very minimal number of related jobs being posted. Table 1 shows the number of job(s) found in each of the portal.

Table 1. Number of job(s) found in job portals in Malaysia.

No.	Portals	Number of Job(s) Found						TOTAL
		Actor	Comedian	Dancer	Magician	Musician	Singer	
1	Monster Malaysia	0	0	0	0	0	0	0
2	Jobstore.com	0	0	1	0	0	2	3
3	WOBB	0	0	0	0	0	0	0
4	hiredNOW	0	0	0	0	0	0	0
5	Careerjet.com.my	2	0	2	3	2	0	9
6	JobStreet.com	1	0	1	0	15	0	17
7	MyStarJob.com	0	0	0	0	0	0	0
8	JenJOBS	0	0	0	0	0	0	0
	TOTAL	3	0	4	3	17	2	

Although JobStreet.com shown the highest number of jobs found, those are fulltime jobs that are advertised by companies such as kindergarten and music school. However, these freelancers are looking for part-time jobs during entertainment events. Careerjet.com.my [6] shown the second highest number of jobs found. This is because the site extract information from other websites such as Maukerja [10] and Jora [11]. These two portals only connect people to jobs or career opportunities for business and corporate employers. However, there are two other websites which are related to performing arts in Malaysia; Kakiseni [12] and Mycreative [13]. Nevertheless, these websites are not focusing on connecting freelancer to available jobs. They are more into sharing news and latest information related to performing arts in Malaysia.

Therefore, the informants normally look for the jobs on social media and websites using common keywords such as ‘part-time jobs’, ‘casting jobs in Kuala Lumpur’ or simply enter the role they are looking for followed by ‘part-time jobs’. We found a number of Facebook accounts that commonly post performing arts related jobs such as ‘Malaysia Part Time and Full Time Jobs’, ‘Part Time Job/Business Malaysia’, ‘Full Time n Part time Job Malaysia’, ‘Freelance & Part-Time Jobs Malaysia’ to name but a few. However, there are other part-time jobs were also posted and the only way to filter

the job is using the common Search function in Facebook. One of the freelancers quoted: “It is inconvenient to search for jobs in these Facebook accounts... and time-consuming too ... There are many other jobs are also posted in the same account. We need to carefully browse to make sure we will not miss any... It would be good if we can be notified if there’s a job related to our expertise.”

Additionally, our interviews with event organisers and agencies has revealed that they face some difficulties to find for cast or talent for an event. They rely on their personal contacts and search through Facebook accounts or related websites. Normally these search activities will only lead to limited talent pool and inconvenience process of hiring where the communication and negotiation platform merely based on personal communication tools – instant messaging apps, email and phone call. In addition, there is no standardized template of talent’s portfolio make it difficult to screen the potential talent for particular job. Some common constraints highlighted by the informants are unprofessional photos, limited options of background checking and screening, unable to view feedbacks from previous employment, and small talent pool. Hence, it is difficult to find qualified talents for the jobs.

System Users, Job Categories and Types of Events

Based on the interviews and observations, we identified three main users for the proposed Talent Management System for performing arts freelancers. They are talent – the freelancer who has the skills and capabilities, agency – the middle person that hired by the company or event organizer to find talent to fulfil the needs of the events, and organizer – an association, organization, company or who is in charge to schedules an event. We also identified six job categories including actor, comedian, dancer, magician, musician and singer.

As per interviews and observations, we identified different types of event that the freelancers normally look for. Table 2 shows the different types of events and its descriptions.

Table 2. Type of events.

Event	Description
Press conference	An event to inform public about new products/services and marketing campaigns
Seminar	An educational event to train or inform targeted audience with relevant information
Trade show	An exhibition where companies present and demonstrate their latest products/services
Product launch	An event to present and market new products to targeted consumers
Award ceremony	An event of awards presentation to the recipient
Wedding	A ceremony of two individuals are united in marriage
Party	A social gathering of invited guests

System Functional Requirements

In this section, we will be discussing about some major functional requirements that the proposed system intends to perform. The following functional requirements derived from information gathering activities we discussed earlier.

1. The system shall authorize the user (freelancer, agency and organizer) before using the system.
2. The system shall allow the user to manage his/her profile.
3. The system shall allow agency and organizer to post job advertisement.
4. The system shall allow agency and organizer to activate and deactivate job advertisement.
5. The system shall allow organizer to search, filter and sort agency search result.
6. The system shall allow agency to search, filter and sort organizer search result.
7. The system shall allow agency and organizer to search, filter and sort talent (freelancer) search result.
8. The system shall allow talent to search, filter and sort job search result.
9. The system shall allow talent to apply job.
10. The system shall display the status of talent's job application.
11. The system shall notify talent for casting invitation through email and/or SMS.
12. The system shall allow talent to view application history.
13. The system shall allow talent to negotiate payment terms with the hirer (agency/organizer).
14. The system shall allow talent to manage his/her job preferences.
15. The system shall notify talent for jobs that are relevant to talent's job preferences through email and/or SMS.
16. The system shall allow the agency and organizer to filter and process job applications.
17. The system shall allow the agency and organizer to update status of the job application.
18. The system shall allow the agency and organizer to invite applicant for casting.
19. The system shall allow the agency and organizer to research, source, and continuously engage potential job candidates (freelancer).
20. The system shall allow agency and organizer to manage their talent pool.
21. The system shall allow the agency and organizer to assess, score and rank the achievements of hired talent.
22. The system shall allow the talent to assess, score and rank the jobs offered by agency and/or organizer.
23. The system shall provide communication platform for the hirer and talent including instant messenger.

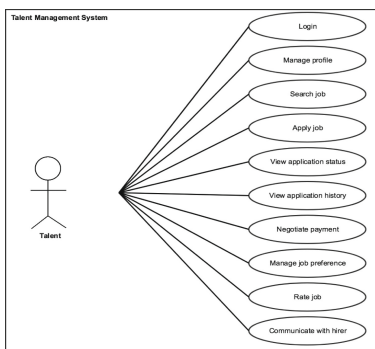
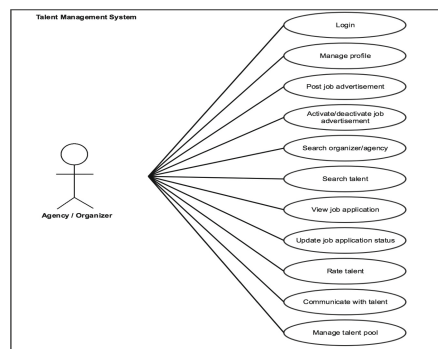
Use Case Diagram

In this section, we focus on identifying use cases. A use case is an activity the system carries out in response to a request by a user [5]. Table 3 shows the initial list of use cases where we identify use cases by focusing on users and their goals.

Table 3. Initial list of use cases.

User/actor	User goal
Talent	Login to the system. Manage profile such as personal details, qualification and experience. Search, filter and sort job search result. Apply job. View status of job application. View application history. Negotiate payment terms with the hirer. Receive notification for casting invitation. Manage job preferences. Receive notification for jobs that are relevant to the specified job preferences. Assess, score and rank the jobs offered by the hirer. Communicate and interact with potential hirer
Agency	Login to the system. Manage profile such as company profile and contact information. Post job advertisement. Activate and deactivate job advertisement. Search, filter and sort organizer search result. Search, filter and sort talent search result. Filter and process job applications Update status of the job application. Invite applicant for casting through the system. Research, source, and continuously engage potential job candidates. Manage their talent pool. Assess, score and rank the achievements of hired talent. Communicate and interact with job candidate
Organizer	Login to the system. Manage profile such as company profile and contact information. Post job advertisement. Activate and deactivate job advertisement. Search, filter and sort agency search result. Search, filter and sort talent search result. Filter and process job applications Update status of the job application. Invite applicant for casting through the system. Research, source, and continuously engage potential job candidates. Manage their talent pool. Assess, score and rank the achievements of hired talent. Communicate and interact with potential job candidate

Based on the initial list, we created two use case diagrams for Talent and Agency/Organizer. Figure 1 shows the use case diagram for Talent whereas Fig. 2 shows the use case diagram for Agency or Organizer.

**Fig. 1.** Use case diagram for talent.**Fig. 2.** Use case diagram for agency and organizer

User Interface Dialogs

In this section, we present the important user interface dialogs for the proposed system such as login, search and apply job, search talent and instant messenger. These dialogs show the inputs and outputs involved when the user interacts with the system to carry out a task.

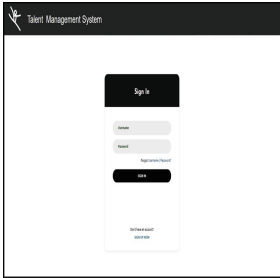


Fig. 3. Login page

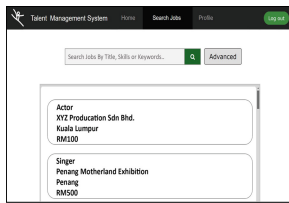


Fig. 4. Search job page

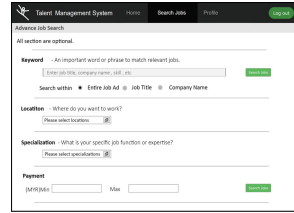


Fig. 5. Advanced job search page

Figure 3 shows the login page for the proposed system. Users are required to enter their credentials i.e. username and password to gain access into the system. For a new user who does not have an account yet, there is a sign up link in the same page to redirect him/her to the registration page. Figure 4 shows the most important page in the proposed system where talents can search, filter and sort job by entering an important word or phrase to match relevant jobs such as job title, event name, skill or specialization. Talents can also use the advanced search function as shown in Fig. 5 to filter the job search result based on location, specialization and payment. Figure 6 shows the page that can be used by agency or organizer to find the best talent for their event. They can search talents by title, skill or keywords. Instant messenger function is also important to enable talents communicate and interact with agency and/or organizer. It is common for many websites to have a messaging application resides on the webserver as the communication platform that can be used by visitors. In our case, any registered users can communicate with other users in the system. Instant messenger lets talents contact potential hirer regarding the job advertisement or the other way around (Fig. 7).

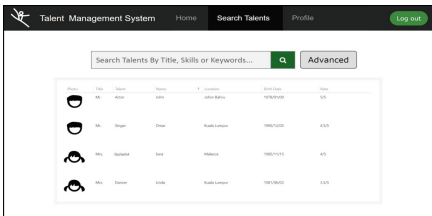


Fig. 6. Search talent page.

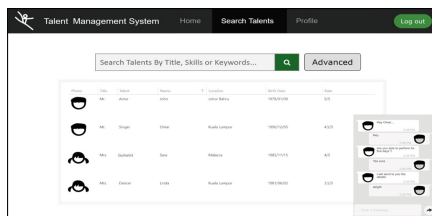


Fig. 7. Instant messenger window.

5 Conclusions

Nowadays, job search strategies vary from one person to another [8]. Therefore, this study aimed to develop a set of system functional requirements for Talent Management System especially for performing arts freelancers in Malaysia. The functional requirements were presented in Sect. 3. Additionally, we presented use case diagrams for both Talent and Agency/Organizer. From the use case, we created some important user interface dialogs for the proposed system. The limitation of this study is the relatively small sample size. However, our informants are very experienced and well-versed with the situation that is observed. They are capable to share extensive information regarding the process. This study has clear implications for practice. It highlighted the important system functional requirements and created use case diagrams as well as user dialog interfaces. These serve as guidelines on the system design and implementation for talent management or other similar system. Ultimately, it offers some insights to the system developers who will be working on a related system. Additionally, this study adds some knowledge to the literature related to talent management system. Future studies may want to further design the data access layer, system interfaces, controls and security. Based on the current findings, this study indicates the following avenues for further research. Future studies may want to further design the data access layer, system interfaces, controls and security based on the functional requirements presented in this study. Also to further extend and refine the functional requirements as well as developing a set of non-functional requirements for the system.

Acknowledgments. The authors would like to thank Universiti Tun Hussein Onn Malaysia (UTHM) Malaysia for sponsoring this publication.

References

1. Marshall, C., Rossman, G.B.: *Designing Qualitative Research*, 6th edn. Sage (2016)
2. Scalabrino, S., Geremia, S., Pareschi, R., Bogetti, M., Oliveto, R.: Freelancing in the economy 4.0: how information technology can (really) help. In: *Social Media for Knowledge Management Applications in Modern Organizations*, pp. 290–314. IGI Global (2018)
3. The JobStreet website (2018). <https://www.jobstreet.com.my>
4. The Monster website (2018). <http://www.monster.com.my/>
5. Satzinger, J.W., Jackso, R.B., Burd, S.D.: *Object-Oriented Analysis and Design With the Unified Process*, 1st edn. Cengage Learning, Boston (2005)
6. The Careerjet website (2018). <https://www.careerjet.com.my/>
7. Smith, A.: Searching for work in the digital era, vol. 19. Pew Research Center (2015)
8. da Motta Veiga, S.P.: The role and types of job search strategies as career growth tool for mid-career professionals. *J. Career Dev.* **42**(4), 339–350 (2015)
9. Addison, J.T., Portugal, P.: Job search methods and outcomes. *Oxf. Econ. Pap.* **54**(3), 505–533 (2002)

10. The Maukerja website (2018). <https://www.maukerja.my>
11. The Jora Malaysia website (2018). <https://my.jora.com/>
12. The Kakiseni website (2018). <https://kakiseni.com/>
13. The Jora Malaysia website (2018). <http://www.mycreative.com.my/>