

Final Degree Project

**Degree in Engineering in Industrial Technologies**

# **Business Plan For The Implementation Of An M-Payment App In The University Campus**

**REPORT**

**Author:** Pablo Quintanilla Arasa  
**Director:** Joaquín Fernández Sánchez  
**Announcement:** July 2017



Escola Tècnica Superior  
d'Enginyeria Industrial de Barcelona



## I. Executive Summary

The usage of mobile payment apps increased from a 13% in 2014 to a 70% in 2017 in the US. Even so, although this growth has been remarkable, it still far from mass adoption, and the market is still in its new stage, and expert's predictions still show a future exponential growth in both money trade and the value of the market. To be more specific, today the m-payment apps are worth around \$75 billion dollars. That figure should swell to \$503 billion by 2020 thanks to advancements in mobile payments technology. Also, more than \$800 billion will be exchanged at the end of 2018 via mobile payments, them being P2P transfers or B2P payments.

With the market still in its development stage, the enormous room it has to grow and the eagerness of it to adopt new technologies to simplify our lives, we have created U-Pay, an ingenious and revolutionary m-payment application designed for the university campus. The U-Pay mobile application offers its users instant payments in business via QR codes and instant transactions between individuals or groups. There are Premium and extra services for those who want to take advantage of them. U-Pay also helps its users start new projects as it offers the user the possibility to charge other users in his own business/company. It is a mobile app designed and thought for every age and every kind of user.

What differentiates U-Pay from its competitors is the way we tackle the market. Instead of just launching a mobile application and trying to promote it and let it sell itself, we focus on a particular market, the university. By building bridges with universities and offering them our services we make sure that a significant percentage of its students download our app. Also, we ensure ourselves with a constant flow of new downloads from new students every year. We push ourselves into the lives of our target clients, and by offering a top of the market product and service we create a need that these public did not know they had. Once taking part of the daily life of our users, we can confirm an expansion outside the university into other small businesses thus guaranteeing the constant growth of U-Pay.



## Table of Contents

<b>I. Executive Summary .....</b>	<b>3</b>
<b>II. Glossary.....</b>	<b>7</b>
<b>III. Introduction .....</b>	<b>9</b>
Project target.....	9
Project scope.....	9
1. While developing the project.....	9
2. After the project is finished.....	11
Integration.....	11
<b>IV. Preface .....</b>	<b>13</b>
Project origin .....	13
Motivation.....	14
The Need to Create a Company .....	15
<b>V. State of the Art.....</b>	<b>17</b>
Mobile Payments.....	17
Transactions / Transfers.....	18
QR Code Payments .....	18
NearFieldCommunication (NFC) Payments.....	20
1. How NFC works.....	21
2. Technology & Standards behind NFC.....	21
<b>VI. Market study.....</b>	<b>23</b>
Mobile Payment Apps Market.....	23
Spanish and Catalan Market .....	24
University Situation in Spain regarding m-payments .....	25
Direct competition .....	27
Competitive Analysis Worksheet.....	30
<b>VII. U-Pay.....</b>	<b>33</b>
The application.....	35
The Client and the User.....	36
1. Freemium Model: Free vs. Premium vs. Extra Paid Services.....	37
2. Base app - Free.....	40
3. Extra Services – In-App-Paid .....	56
<b>VIII. Marketing Plan .....</b>	<b>57</b>
Target Costumer .....	57
1. Consumers.....	57
2. Businesses.....	58
Determination of Premium and Extra Services Costs.....	59
1. Premium Account:.....	60
2. Extra Deals:.....	60
3. QR Scanner:.....	60
Marketing Strategy for the upcoming academic year.....	60
1. Brand Image .....	66

Forecast and Prospects of Sales for the upcoming year .....	68
Forecast and Prospects of Sales for the next 3 years .....	71
<b>IX. Human Resources Plan .....</b>	<b>73</b>
The Team behind U-Pay.....	73
1. <i>Kinds of Employees</i> .....	73
2. <i>Number of Employees</i> .....	73
3. <i>Pay Structure</i> .....	74
4. <i>Scouting Plan</i> .....	76
5. <i>Organization Plan</i> .....	77
<b>X. Operational Plan.....</b>	<b>79</b>
Service Delivery & Quality control.....	79
Location .....	80
Legal environment .....	81
<b>XI. Financial Plan .....</b>	<b>83</b>
General Costs and expenses .....	83
1. <i>Initial Investment</i> .....	83
2. <i>Administrative Costs</i> .....	83
3. <i>Expected Marketing Expenses for the next year.</i> .....	85
Income .....	88
1. <i>Premium &amp; Extra services Income for the next 12 months</i> .....	88
2. <i>Other Income</i> .....	89
3. <i>Expected Income for the next 3 years</i> .....	90
Projected benefits foreseen for the next 3 years .....	91
<b>XII. Conclusion .....</b>	<b>93</b>
<b>XIII. Bibliography .....</b>	<b>95</b>

## II. Glossary

- **API:** Application Programming Interface. A set of functions and procedures that allow the creation of applications which access the features or data of an operating system, application, or other service.
- **B2P:** Business-to-Peer.
- **Bit:** the basic and physical unit of information in computing and digital communications
- **CEO:** Chief Executive Officer.
- **CFO:** Chief Financial Officer.
- **CMS:** Content Management System. A computer application that supports the creation and modification of digital content.
- **CPI:**
- **ECMA:** European Computer Manufacturers Association(ECMA). a standards organization for information and communication systems.
- **ECP:** École Centrale Paris.
- **ETSEIB:** Escola Tècnica Superior d'Enginyeria Industrial de Barcelona.
- **IOS:** iPhone Operating System.
- **ISO/IEC:** is a joint technical committee of the International Organization for Standardization (ISO) and the International Electro technical Commission (IEC).
- **m-Payments:** Mobile-Payments.
- **N/A:** Not Applicable. Not Available.
- **NFC:** Near-Field Communication.
- **OTA:** Over the Air.
- **P2P:** Peer-to-Peer.
- **PDA:** Personal Digital Assistant.
- **PoS:** Point of Sale.
- **QR:** Quick Response code.
- **RFID:** radio-frequency identification
- **SEO:** Search Engine Optimization.
- **UPC:** Universitat Politècnica de Catalunya.





### **III. Introduction**

#### ***Project target***

The main target of this project is to create a Business Plan for a Mobile Application called U-Pay for the campuses of UPC. This Business Plan aims to be a helpful tool for developing the app, as this project will try and analyse all possible situations, outcomes and aspects necessary for starting said business. Also, to properly create a the Business Plan a thorough process has to be done to create, in paper, the Mobile App U-Pay so that this Plan covers the full scope of possibilities the app can offer.

In personal terms, the target of this project is to learn more about the creation of a start-up, market studies, marketing, business analysis and financial plans and capitalization. The overall aim is to complement the knowledge obtained through our degree with more knowledge in economics and business management. All this knowledge will be needed for the proper completion of this Business Plan so all throughout the project a constant learning process is expected.

This project will help learn more in the entrepreneurship and innovation field, and a deeper knowledge regarding business plans.

#### ***Project scope***

We can divide the project scope into two, the scope regarding the development of this project, and the scope this project wants to have once it is finished.

##### **I. While developing the project**

- Offer the public the means to digitalize their money thus making the paying experience simpler, safer and faster. Offer universities the chance to modernize their services and maximize the their efficiency.

- Thoroughly analyse the m-payments market so that we can place ourselves in a strategic spot. Provide information regarding the size of said market, and its current state (starting, growing, mature...). Study the market by directly interacting with it and follow the path the target client wants.
- Define the competition; what differentiates us from them and them from us to properly position ourselves in the m-payments market. Analyse what they do wrong and right.
- Creation of the mobile application, followed by a detailed explanation of all different kinds of services and options the client will be offered. Differentiate our product from the rest by giving a more sophisticated service. Give a marketing edge to the product in order to get closer to the target customer.
- By getting to know the market, create a marketing plan that will determine the target customer, the business model of the product and a projection of expected sales. The marketing plan will also determine publicity measures to gain terrain before the official launching of the product.
- Define an adequate and professional team for the development of the enterprise. A team that will cover all aspects in the enterprise: Marketing, Operations, Finance, Web and App Development, Human Resources.
- Determine the politics of the team and the brand, the payment method for the beginning of the start-up and its organization charts.
- Create a financial plan that will convert the expected sales, expenses and costs to future income and benefits. From the expected revenue acquired we will be able to draw conclusions and determine the time expected to recover the initial investments.

## 2. After the project is finished

- Partner up with an Informatics Engineer to start the final creation/coding of the mobile application. This partnership will provide a wider view on the start-up and start with the creation of the different tasks needed to launch the project.
- Do a final check of the whole product to ensure a proper launch.
- Choose the right channel to announce the product. Activate few but precise channels that will reach the target audience in a way that they will want to make use of the product.
- Activate the sales team. Begin the marketing campaigns. Start negotiations with universities that are potential clients and business partners. Create publicity ads and stands to get our product known to the public, as well as to keep getting feedback for further improvement.
- Open discussions and negotiations with Venture Capital like Cabiedes & Partners, Caixa Capital Risk; or Accelerators and Incubators in Barcelona such as Seed Rocket, Wayra, Barcelona Ventures or 101 Startups.

## Integration

The main objective of a Final Project for the Degree in Industrial Technologies is to develop a project that can be somewhat related with any subject or knowledge that we have gained through the years of university. As said before, the main goal for this project is the creation of a Business Plan for a Mobile App called U-Pay (and to create, on paper, said app so that the plan can be made); therefore, there is a need to establish a relation between this project and the courses from ETSEIB.

Regarding these courses related to the project we have the following as examples:

- Economy and Business (“*Economía y Empresa*”): Accounting, cash flow and other basic tools needed in every business when calculating expenses, capitalization, income, etc.

- Organization and Industrial Management (“*Organización y Gestión Industrial*”): Time and chore management and structure in order to maximize time, productivity and money.
- Project Management (“*Gestión de Proyectos*”): Development of a full project by groups we obtained the first glimpses to what creating and managing a project looks like. The most similar and helpful course for this Final Project.
- Informatics (both subjects) (“*Fundamentos de Informática y Informática*”): Python coding useful for the creation of Mobile Apps both for Android or IOS.

On another note, this project is not one where the student will just pour out his knowledge. During this time we are to learn by ourselves and expand our understanding of the chosen topic, one that should interest us and that moves our curiosity.

## IV. Preface

### ***Project origin***

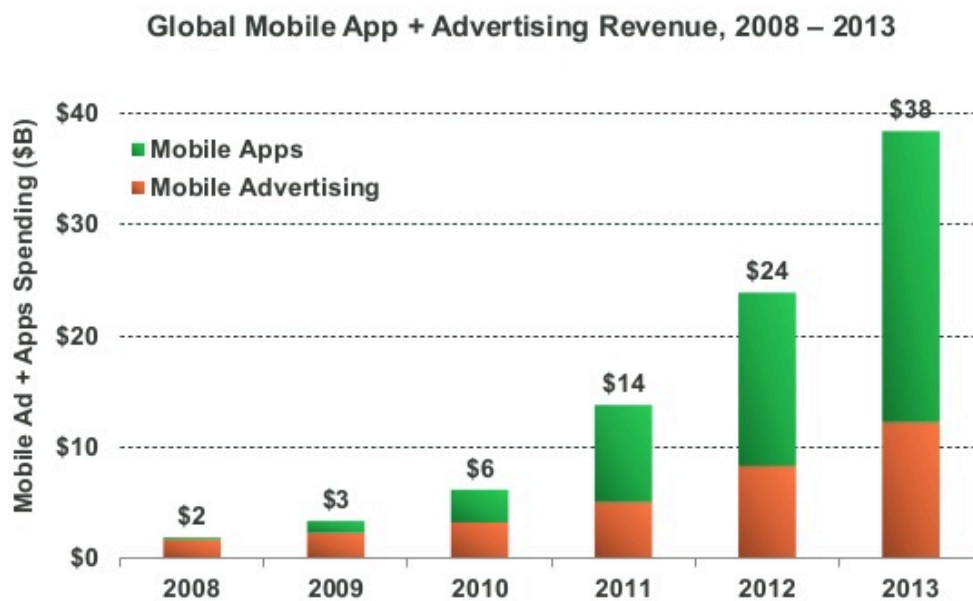
The idea for this project came once I started my Erasmus+ exchange program in École Centrale Paris (ECP). Previously I had thought about different ideas regarding Mobile Apps or even a Business Plan for a renewable parking idea I had in mind. Nevertheless, when I arrived at my exchange university I realised that I did not have to use or carry cash with me anywhere as everything in campus was paid through two mobile apps, different but useful in the same way: LYDIA and IZZLY.

It was when using these two apps that I decided to do a business plan of a mix and improvement of this two apps for a university campus such as ETSEIB, and if possible lay some grounds for an expansion to all UPC campuses.

ECP has implemented app-paying systems in all their campus facilities, including vending machines. The problem they have is that there is no app that covers the full variety of services they provide, that is why they are currently using two apps in the campus. My idea is to join these two apps and cover every service provided in ETSEIB and other campuses from UPC with a single app and a single Business Plan.

## Motivation

It is no strange fact that mobile technology is a big part of everyday life for the majority of the population. Smartphones have suffered an exponential evolution and are steadily taking part and helping us in our daily tasks. The key fact in this evolution is not centred in the upgrade of the utilities of said phone, such as the camera for example; it lies more in the evolution of the task a phone can perform. It lies in the ability these phones have to operate close to an unlimited amount and variation of applications developed externally that trying to cover the needs of all users, reaching a point where many developers are “creating needs” from thin air that we users “did not know we needed”.



Source: Global Mobile App revenue per Strategy Analytics; comprises virtual goods, in-app advertising, subscription, & download revenue. Global Mobile Advertising revenue per PWC; comprises browser, search & classified advertising revenue.

16

Figure 4.1: Evolution of Mobile Applications Advertising revenue between 2008 and 2013.

For example, in 2010 the amount of mobile applications grew from around 20.000 to almost 180.000. Even though we have this increase in the services this mobile apps offer, offering even health services, and the explosion of revenue invested in them (Figure 4.1), there are still some areas that need to be expanded or are still evolving, such as mobile payments.

The apps business is starting to tackle mobile payment apps, and the market is still uncertain and new. Many new apps are failing due to their ambition to try and reach the whole market in one go, it being still unstable, that is why U-Pay will begin by focusing on university students, the group that has a more open mind to new creations and uses for applications and that in a long run can stabilize our market in order for us to expand. Then, with the creation of our on mobile application for mobile payments for the university there is just one basic motivation, to simplify life on campus and money exchange.

### ***The Need to Create a Company***

With the vision of said mobile payment application there is the need to create a company for the creation, support, development and evolution of said application. The company is created to fill an empty spot in the present market. This business plan will describe both the company and the product that will be sold.

In a more personal level, this company is the result of the eagerness to be self-employed and create something new from scratch in which to believe in.





## V. State of the Art

Once the objectives and goals of this project are set, it is key to look at how the present market is advancing and how it will evolve. In-app payments are steadily growing around us and trying to substitute credit cards or cash expenses. To properly say how U-Pay will be set in this market a thorough analysis of the current market, its history and its future has to be done.

### **Mobile Payments**

Mobile Payments, also known as m-payments, are defined as any payment where a mobile device is used to initiate, authorize and confirm an exchange of currency in return for goods and services. Mobile devices include mobile phones, PDAs, wireless tablets and other devices that can connect to mobile telecommunication networks. Mobile payments can be an alternative to cash, checks, credit cards and debit cards, and can make possible new opportunities for commerce convenience. This technology can also be used to send money to friends or family members.

M-payment is a point-of-sale (PoS) transaction made or received with a mobile device. They are gaining popularity with consumers not only for their convenience but also for their security (although this is also the main reason a large percentage still does not trust this new technology), because with many types of mobile PoS systems, credit card data is not saved on the merchant's PoS terminal. The consumer's mobile device actually becomes a security token that generates a random code for each transaction. Depending upon the technology used, the token may be transmitted over the air (OTA) or entered manually into a keypad by the consumer.

Right now there are two main services provided by m-payment apps: Transactions / Transfers and contactless payments. The latest includes QR, NFC or Bluetooth payments.

## ***Transactions / Transfers***

Most of the new m-payment mobile application focus on this kind of service, the instantaneous exchange of money without any extra cost (up to a maximum limit of money per exchange or per year) as one would have when transferring money from different accounts in different banks.

How this system works is rather simple. First, both parties must have downloaded the app and linked it with their respective bank account and mobile numbers. Then one of the users requests money from the other one using his mobile number as identifier. The second then just accepts the request and sends the money free of extra cost to the receiving end. The user owing money may also decide to send the money before receiving the request. If that is the case, he will just send the money as if it were a text, sending it to the mobile phone of the receiver.

This method is both quick and useful for long distance, as both participants do not have to be next to each other as contrary to instant payments. Also, for small payments there is the main advantage of not having a fee when transferring money, or in case of large quantities or continuous use, making them for a smaller fee than with a normal transfer from different banks.

Apps like Verse, Paypal.me, Venmo, Yaap, Twyp and Cashcloud between others already offer this service and are steadily increasing their app downloads and user base. However, as this side of the business is not always the most profitable, economically speaking, these apps usually include other services or premium accounts to get benefits and further evolve.

## ***QR Code Payments***

QR code (abbreviated from Quick Response Code) is a type of matrix barcode (or 2D barcode). While conventional bar codes are capable of storing a maximum of approximately 20 digits, QR Code is capable of handling several dozen to several hundred times more information. It is capable of handling all types of data, such as numeric and alphabetic characters, Kanji, Kana, Hiragana, symbols, binary, and control codes. It can store up to 7,089 characters in numerical data, with binary data (8 bits), they can store up to 2,953 bytes of information, with alphanumeric, 4,296 characters and Kanji/Kana up to 1,817 characters.

Since QR Code carries information both horizontally and vertically, QR Code is capable of encoding the same amount of data in approximately one-tenth the space of a traditional barcode. It also has error correction capability. Data can be restored even if the symbol is partially dirty or damaged (Figure 5.1). A maximum 30% of code words (8 bits) can be restored.

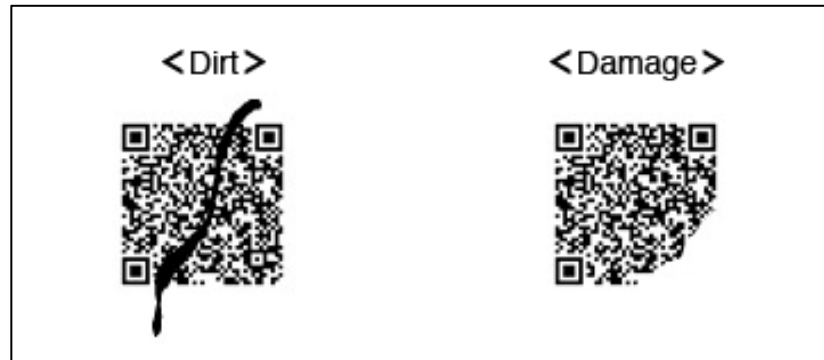


Figure 5.1: Example of damage a QR code might have while still being restorable.

There are advantages of using QR Codes for payments. NFC (Near-Field Communication) scanners and tags are expensive to procure, which means that the penetration of NFC enabled payment terminals is low. QR Codes offer a cost effective, and easy to deploy solution for proximity in-store mobile payments.

There are many other and simpler benefits of using QR codes to make payments:

1. No special equipment needed.

One of the challenges of mobile payments is finding a solution that works with different devices. QR codes help overcome this challenge, as all you need to scan a QR code is a camera on your mobile phone.

2. Quick and easy to use.

You don't need to enter the details of the person you are paying; just scanning the QR code will identify them instantly.

### 3. More convenience.

You can make payments using QR codes from any location with only a few taps on the mobile device.

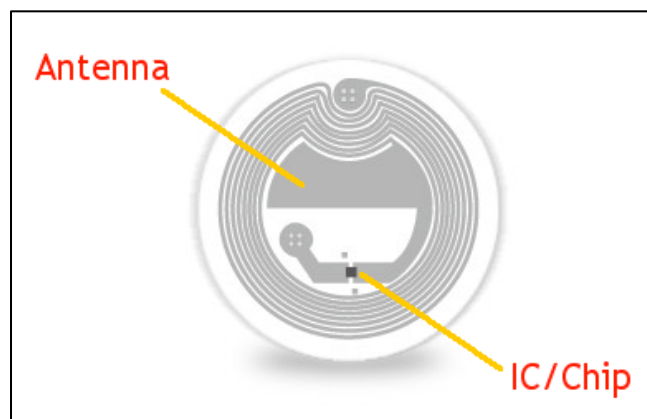
### 4. Increased safety.

Storing your payment details in your mobile phone and carrying it around is much safer than bringing your entire wallet full of cash and credit cards everywhere you go. The chances of theft and fraudulent purchases using your payment details are much less with QR codes.

QR codes are a promising trend for the future of mobile payments, and are an exciting, easy and convenient way to pay using just your mobile phone.

## **NearFieldCommunication (NFC) Payments**

Near field communication, abbreviated NFC, is a form of contactless communication between devices like smartphones or tablets. Contactless communication allows a user to wave the smartphone over a NFC compatible device to send information without needing to touch the devices together or go through multiple steps setting up a connection.



*Figure 5.2: Example of a 1x1cm NFC chip that can be adhered in a smartphone or a credit card.*

## **I. How NFC works**

NFC is a derivative of radio-frequency identification (RFID). The difference is that NFC is designed for use by devices that are close to each other. Three forms of NFC technology exist: Type A, Type B, and FeliCa. All are similar but communicate in slightly different ways.

To communicate, first the interrogator sends a signal to the tag, which will become powered by it. With this first message it finds out what type of communication the tag uses, A or B. Once the tag responds, the interrogator will send its first command. If it is not valid, nothing will happen, but if it is indeed valid the tag sends the requested information. To ensure security, all interactions are done through a secure channel and encrypted.

Devices that incorporate NFC technology can be active or passive. A passive device, such as an NFC tag, contains information that other devices can read but does not read any information itself. Active devices can read information and send it. An active NFC device, like a smartphone, would not only be able to collect information from NFC tags, but it would also be able to exchange information with other compatible phones or devices and could alter the information on the NFC tag if authorized to make such changes.

To ensure security, NFC often establishes a secure channel and uses encryption when sending sensitive information such as credit card numbers. Users can further protect their private data by keeping anti-virus software on their smartphones and adding a password to the phone so a thief cannot use it in the event that the smartphone is lost or stolen.

## **2. Technology & Standards behind NFC**

For NFC technology there are two main specifications that regulate it: ISO/IEC 14443 and ISO/IEC 18000-3. They exist to make sure all kinds of NFC are able to interact with each other and will work properly with future devices. The first ISO/IEC defines the ID cards used to store information, such as that found in NFC tags while the second one specifies the RFID communication used by NFC devices. NFC interfaces are also defined in a pair of ISO and ECMA standards. ISO/IEC 18092 / ECMA-340 defines communication modes for NFC Interface and Protocol (NFCIP); ISO/IEC 21481 / ECMA-352

defines NFCIP-2 which specifies communications modes to minimise interference with other contactless card devices.

NFC communication works through a magnetic field created by the reader. The client device receives this field and it turns it to electrical impulses to communicate data. Passive NFC tags use the energy from the reader to codify their response. On the other hand, active tags have their own power source to operate; they have their own magnetic fields.

This tags function with a 13.56MHz frequency and they use less than 15mA to communicate their data. The average distance to activate the transfer of data is 4cm, but there are cases where it can be up to 20cm. The tags store from 96 to 512 bytes of information and its transmission occurs at speeds of 106Kb/s 212Kb/s 424Kb/s or 848Kb/s, seemingly instantaneous for small pieces of information.

NFC tags function at half duplex while the interrogator functions at full duplex. Half duplex refers to a device that can only send or receive, but not both at once. Full duplex can do both simultaneously. A NFC tag can only receive or send a signal, while the interrogating device can receive a signal at the same time it sends a command. Commands are transmitted from the interrogator using PJM (phase jitter modulation) to modify the surrounding field and send out a signal. The tag answers using inductive coupling by sending a charge through the coils in it.

## VI. Market study

### Mobile Payment Apps Market

More than 4.8 billion individuals used a mobile phone by the end of 2016, and 40% of Americans paid with a smartphone in 2015. It is estimated that by the end of 2017 this numbers will increase by 70%. With this enormous growth in the past years and its potential to keep doing so we can expect to see the mobile payments industry and start-ups in the space evolve to meet the growing demands of users.

However, as fast as mobile payments have grown, the technology behind it, and the number of establishments and businesses that offer this service is still lacking. VISA states that by 2020, many people could be leaving their wallets behind and paying for almost everything using their mobile phones. They also announce that since 2010, the amount of money that's passed from consumers to merchants via smartphones has gone up nine-fold and that by the end of 2017, more than \$721 billion will change hands via mobile (*Figure 6.1*).

Today the m-payment apps are worth around \$75 billion dollars. That figure should swell to \$503 billion by 2020 thanks to advancements in mobile payments technology.

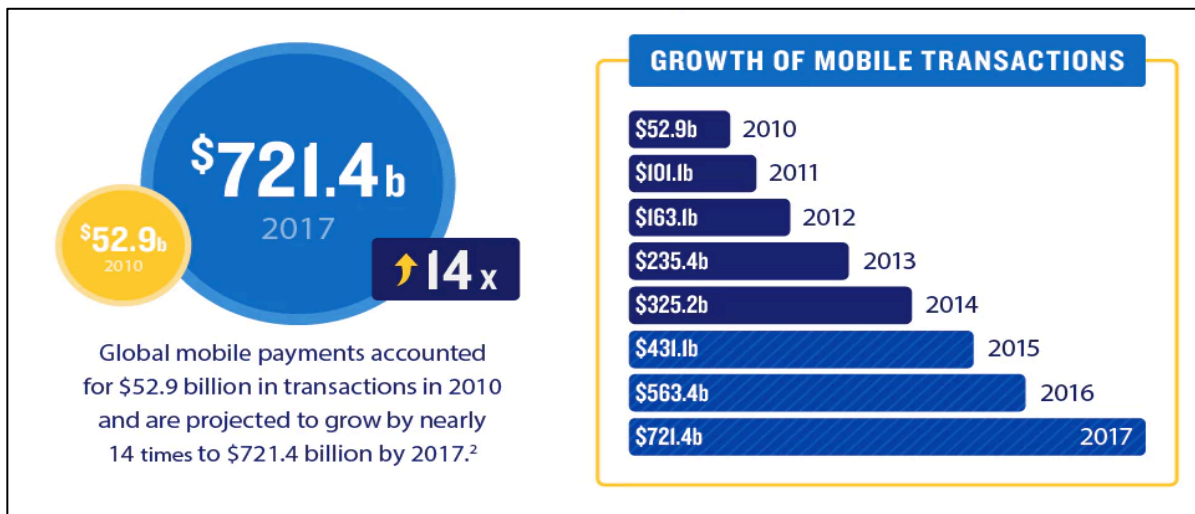


Figure 6.1: M-Payments market size evolution since 2010 as set by VISA.

22% of Spanish consumers make payments using their mobile phone. Restricting this to mobile payments made in physical stores, we find the option used by 6.2% of consumers, indicating a progressive rise in this payment method. However, the majority of mobile payments made in Spain (up to 92.6% of them) are for online purchases. About a third (34%) agree that if it were up to them, they would go completely cashless – although there are differences between countries.

## ***Spanish and Catalan Market***

According to GFT, a company focused on consulting and tailoring solutions for financial services at the vanguard of technology, declares that Spain is currently one of the leaders in innovation regarding mobile payments, together with Italy and the UK.

Spain has currently 80% of its population using smartphones, and 22% of Spanish consumers often realise m-payments. However, if we restrict this data to physical shops, this percentage lowers to 7,4%, an exponential increase but with still a large margin for growth. Leaving the remaining 92,6% to online shopping through mobile applications, said to at least be done once a month for more than half of the population.

There is also a new increase of P2P payments in Spain, up to 5,4% use it regularly. And up to 24% of users in Spain have downloaded digital wallets or similar apps that offer m-payments. A recent survey from MasterCard in Spain states that 46% confirms that they would use a mobile payment app, but a third of them would use them only for small payments.

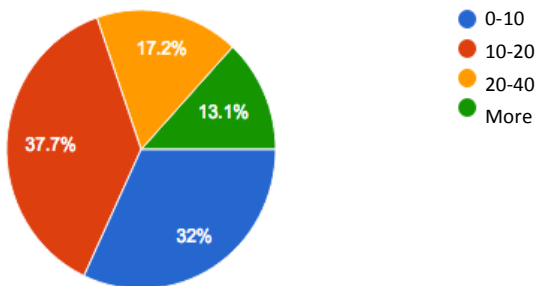
The main apps in the Spanish market (Verse, Bizum, Twyp) are all still in the 300.000 downloads, still a low number considering that Spain is the European country with a more intense mobile use.



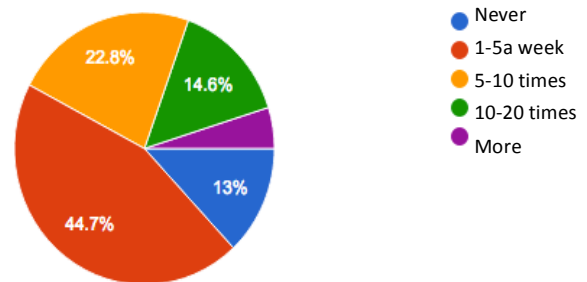
### University Situation in Spain regarding m-payments

To properly see what the situation of the m-payments application is in the university environment, a simple survey was done and asked to approximately 500 students from UPC, ICADE, UPV, ICAI, ESADE, UB, and POMPEU FABRA. Here we can see the answers to the survey.

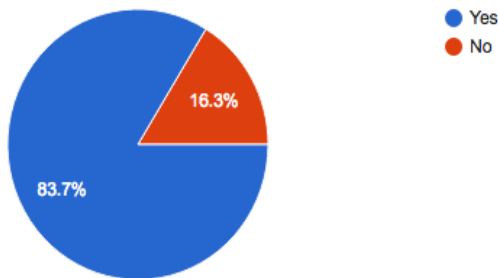
1. How much (in €) do you spend every week in your university campus?



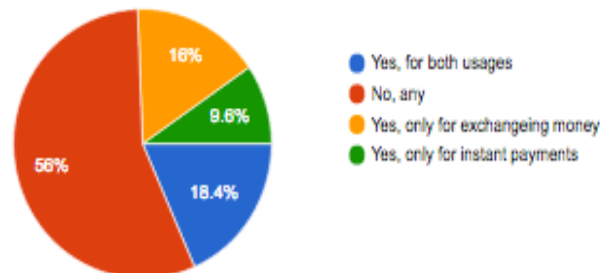
2. How often do you make payments in your university campus?



3. Do you know of the existence of Mobile Apps to pay in businesses or to exchange money between users?

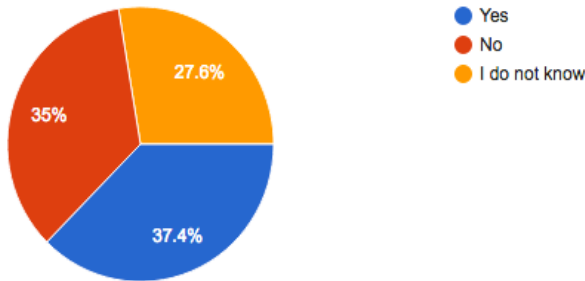


4. Do you use any of these apps?

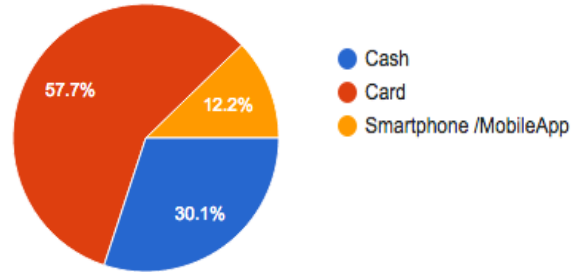


As shown in the first part of the survey, most students make more than 5 payments every week in their campuses, this means that on average, a student pays for something everyday in the university facilities. Also, there is a clear majority that know about the existence of such apps and methods of payment, but not many of them use them.

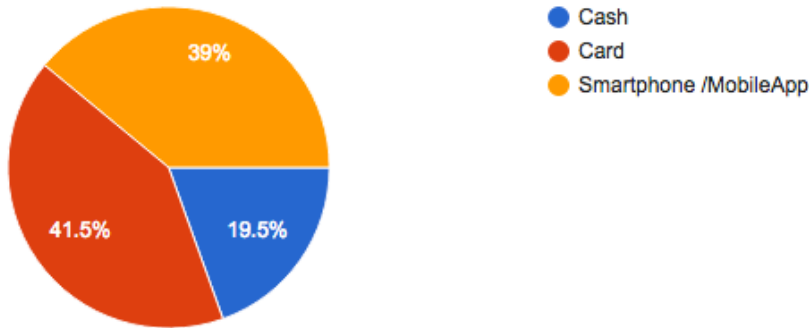
5. Does your university offer Mobile Payments, such as QR codes or NFC (contact-less) payments?



6. How do you usually pay?



7. If you had the option, how would you pay?



The main reason students do not use m-payment apps is because their college does not offer this kind of services to the public, thus making the ownership of this applications irrelevant. This is why 88% of students pay either by card or cash, making only 12% users of such technology. From the last two questions we can conclude two things. First, the fact that most prefer card to cash is a clear sign in preferring a simpler method o payment and the desire to not carry around as many thins. Second, there is a big group that would prefer m-payments to other options.

We can see that there is still much more room in this market to explore and expand this apps.

## ***Direct competition***

The market for m-payment apps is rapidly growing as we saw before, and everyday there are more and more apps. There are many still in the early stages, and some others that are not managing to get the attention they wanted. However, there are some that are evolving at an enormous speed and occupying more and more of this new and vast market.

In Table 6.1 we can see a comparison between the ones that used to be the 3 more popular apps in Spain that focus in money transferring. These multibank applications offered their services for free with some limits in the amount of money that can be exchanged annually, following the respective laws that allow everything to be legal.

- YAAP MONEY

Created by Santander, Telefonica and Caixabank, this app started with an investment of 18m€, and a total of 27m€. In its first 15 days it obtained over 30.000 downloads, quite a feat for any start-up. However, this app has recently closed down due to not having enough benefits and not reaching its target audience after only 2 years of business. By having closed down, it is even more interesting to analyse. It seems now that the best substitute for YAAP MONEY is TWYP as more and more experts recommend.

The main reason YAAP had to close down was that they deviated from the attention of its investors. YAAP became popular for the free transaction of money between users, a service that had no cost at all. But the investors wanted to use YAAP MONEY to expand YAAP SHOPPING, a business that wanted to get close to the public small local businesses. However, that second branch did not do well, only earning 2.444€ in 2014. With this in mind, and the fear of investor banks to expand a business that they might feel is harmful for them, they decided to cut down the app. Its downfall is also connected to the appearance of yet another app called Bizum, which will be talked about after.

U-Pay leans from the experience of others and wants to offer this unlimited exchange of money to users at a minimum cost so that we have a steady income to use for our growth and expansion.

- CASHCLOUD

What sets CashCloud aside from any other is that they focus on NFC technology aside from the money transferring business. This app offers the user a wide variety of extra services for free, like offers and cashcredits (money if you participate in certain campaigns).

The main source of income for CashCloud comes from the freemium model they have applied. Every service they offer is free up to a limit. For example, with free service you can recharge the app once a day, while with premium you can do it 5 times. Also there is a limit to how much you can charge the first time: 100€ for free users, and no limits for premium users. Other limits include: maximum annual exchange, maximum transactions P2P, maximum recharge from a bank transfer or through credit card.

Being so versatile and offering this premium services to users that would benefit from a daily and intense use of the app is what sets them apart and keeps their business going.

- TWYP

Twyp is another app for free money transfers from any bank to another. They currently do not offer any other service and just focus on money transfers, they being in a group or individual.

Twyp is an ING mobile application and the own bank guarantees its security. It has a limit of 999€ a year, for money in the account, for amount to be retired and for maximum import the user can send or receive. The user must have only one account and can never go to negative credit. It is a free app and has no other services that might cost an extra charge. Thus for now Twyp does not have a source of income, it is just an extra service offered by the bank.

**TABLE SHOWING AND COMPARING THE SERVICES OF YAAP, TWYP AND CASHCLOUD:**

	<b>YAAP MONEY</b>	<b>TWYP</b>	<b>CASHCLOUD</b>
<b>Platform</b>	Android, iOS, Windows Phone	Android, iOS	Android, iOS
<b>Requisites for usage</b>	<ul style="list-style-type: none"> <li>• User account</li> <li>• Credit card (to recharge)</li> </ul>	<ul style="list-style-type: none"> <li>• User account</li> <li>• Credit card (to recharge)</li> </ul>	<ul style="list-style-type: none"> <li>• User account</li> <li>• Credit card (to recharge)</li> </ul>
<b>Where does the money come from?</b>	<ul style="list-style-type: none"> <li>• Money accumulated in app</li> <li>• Credit card</li> </ul>	<ul style="list-style-type: none"> <li>• Money accumulated in app</li> <li>• Credit card</li> </ul>	<ul style="list-style-type: none"> <li>• Money accumulated in app</li> <li>• Bank account</li> </ul>
<b>Fees and commissions</b>	None	None	None for transactions between particulars
<b>Usage limits</b>	Card recharge: 300€ (daily accumulated) Transfer to account: 300€ (daily accumulated) Money to receive: 1.000€/year from non identified users (no ID) 2.500€/year for identified users	Money to send: 1.000€/year Money to receive: 1.000€/year Transfer to account: 1.000€/year	Limit: 100€/month Transactions per day: 10 Maximum import per transaction: 25€

Table 6.1: Comparison between 3 popular money-transferring apps in Spain

However, regarding the Barcelona-student target audience we want to first focus on, there are 2 other apps that are trying to control the market. These 2 main competitors are the following:

- VERSE

Mobile App that let's users do transactions between them and send the money stored in the app directly to their bank account. For now it is a free app, thus not having a source of income, but they have announced that in the future they will charge a certain amount for their services.

Verse has a limit of 400€ annually to be received or paid. However, if the user identifies him self through reliable documents, this limit goes up to 10.000€

- BIZUM:

Another Mobile App for making transactions, but Bizum is associated with your bank. It is through the app of your bank, if they decide to partner up with Bizum, that one would be able to make use of their services. For now they offer the same services as Verse, just transactions between users, but they plan on expanding to online shopping and paying in other businesses.

It is a free app but with a plan for making Bizum a freemium app where monthly payments will provide the user with more services. They are currently associated with 27 Spanish entities, which is 95% of the market.

## **Competitive Analysis Worksheet**

For each factor listed in the first column, we assess whether it will be a strength or a weakness (S or W) for our business and for our competitors. Then we rank how important each factor is to our target customer on a scale of 1 to 5 (1 = very important; 5 = not very important).

**TABLE SHOWING AND COMPARING THE STRENGTHS AND WEAKNESSES OF VERSE, BIZUM AND U-PAY, AS WELL AS THE RELEVANCE OF EACH ASPECT TO OUR CUSTOMERS:**

<b>FACTOR</b>	<b>U-Pay</b>	<b>Verse</b>	<b>Bizum</b>	<b>Target Customer</b>
<b>Products</b>	S	S	W	1
<b>Price</b>	S	W	S	2
<b>Quality</b>	S	S	S	2
<b>Service</b>	S	S	W	2
<b>Reliability</b>	S	W	S	3
<b>Stability</b>	S	W	S	2
<b>Expertise</b>	W	S	S	3
<b>Company Reputation</b>	W	W	S	3
<b>Location</b>	W	W	S	3
<b>Appearance</b>	S	S	S	3
<b>Sales</b>	W	S	W	2
<b>Credit Policies</b>	W	W	S	4
<b>Advertising</b>	S	W	W	4
<b>Image</b>	S	W	S	2

Table 6.2: Strengths and Weaknesses of U-Pay compared to Verse and Bizum.

Table 6.2 shows said strengths and weaknesses and its value for the target costumers. Now we will discus some of our strengths and weaknesses.

Our strongest point will be our product. It is a simple product that includes many different kinds of services. We are not only focused on a single one such as money transferring, but we will offer the costumer the chance to pay P2P or B2P, be the one to charge via QR codes and benefit from deals offered by the businesses that partner with us. Also, in a first instance, our prices (which will be later discussed in detail) might seem like a weakness, seen that many other apps do not charge as much or not at all, but this turns to be not true once the client uses said services, as they more than profitable. With our product and our pricing we guarantee a high quality, reliable and stable business that is sure to satisfy the costumers.

Our first clear weakness is Expertise, as we are a new business in the market. We will more than compensate this weak spot with our top of the market product, the team behind it and the quality of our service. Very similar to this is Company Reputation. It is not something that can be gained the exact moment the app is launched, but something that we are sure to accomplish by gaining the trust of our costumers.



## VII. U-Pay

The start-up, called U-Pay, is a business idea that pretends to simplify payments and transactions in the campus live. U-Pay envisions a future where people will not have the need to carry cash or credit cards in their wallets, by putting these elements in the app and thus making transactions faster, easier and more comfortable for the clients. This philosophy is clearly expressed in its slogan:

“SIMPLE PAY, SIMPLE DAY”

The name of the brand, U-Pay, stands for both University-Payments and Universal-Payments, taking into account both missions set in this start-up. So, as just mentioned, this company has both a short-term and a long-term mission:

- Short-term: Provide students and staff in ETSEIB with a mobile app that facilitates in-campus payments as well as transactions between them.
- Long-term: The long-term vision is to become a referent for other universities and expand to them country-wise and through Europe. At the same time, if the business has a positive development, expand to other business, as our method for payment cannot only be used for university campuses but it could also be useful to other businesses such as restaurants, clothing shops, etc.

As a new company, we want to set ourselves aside from many others through our values and philosophy. We want to stay honest and loyal to our costumers when providing an easier and faster methodology of payment. We stand saying that a simpler world is a better one. U-Pay looks out for its users and searched the pinnacle of their comfort and satisfaction. Proud to only get real professionals on board, those that truly feel that it is only by giving their best to the client and making them extremely pleased that the company is going to flourish.

One other main motivation that started the company was its ecological approach. By expanding our services we reduce the amount of coins and notes used on a daily basis, thus diminishing the production them. Developing the m-payment market has a positive impact on the environment. Not

only will cash be reduced, but also all the other items needed for cash exchange, such as cash registers and credit card readers.

In the near future, in order to achieve the short-term mission, there are 3 main goals or milestones that need to be met.

1. Installation of our services in ETSEIB campus bar.
2. Full use of our services in ETSEIB campus in all of its facilities.
3. Expansion to other campuses from UPC.

Taking into account both missions, there is one distinct target market, the students, teachers and staff from ETSEIB. However, they do not all participate in the same manner, as there will be both buyers and sellers. That is why the app will be divided in 2 in order to perfectly meet the expectations of both parties. The buyer will get the free version of the app, while the seller, in order to get the services necessary to read QR codes and receive the money securely will pay a certain amount. This second part of the app will be included inside the main free app, as a secondary service, following the freemium model, where once inside a free app, the user can pay for certain extra services.

In the present time there is no main mobile application that has taken control of the market, especially not focused for the university environment. The app payment industry is still growing, and it will do so exponentially, as there are some examples in other countries that are booming. This industry is said to expand rapidly in the future 2-3 years, and we plan on securing a spot with the group that has always used the newest technology, people from 18-30 years old. With new movements/trends regarding the focalization of our everyday needs in the same smartphone we want to take advantage and slowly eliminate the need of credit cards, student cards or cash in university grounds.

There are two main competitors in Spain, Verse and Bizum. Both of them are attacking the wider market, making everyone with a smartphone their target, whereas U-Pay wants to first control the university environment, a target market that will always be there and will not run out of users. The main focus is to properly settle in said education facilities, as students easily follow new technological trends and once they get used to them in their university period we can count on them to keep using

our services when expanding to other businesses. There is always going to be a demand of students in universities, and as soon as they get involved in it's live and methodology they will surely use the services we provide afterwards. Our main advantage is that once the university offers our services, each new generation will install and use U-Pay once they enter their superior studies.

## ***The application***

As mentioned before, the application covers the needs of the seller and the buyer, as well as the sender and the receiver. The app U-Pay offers the user a simple layout for each screen, making it very easy to move around and making face-to-face payments as direct as possible.

Taking into consideration all possible technologies available for the app, it was decided to incorporate the QR Codes. The first reason to it is that fits with the philosophy of the company: QR Codes are simple, fast and practical. Also, the second key factor is that creating QR codes themselves does not cost anything, and installing the technology is both cheaper and more versatile. The most important is ubiquity. Companies that get our services don't have to worry about what device the customer is using, neither do we, — any smartphone can display or read a QR code with a small piece of software. They/we don't have to be concerned about antennae or secure elements on phones; they're not needed. The point-of-sale terminal doesn't have to be anything special hardware-wise. Any smartphone needs only software to generate and read QR codes.

The app itself follows a freemium model. The app is free to get and offers in-app payments so to obtain other services. The cost of these extra services will be analysed afterwards and will not be mentioned in the following figures, which show every screen in the app and its appropriate description.

The beta version of the application was developed using an app prototyping program called Justinmind in order to give a demo of how the app will look once fully coded. The app will be suited for both Android and IOS platforms.

The most important feature of the U-Pay app is keeping the simplicity while still offering the user everything they need.

Once the app is downloaded, there is a series of after-services that will be offered by U-Pay:

- In-App feedback:

Once a user has downloaded the mobile application, he or she will be able to send some feedback either by rating the app, sending a report or indirectly by deleting the app.

This feedback will be able to be done through the app or through Google Play and Apple Store reviews.

- Account cancelation/downgrade:

Once downloaded the app and created a profile, U-Pay offers you the chance to delete this account. In the same way, once a user subscribes to our Premium or Extra services, U-pay offers the user the possibility to cancel these subscriptions.

## ***The Client and the User***

There is little difference between the client and the user. The user will be every individual that decides to download the app and use its free services: money transfer between peers, paying in businesses with QR codes and using one deal every month; with limits in the amount of money in all the services.

On the other hand, our client will be that person that decides to make full use of our app by subscribing either to a Premium Account, the Extra Deal service or the QR Scanner service, which they will pay a monthly quote. When one of our users chooses to subscribe to a Premium Account or the QR Scanner service, it gives him or her the opportunity to act as a separate business by his own. These subscriptions allow him to add a second bank account that will be linked to his business, and with the QR Scanner, he will be able to charge other users B2P.

To sum it up, the users are every person that downloads the free app and our clients those that subscribe to the paying services.

## I. Freemium Model: Free vs. Premium vs. Extra Paid Services

As it has been said before, U-Pay offers its users a free service as well as extra services with in-app payments and a Premium service, what is commonly called a Freemium Model. U-Pay gives some of these premium services separately as extra services so that users that might only want to get the advantages of one of them do not have to pay the full rate of the premium account.

The base app offers the user free transfers up to 100€ per exchange, and then charging 1€ per transaction, so that U-Pay follows European Law. The base app also has some limits regarding money transferring and payments that are shown in the table below.

There are 2 services that can be bought separately from the premium account. These are:

### 1. Extra Deals:

In the free version of U-Pay, the users have the chance to view an unlimited (as many as others post) list of deals and offers of businesses that partner up with us and want to promote their business through us. However, in the base app the user can only use 1 of these deals or offers every month, regardless of the business. By unlocking Extra Deals, the user will get the chance to upgrade that one offer a month to 5 for each business.

The Business that partner up with us will be able to post various offers and deals in this page of the app, an unlimited amount of them. Then the user, depending on their account, will be able to use more or less offers.

An example would be the university bar, they could post an offer for a free coffee with the buying of 5€ or more through the app with a 1 time use, or a free apple when buying a lunch menu with unlimited uses.

## 2. QR Scanner:

In the free version of U-Pay, the users do not have the option of scanning QR codes, they cannot act as a business – as in they charge people B2P or P2P. If the user wishes to obtain this extra service they will pay a minimum amount every month.

The QR scanner functions in a very straightforward way. Once the service is activated, the U-Pay app will get access to the camera of the phone. Then the user just has to frame the camera with the QR image.

**TABLE SHOWING AND COMPARING THE SERVICES OF THE BASE APP, EXTRA SERVICES AND PREMIUM ACCOUNT OF U-PAY:**

	Base Free App	Deals – Extra Service	QR Scanner – Extra Service	Premium
Money Transfers to or between Banks	0 - 100€: Free 100 – 300: 1€ charge	N/A	N/A	0 - 100€: Free 100 – 1.000: 1€ charge
P2P payments	Free	N/A	N/A	Free
Maximum Exchange per month P2P	300€	N/A	N/A	Unlimited
Maximum Transfer to own Bank	150€	N/A	N/A	Unlimited

<b>Maximum Payment</b>	150€	N/A	N/A	Unlimited
<b>Maximum Card Recharge</b>	150€	N/A	N/A	Unlimited
<b>Money send per year</b>	2.000€	N/A	N/A	Unlimited
<b>Money received per year</b>	2.000€	N/A	N/A	Unlimited
<b>Money Transferred to Bank per year</b>	2.000€	N/A	N/A	Unlimited
<b>Number of transactions a day</b>	10	N/A	N/A	Unlimited
<b>Deals/month</b>	1	5 per business	N/A	Unlimited
<b>QR Scanner</b>	N/A	N/A	Unlimited	Unlimited

Table 7.1: Comparison between the different offers in the U-Pay app.

## 2. Base app - Free



Figure 7.1: Smartphone background and initial screen.

### SCREENSHOT AND INITIAL SCREEN:

- The first screen shows the app icon in the background of an Iphone5.
- The initial screen shows the user the logo and slogan while the app loads.
- The logo symbolizes a connected world between users and as the slogan says, the app pretends to make everyday payments simpler.
- Following the pattern of simplicity, the background is white with black writing in it.



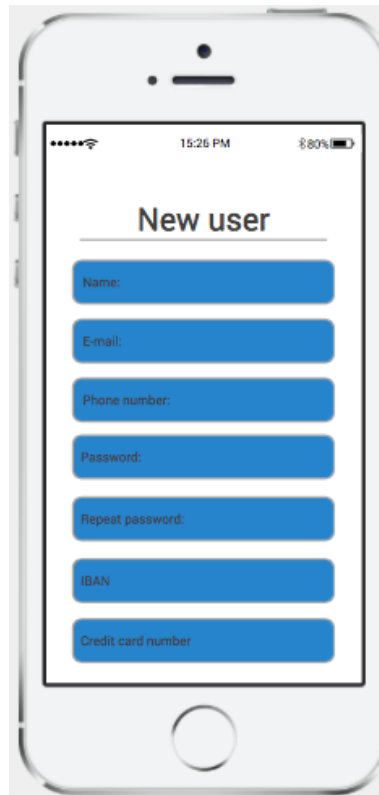


Figure 7.2: New user screen.

### NEW USER SCREEN:

- The inscription screen only appears the first time you open the application or the first time you open it after deleting your account.
- This screen serves the purpose of getting the necessary information from the user to start using the app: Name, E-mail, Phone number, Password for the app, and a Repeat Password for security measures. IBAN of the bank account you want to link and Credit Card number where the money will be taken from.



Figure 7.3: Main screen.

## MAIN SCREEN:

- First screen to be shown once the app loads.
- The main screen has all the icons that link to all the other pages as well as the main services.
- There are 4 icons on top of the page: MAIN page, FILES, MESSAGES and USER.
- The second line shows the money you are transferring or paying and the SCAN icon (a camera icon) for those that want to make full use of the app by paying a certain amount each month.
- The 3 next icons refer to the method of payment: SINGLE payment, GROUP payment, QR Code.
- Last, there is a numerical keyboard used to input the amount that will be paid.
- We stick with the white background, with different shades of blue that appear when clicking an icon or that show in what page the user is. This style will be kept in all pages.



Figure 7.4: QR screen.

#### QR SCREEN:

- This screen shows both the amount of money that will be instantly paid and the QR code that needs to be scanned in order for the receiving party to get its payment.
- There are 2 security measures in this page:
  - The QR code will only be valid for 30 seconds after it is set and will only be useful one time.
  - In case the screen locks, the QR will become invalid as well.
- To redo the payment, the user must start the operation from scratch.
- Once the payment is done, you will be redirected to the files page to see either the receipt, as QR makes instantaneous face-to-face payments.

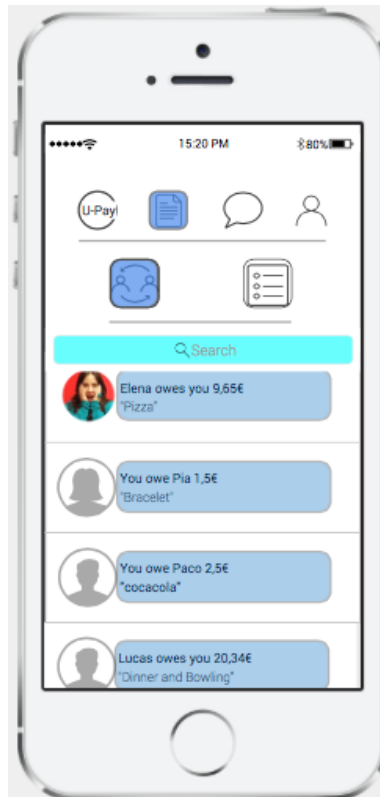


Figure 7.5: Files screen.

### FILES SCREEN, PENDING:

- The FILES are divided in 2 subpages, PENDING transactions and HISTORY of those that have been done, each corresponding to one of the icons in the second line.
- In the PENDING menu, the user can see and click on the users that owe him money or those who have requested money from him/her in order to fully view the details of the transaction.
- The user may send reminders via SMS or the inside chat of the app to those who owe him.
- Every notification shows the theme of the payment, the parties involved and the date of issue, as well as the exact amount.
- The user may choose to edit or remove the request of money at will.

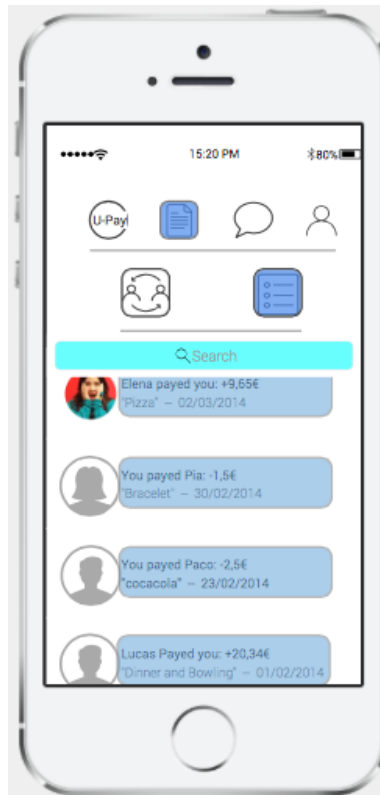


Figure 7.6: History screen.

#### FILES SCREEN, HISTORY:

- In the HISTORY menu the user is able to see the full record of receipts of every payment and transaction he has ever done.
- Like in the PENDING menu, the user can see and click on the receipts in order to fully view the details of the transaction.
- Every notification shows the theme of the payment, the parties involved and the date of issue, as well as the exact amount.
- The user may choose to delete the receipts as he or she wishes.



Figure 7.7: Chat screen.

### MESSAGES SCREEN, CHAT:

- The MESSAGES screen shows 3 items to the user that link to 3 subpages: CHAT, GROUP CHAT and CONTACTS.
- The CHAT is the first screen the user sees when accessing the MESSAGES page.
- This is a free to use chat with no limitations. It has installed all the necessary tools and extras the user might want, like different keyboards for different countries, emoticons and voice notes. It also offers the possibility to send videos and pictures, as well as you location or share contacts.
- The user can send money or request money through the CHAT of the app, without having to go to contacts or the main screen if they are currently talking to someone.

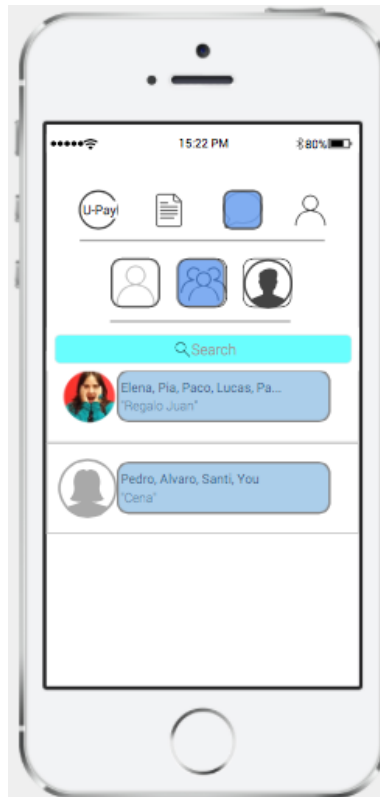


Figure 7.8: Group chat screen.

### MESSAGES SCREEN, GROUP CHAT:

- The GROUP CHAT is the second screen the user may see when accessing MESSAGES.
- It works the exact same way as the CHAT but it involves an interaction of more than 2 users.
- Once a group chat is created, the app will automatically create a shared pool for all its members.
- The same way the CHAT works, the users can send money or request money through the GROUP CHAT of the app, without having to go to contacts or the main screen if they are currently talking to someone.
- When requesting money there are 3 options: first, the default one, you request a certain amount and that is equally divided for every other member of the group; secondly, you can decide the exact amount requested for each member; and lastly, each of the members can put in the amount they paid and its theme, and the app will make the adjustments so that everyone ends up paying the same.

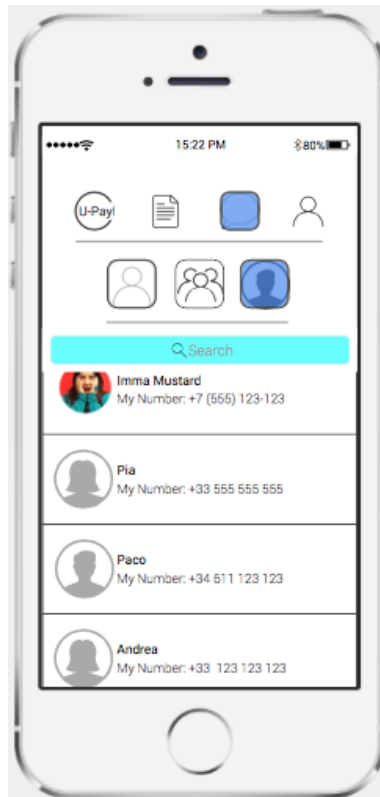


Figure 7.9: Contacts screen.

### MESSAGES SCREEN, CONTACTS:

- The CONTACTS is the third screen the user sees when accessing the MESSAGES page.
- This is the page one gets directed to when choosing to send money to a single person.
- The user can search for all his/her contacts in this page.
- The contacts are automatically imported from the contacts of the smartphone, with all their content: e-mail address, different phone numbers, etc.
- By clicking on a contact, the user may choose 3 options: first, send or request money; second, start a new chat; and third, add them to a group chat.



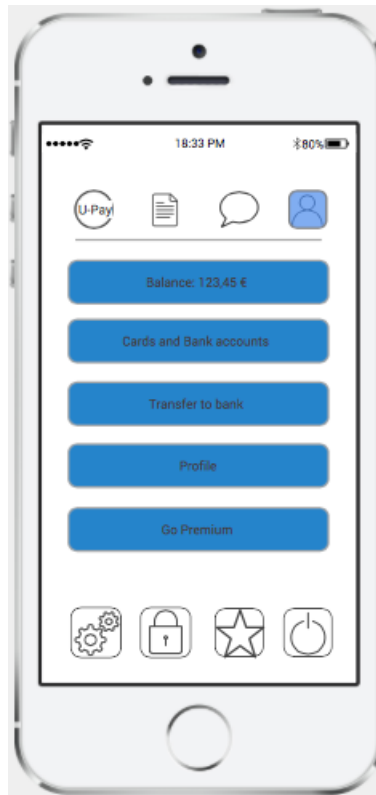


Figure 7.10: User screen.

## USER SCREEN:

- The USER screen is the one that has all the information concerning the user of the app.
- The bottom of this page shows 4 icons that link to the following: SETTINGS, SECURITY, DEALS and LOG OUT.
- On the actual page there are 5 icons:
  - Money balance: shows the amount of money stored in the app.
  - Cards and Bank accounts: direct the user to another page where he/she can store the information regarding his credit card and bank account, all under a PIN for ensuring security.
  - Transfer to bank: by clicking in this icon, all the money stored in the app can be send to one of the bank accounts set for the app.
  - Profile: gives access to another subpage where the personal information is.
  - Go Premium: offers the chance to use premium services for a monthly charge.



Figure 7.11: Profile screen.

### USER SCREEN, PROFILE:

- The PROFILE screen has all the personal information of the user, that which can be shared with his/her contacts.
- The screen displays the name of the user and gives the option to add a profile picture that will be shown in the chats.
- Then there are 3 pieces of information that can be edited when clicking on them:
  - Phone number/s.
  - E-mail address: where the user will receive notifications if he or she wishes.
  - Address: additional information.

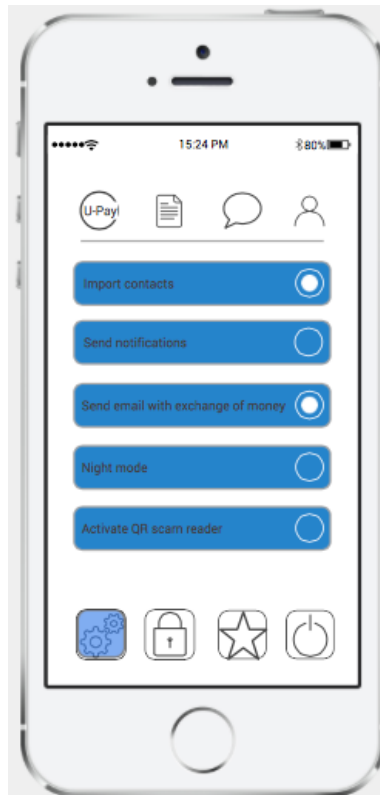


Figure 7.12: Settings screen.

## SETTINGS SCREEN:

- The SETTINGS screen offers the user 5 basic options:
  - Import contacts: Turning it lets the app access all the contacts from the users phone.
  - Send notifications: Turning it on will let the app send push notifications whenever there is a new event happening in the app (someone requesting money, a payment having been done, a new deal or receiving money)  
Send e-mail with the exchange of money: turning it on lets the app send an e-mail to the user every time there is an exchange of money or the user receives a request for money.
  - Night mode: dims the light and the colours of the app background so that it is easier on the users eyes.
  - Activate QR scan: gives the option to pay H€ a month to be able to scan QR codes and store the money obtain in a different bank account, not the personal one.

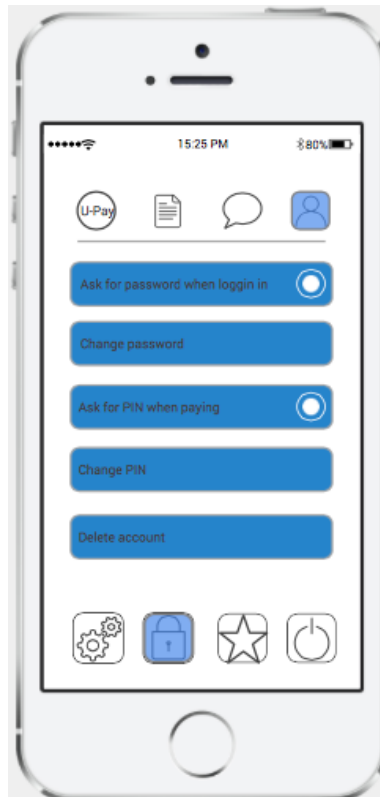


Figure 7.13: Security screen.

## SECURITY SCREEN:

- The SECURITY screen has the same appearance as the SETTINGS screen:
- Ask for password when logging in: every time the user loads the app, it will request a password
- Change password
- Ask for PIN when paying: the user will have to enter a 4 number PIN when before paying.
- Change PIN
- Delete account: the option to delete the account. Doing so will automatically send the money stored in the app to the bank account before actually deleting the account.

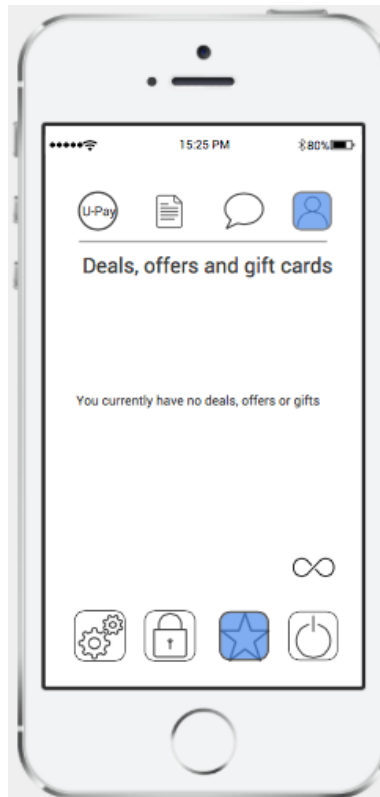


Figure 7.15: Deals screen.

## DEALS SCREEN:

- The DEALS screen shows deals that universities or businesses might want to offer the users when using a lot the app with them.
- The deals the user can see from each company in the free side of the app are limited to 1 a month.
- The icon at the bottom of the page with the symbol if infinite that gives the user the possibility to pay Z€ each month for unlimited offers and deals. Extremely useful for very active members that can profit from these deals.
- This DEALS will be posted by the businesses and universities that participate with us, and they will be able to post as many as they want, the difference is the amount the user is going to be able to use each month – free or paying.
- When clicking on a deal, it will show a QR code that the business in charge will be able to scan and apply it offer, being a discount, a gift or any other possibility they might offer.



Figure 7.16: Main screen in Night mode.

#### MAIN SCREEN NIGHT MODE:

- Once activated the NIGHT MODE of the app, every screen will still offer exactly the same services, but the background of the app will change to be easier on the eyes in a dark environment.
- This time the background will be a shade of grey instead of the usual white.

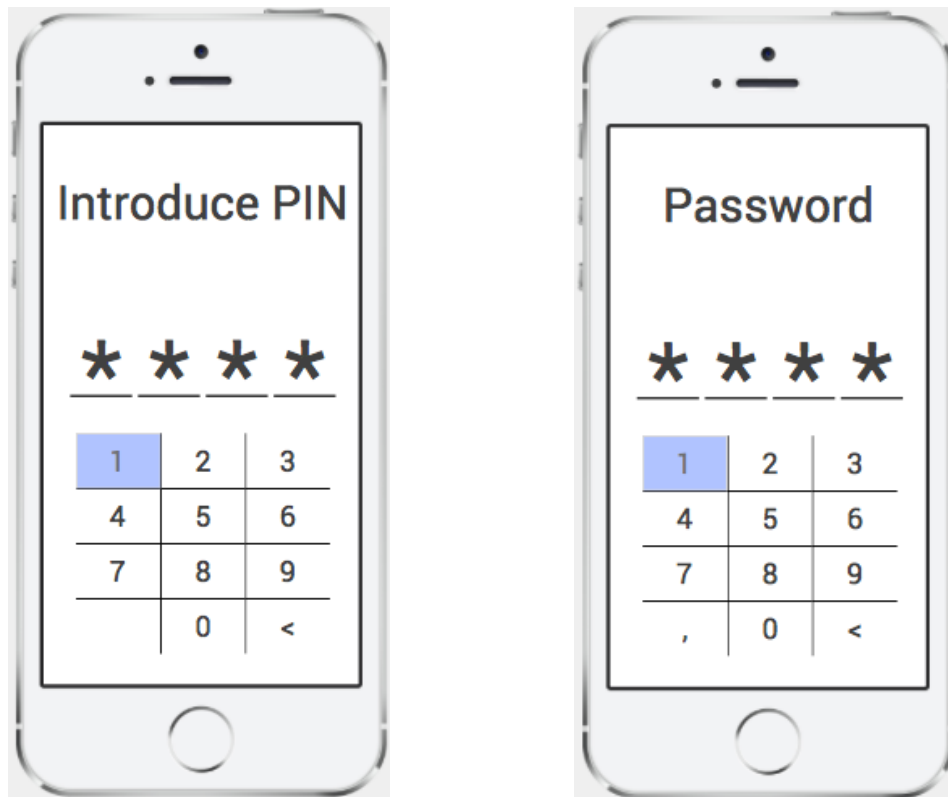


Figure 7.17: PIN and Password screens.

#### PASSWORD OR PIN SCREEN:

- The PASSWORD screen is the same as the PIN screen used when making a payment. The only difference would be the title on top of the page.
- It shows a simple keyboard to input both the pin and the password.

### 3. Extra Services – In-App-Paid

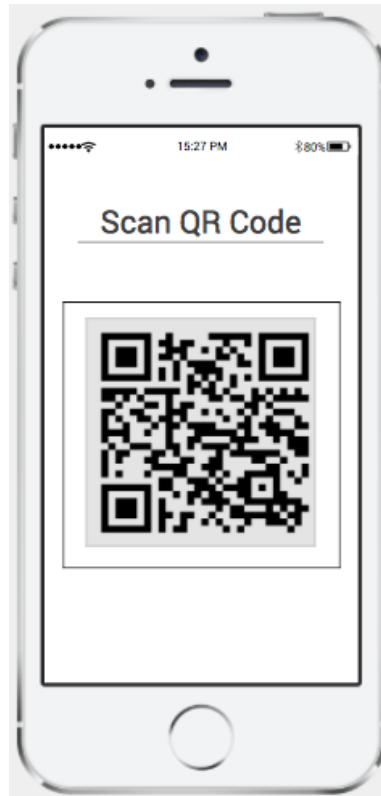


Figure 7.18: QR Reader screen.

#### QR SCAN READER SCREEN:

- The QR SCAN screen is the main service offered to those businesses that are willing to pay some small quantity to digitalize their commerce.
- The screen opens up the camera in the smartphone and captures a squared shaped picture. The user must place the QR on the buyers phone in that square between 2-10 cm of its phone.
- By doing that, the payment will automatically be done and both parties will receive a receipt of the transaction.



## VIII. Marketing Plan

### **Target Costumer**

For a business such as U-Pay, there are two different target costumers that can be distinguished by two different criteria. Following the business model, we can separate the costumer in free user or premium user. But at the end of the day, this free or premium user will almost always correspond to consumer and business, the second criteria and the one that will be followed.

Before analysing the target clients, there is a need to remember both missions of this start-up, the short-term and the long-term: The short-term was to provide the service to the ETSEIB campus, and the long-term was to expand to other universities, businesses and regions. In this analysis we will focus on the short-term mission.

#### **I. Consumers**

To fully describe the target consumer for the short-term mission we need to address the following 6 points:

- Age: 18-25yo. Taking into account that we are talking about university campuses, the average student starts his/hers studies at 18. The ETSEIB degree is 4 years long, with 2 extra years to obtain the masters in Engineering and a possibility to continue with a PhD afterwards. This 7 years count for the biggest group of costumers in the university. Also, there would be professors, staff that works in the campus building, as well as some other students that might be older in age and are taking the degree afterwards and not right after high school.
- Location: Barcelona. The ETSEIB campus is located in Av. Diagonal, 647. 08028 Barcelona. The vast majority of its students are from either Barcelona, its surroundings or some other cities in Catalunya. There is also a minority of international students or students from other regions of Spain that we should take into account.

- Income: 80-1000€ a month. Regarding the income of the students in ETSEIB it varies a lot depending on what year they are studying, as at the beginning the percentage of students that work is close to 0, and towards the end of the studies, this percentage highly increases. In average, students that do not work have a basic income (from their parents) of 20€ a week, and students in an internship will earn around 900€ a month. The basic salary for a university professor in Spain is around 33.000€ a year, but counting as they would be a minority against all the students (the ratio is around 1-50), we use this figure to round up the income to 80-1000€ a month, being the majority closer to 100€.
- Occupation: 60% of our costumers are just day-to-day students, 20% are students on internships or side jobs, and the other 20% are professors at the university or staff members that work in the campus.
- Education level: We can separate the education level in: Degree, Masters, PhD. Then for professors and staff it is important to add in the work and life experience.

## 2. Businesses

To fully assess the nature and size of the businesses that are potential clients for U-Pay, we need to analyse the following 5 points:

- Industry: Inside the ETSEIB campus there are different kind of businesses that would benefit from using our services: the university bar, Canon Reprographics, the 3D printing workshop RepRap and the Gymnasium. To see the common points in all these businesses, they all offer day to day services, which you pay directly face to face; except for the gymnasium, where the user pays monthly, in which case, our services will not be of much value in that case, but could be for one-time classes or other services they offer.
- Location: All of these businesses are within the facilities of the ETSEIB campus, ready for the daily use of its students.
- Stage in business (start-up, growing, mature): all the businesses mentioned before have been around the ETSEIB campus for a long time, except the Canon Reprographics, that is currently

in its second year in the campus but is following the steps and offering basically the same services as the last reprographics company. These businesses do not have the need to expand in the university campus, so we classify them as a mature business, properly settled in the campus and with little competition regarding their services in-campus.

### ***Determination of Premium and Extra Services Costs***

As it has been mentioned before, the main income of the U-Pay mobile app will come from its premium and extra services. Now, it has not been mentioned before the cost of these, and to do so we need to find a balance between the willingness of the costumers to pay for the services and the amount of revenue needed to keep U-Pay growing and evolving.

Also, we need to keep in mind that some of the limits for the services that we offer are limited by European laws, there is a maximum of money that can be exchanged without any fees or taxes, so the amount charged for the premium services needs to also cover this expenses.

Taking all of these into account, the following table (Table 8.1) shows the cost for every service offered:

	Premium Account	Extra Deals	QR Scanner
Cost each month	4,99€	1,99€	1,49€

Table 8.1: Comparison between the different prices in the services of the U-Pay app.

### 1. Premium Account:

The premium account is the service that costs the most, as it includes the other 2 plus no limitations on the other services, as shown before in *Table 2*. However, it is going to be cheaper than what one would pay by buying everything separately.

The price of 4,99€ each month for every device or user account is a meagre amount in comparison to what said business would save when using our services.

### 2. Extra Deals:

Extra Deals is the second most expensive service offered by U-Pay. Again, paying 1,99€ every month might seem expensive for those occasional users of the app. But for those that become regular users, when using and profiting from more than one offer/ deal, they will have already benefited from their investment.

### 3. QR Scanner:

The cheapest service, at 1,49€ a month is the QR Scanner. With this price the user can maximise the efficiency, security and comfort of his/her business.

Also, it is very useful for someone that is looking to start a business and still is not big enough for the premium service. With the QR Scanner he can avoid buying other machinery or technology to charge its costumers and keep it all in his smartphone.

## ***Marketing Strategy for the upcoming academic year***

There are many ways to tackle the marketing strategy: from face to face advertising, TV or radio to online. U-Pay advertising will focus on 2 different marketing strategies for their initial period: online marketing and out-of-home marketing.

Online marketing can be all those that happen through the Internet, that being by adding ads on webpages, sending emails, or having information in pages where the target customer usually frequents. On the other hand, out-of-home marketing is all about explaining face to face the customer what U-Pay is. This can be done by setting up stands, handing out flyers, placing certain people in strategic points to engage the public or creating an event where people can go get informed. U-Pay will invest more money in online marketing or e-commerce, but in its initial state will invest time and money in face-to-face marketing.

In the case of U-Pay, it is also crucial to engage in personal negotiations with the businesses that will be using our services to convince them that our solution is worth their time, money and effort to digitalize. That in the mid-long run it will be profitable.

These are the measures that will be taken in the next months to achieve the proper installation of our services in the ETSEIB campus.

1. Create the webpage:

By creating a webpage that transmits our values and it stays true to the brand the customers will get a chance to get all necessary information regarding U-Pay and how to contact us.

The webpage should be easy to understand and use, keeping a simple yet professional layout. Most importantly, it should captivate the users into using U-Pay. In order to get the page in a privileged spot, we will use Search Engine Optimisation (SEO).

2. Social Media Networking:

Now a day, the usage of social media keeps increasing exponentially, and new brands and businesses are taking advantage of it. U-Pay will have active accounts in both Instagram and Facebook, currently the most used and versatile media where a new business can engage their target audience. U-Pay will also have its account in LinkedIn, to show a more professional profile.

- Facebook and Instagram:

These accounts will be used to show our product, our philosophy and our news. Included in this news are: New deals, new offers, new updates for the app, new places where we are positioned. It will be a continuous follow up of our progress.

In these social media, there will be periodic offers of discounts or premium services so that even more people get engaged with us. We expect that when people try our extra services and its benefits, more will want to use them regularly.

- LinkedIn:

This account will be more focused in showing the professional side of U-Pay. It will show the team behind us, and their respective LinkedIn profiles.

3. Negotiate the deal with the ETSEIB bar, Canon Reprographics, the 3D printing workshop RepRap and the Gymnasium:

It is hard to change a system that has been implemented for many years, thus this first part of the marketing strategy is the most crucial one. With the negotiations, these facilities will do the following:

- Remind their costumers of the use of our services with every purchase.
- Give the opportunity to U-Pay to post ads in their facilities.
- Month by month they will eliminate the chance of paying by cash.
  - The university bar will take out the machines used for charging the public little by little so that the costumers feel the need to download the app to advance faster.
  - The gym will charge their costumers directly with the U-Pay app for those one-time classes or renting of their facilities.

- Canon Reprographics will do the same as the bar; slowly but steadily increase the usage of our app and decreasing the chances to pay with cash.

What they gain with this offer is:

- Two month free trial of the premium services.
- The chance to save time and efforts, leading to more income for their part:
  - The exchange of money will be faster and easier, thus giving an opportunity to serve or charge more costumers per minute.
  - These businesses usually deal with small charges. Dealing with the large amount of small coins and notes takes time and effort that could be spent in other tasks. By using U-Pay they can forget about all this and focus on their costumers.
- Once they fully use our services, they will save money in maintaining the machinery needed to charge and store cash, as well as credit card readers and paper for the receipts, as everything will be done via smartphone.

#### 4. Create a publicity campaign:

The publicity campaign will consist of the following:

- Write an email in the common list for all students: By writing an email to “Comunicació ETSEIB [comunicacio.etsuib@upc.edu](mailto:comunicacio.etsuib@upc.edu)” we can make U-Pay know directly to all the students in ETSEIB. This email will include all the information regarding how U-Pay works, the benefits of using it, the places where one can use it and a link to the App Store and Google Play.
- Create a post for the newsletter of the university: Every week the university sends an email to the students with the important information regarding news and events. U-Pay will post a reminder on the app and the services in said emails.

- Also, in the home page of the ETSEIB webpage (<https://etseib.upc.edu/ca>) there are many different posts, related to Facebook news, Twitter, Notifications, News, Agenda and post regarding news from the campus, like the Formula Student. U-Pay will make a post with information regarding its integration in the ETSEIB campus, 2 links to Google Play and the App Store, and a link to the official page of the app
- Place posters in the campus hall regularly.



Figure 8.1: Image showing the ETSEIB Webpage with the U-Pay Link in the right-bottom corner.

5. Create a stand to inform the public in the university:

There are 2 key moments to set up a stand: At the beginning of the year and at the ETSEIB Forum.

- Beginning of the year: This is when all of the new students arrive at the campus. It is key to engage such students, as they do not have any previous knowledge of how the facilities work. It is also important to inform the future users as early as possible so that they know how U-Pay functions and what benefits they can get from us.
- ETSEIB Forum (<http://www.forumetseib.upc.edu/>): It is conducted during three days at the beginning of March, where some companies and new start-ups can set their stands to give information to the students of UPC. It is a great opportunity for U-Pay to set a stand and show



the product to the students. The advantage of these three days is that the students participating already go with the objective of getting to know the companies that participate in the Forum.

It is also a great chance to get to know students in their final years of their studies that are interested in working with us in a near future.



Figure 8.2: Image showing the different activities in the ETSEIB Forum: Stands, Talks, Meetings.

6. Engage the public personally, word-of-mouth:

Choosing strategic weeks and days through the year, U-Pay will hand out flyers and offer the public to get to know the app by talking to someone directly rather than reading from it online. The key weeks are: beginning of each semester, week before exams and the lab workshops week.

7. Organise talks in the university.

With the collaboration of the university, there will be informative talks about our business and application, as well as our imminent association with the university facilities and services, so that students know about us and feel at ease using our services. These talks will be at the beginning of each semester as well as some weeks before the exams, before students are full with their time, but late enough so that they are fully engaged in the university life.

## I. Brand Image



Figure 8.3: Logo for U-Pay.

Our brand image is defined in the logo of the business (Figure 8.3). Represented in both the Logo and the Slogan there are some key words that represent our brand and that we want our costumers to experience with us:

- Simplicity:

We want to keep a simple business so that anyone can use our services and can easily comprehend how we work. For us simplicity is key so that in a stressed word and stressful situations such as money exchanging, we ease the costumer by providing a simple, fast and secure service. As the slogan says, "Simple pay, Simple day".

- Professionalism:

The white and black format for all of the screens in the app want to show, in continuation with the simplicity, a sense of professionalism that is backed up with the team behind the app. We want our costumers to feel safe with us, and that is only possible showing a professional service with professionals behind it who will solve any problem the costumer might encounter.

- Commitment:

By offering a simple and professional service we commit to our costumers and evolve for their comfort. In the same way that we are committed to ensure a perfect service, we want our clients o commit to us, to choose us.

- Connection:

In the business we have created we want to keep the world connected, and that starts by connecting the users and let them feel close even when they are physically far away. In the same way we want the interactions between buyers and sellers to be more at ease, so that both parties have a sense of well being when interacting using our services.

The Logo itself represents this connected world of users that we strive to achieve. One where different universities, cities, banks or even countries will not matter when paying or exchanging money.

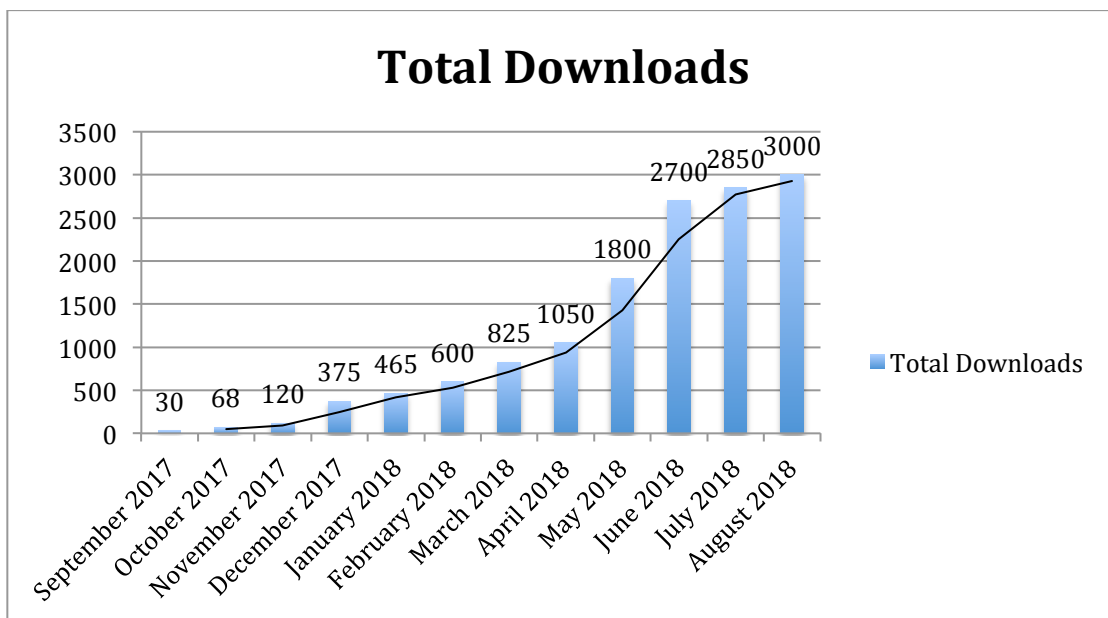
### Forecast and Prospects of Sales for the upcoming year

To correctly assess the sales for the upcoming year there is a need to analyse the target audience and its evolution for the next years. Then we proceed to analyse the sales for each month of the year (September 2017 - August 2018).

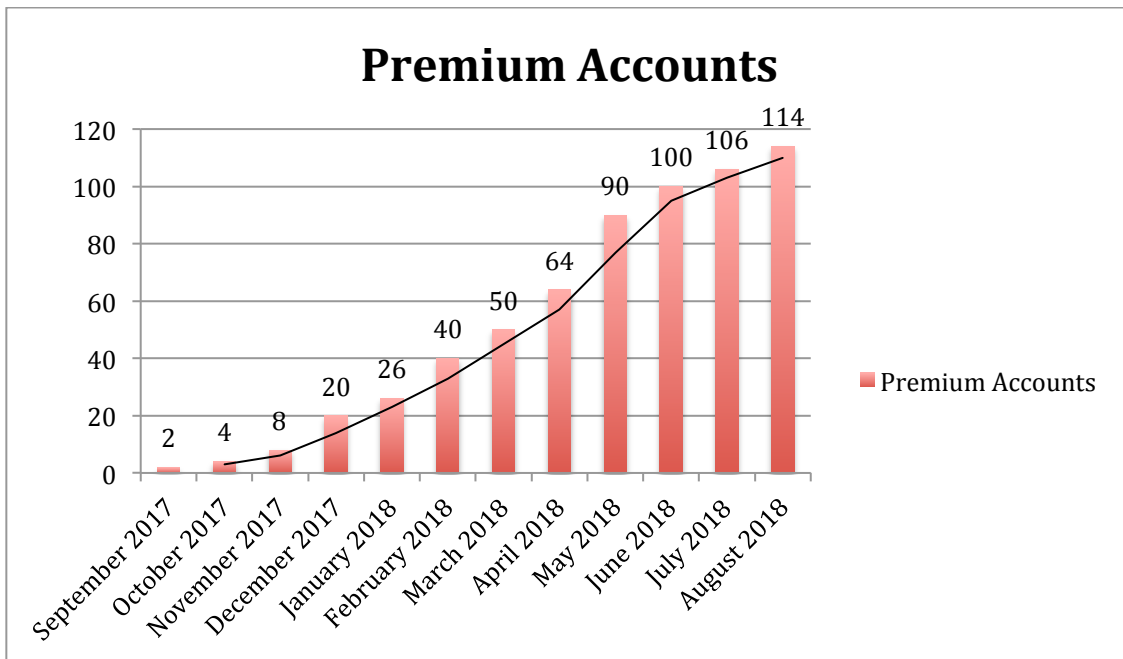
The official launching of the U-Pay app is set in September 2017, which is why the sales estimates will start then. This first year is estimated to fully cover the first mission of U-Pay, to entirely establish our services in the ETSEIB campus. We have estimated that there are around 2300 possible users in the ETSEIB campus, from students, professors, researchers, and others in administration, the bar or cleaning services.

Considering that there is a second group of potential clients that do not officially work or study in the campus (such as friends or near by students or teachers that want to use the facilities in campus), the initial estimate increases up to 5000 people that frequent the campus. If the market consists of 5000 people, we estimate that we will arrive at the 60%, making our prediction for the future year to 3000 users.

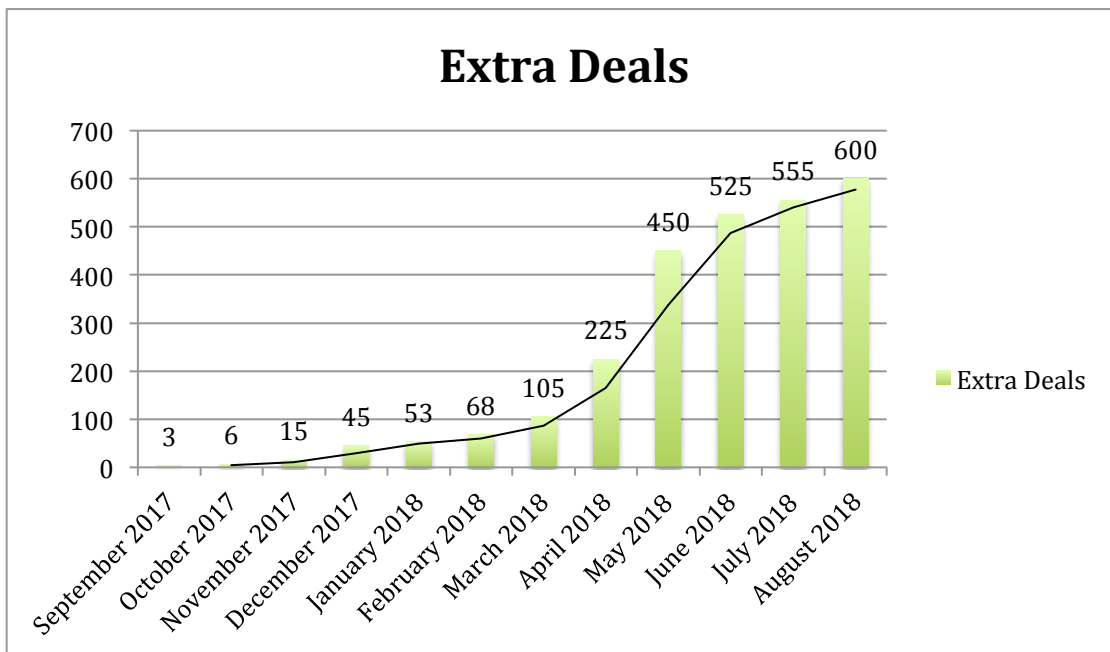
Graphics 1-4 show the different sales predictions for the upcoming scholar year.



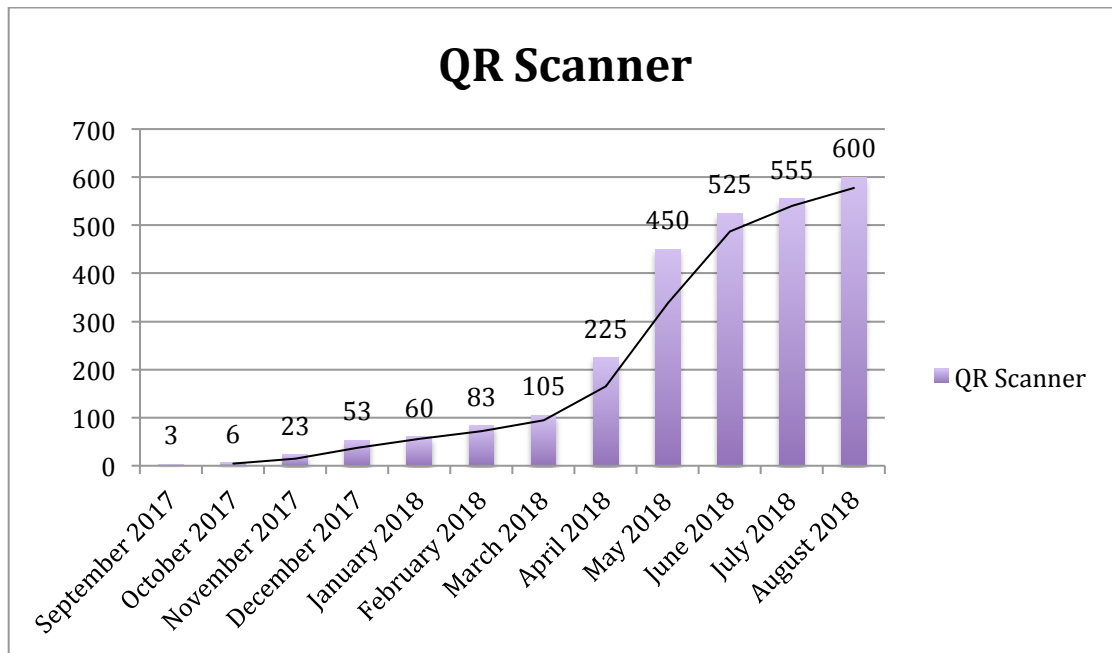
Graphic 8.1: Graph showing the predictions for total downloads for the next scholar year.



Graphic 8.2: Graph showing the predictions for total Premium Accounts purchases for the next scholar year.



Graphic 8.3: Graph showing the predictions for total Extra Deals purchases for the next scholar year.



Graphic 8.4: Graph showing the predictions for total QR Scanners purchases for the next scholar year.

There are 2 key moments in the evolution of sales:

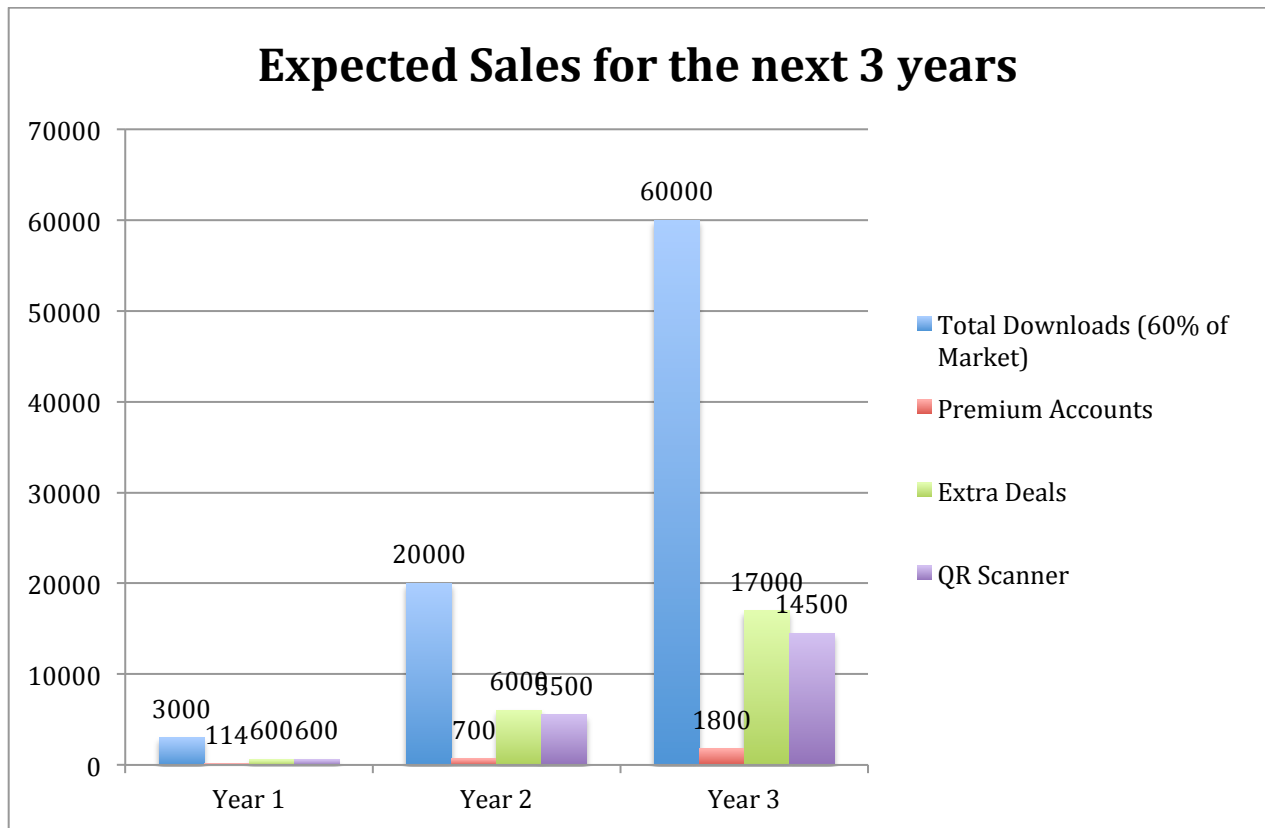
- September-October: Although the deals with the various facilities in the campus have been set, these 2 first months are keys to show the public the value and advantages of the app.
- December, May: These two months are the ones with the most activity inside the campus. These are the months before the final exams, when most of the projects, lab reports workshop reports are due. It is also the period of time when more students stay for longer hours in the campus to study and get their work done; thus it is when more students utilise the facilities where U-Pay will be installed. The increase in May is significantly bigger than that in December as more students and teachers will have seen, used and talked about the application.

### Forecast and Prospects of Sales for the next 3 years

In the following 3 years there is going to be the following development.

- Year 1: Installation of our services in the ETSEIB campus.
- Year 2: Installation of our services in the UPC and UB universities.
- Year 3: Installation of our services in ESADE, UIC, IQS and Pompeu Fabra.

We have estimated to reach an average of 50% of the target market in each of these universities and its environments. Graphic 5 shows the expected sales for these 3 years for the Total downloads, the QR Scanner, the Extra Deals and the Premium Accounts.



Graphic 8.5: Graph showing the predictions the sales in the upcoming 3 years of Total Downloads, Premium Accounts, Extra Deals and QR Scanners.





## **IX. Human Resources Plan**

### ***The Team behind U-Pay***

We consider the team to be the most important part in our business, that is why we make sure to get real professionals with us, ones that believe in our project and that share the same ideology.

#### **I. Kinds of Employees**

There is going to be three kinds of personnel related with U-Pay, full-time employees, interns and freelancers. The full-time employees need to have finished their respective university studies in areas related to their position or that has given them the necessary tools to do their role. If the future employee can prove their value without having finished their degree (for example: a student that has done a lot of extra courses in coding and has proven its efficiency before finishing Informatics Engineering) might be able to enter in U-Pay. From this base line, the more experience in the field the better. The employees are required to work full-time 5 days a week and even dedicate their free time to the business.

Freelance employees will be hired when needed for special tasks. The main focus for this freelance employees will be accounting and legal jobs. The firsts will be hired once the start-up has some income of has had investments to back it up.

#### **2. Number of Employees**

For the initial phase of U-Pay there is only need for 3 employees, the founder and its 2 partners that take care of the coding for the Web & App development, the Marketing campaigns and publicity and the finances, sales of U-Pay. These three initial partners will each be in charge of their respective field of expertise, and will share the burden for the rest of the task depending on their individual responsibilities.

In the next 3-4 months the team is to increase to 6-8 people in total, adding 3 to helping with the building and maintenance and dealing with a cloud service provider. The other 2 will help the team in the marketing, sales and finance departments.

From there on, as the business keeps growing, there will be a need to expand our team to keep up with the users demands. The different sectors will be more distinct between one another and

### **3. Pay Structure**

The initial employees, the founder and its two partners, will be stockholders; they are each going to have a share of the business. The founder will get an initial 55% of the company, the partner in charge of coding and informatics will get an initial 35%, and the third and last partner a 10%. These percentages have been studied and decided taking into account the results brought to the company and the exclusiveness of the job, having no one else able to do their job, thus being more or less crucial. A partnership agreement will be written for the 3 shareholders.

Once the next 3-5 and future new employees join the team there are two different payment structures that will be looked at and considered when hiring.

#### **1. Defer compensation.**

There are different ways to offer deferred or delayed compensation: a deferred cash bonus until the business generates a certain amount of revenue; an increased salary when the employee hits performance milestones; or back-pay provided when the business becomes profitable. U-Pay will offer an increased salary rather than a cash bonus or back-pay because one-time lump sum payments tend to offer short-lived gratification and tend to give you less bang for the buck. In addition, employees feel more pride when their salary is permanently increased due to business progress or personal achievement.

U-Pay will consult an external attorney about how to write the offer letter for the employee. This will be done to avoid misusing of terms such as "bonus payment" or "performance incentive" instead of

"deferred compensation", when the later can create a binding liability for the company and save thousands for the future.

## 2. Use equity and stock options.

Another alternative is to offer employees equity grants or stock options instead of cash. This is only feasible because U-Pay is the kind of business that has high potential to be sold to bigger companies or have value for their stocks. Stock options motivate the employees more than cash bonuses in the start-up process of the company.

These will only be offered in special cases as they have an extra cost connected, the legal cost of setting up the stock options.

## 3. Employ interns.

Hiring interns is a great and the final options in the plans of U-Pay. Many universities offer curricular or extracurricular internships for their students; some compel the hiring company to financially remunerate the intern and some others do not, and let the company choose.

These applicants are ideal for tasks that take a smaller period of time (half-time instead as opposed to full time, or projects that occupy between 3-6 months), as comparison to long term projects that would require their full time thus not being able to attend their studies or those that would take longer than their internship program.

If an intern is satisfied with U-Pay the same way we are with him/her, we might offer another kind of contract (points 1 or 2) for their continuation in the company.

#### 4. Scouting Plan

There are many ways for a new company to search for new employees, but for the kind of profile that we are looking for we will focus on these 3:

- University Forums:

This will be the best spot to attract interns to U-Pay as well as new full-time employers that are interested in the start-up world. These students will be ideal for part-time tasks or those that do not have a long horizon to finish them, and at the beginning U-Pay will be full with this tasks to fully organise and adapt to the market.

- Social media:

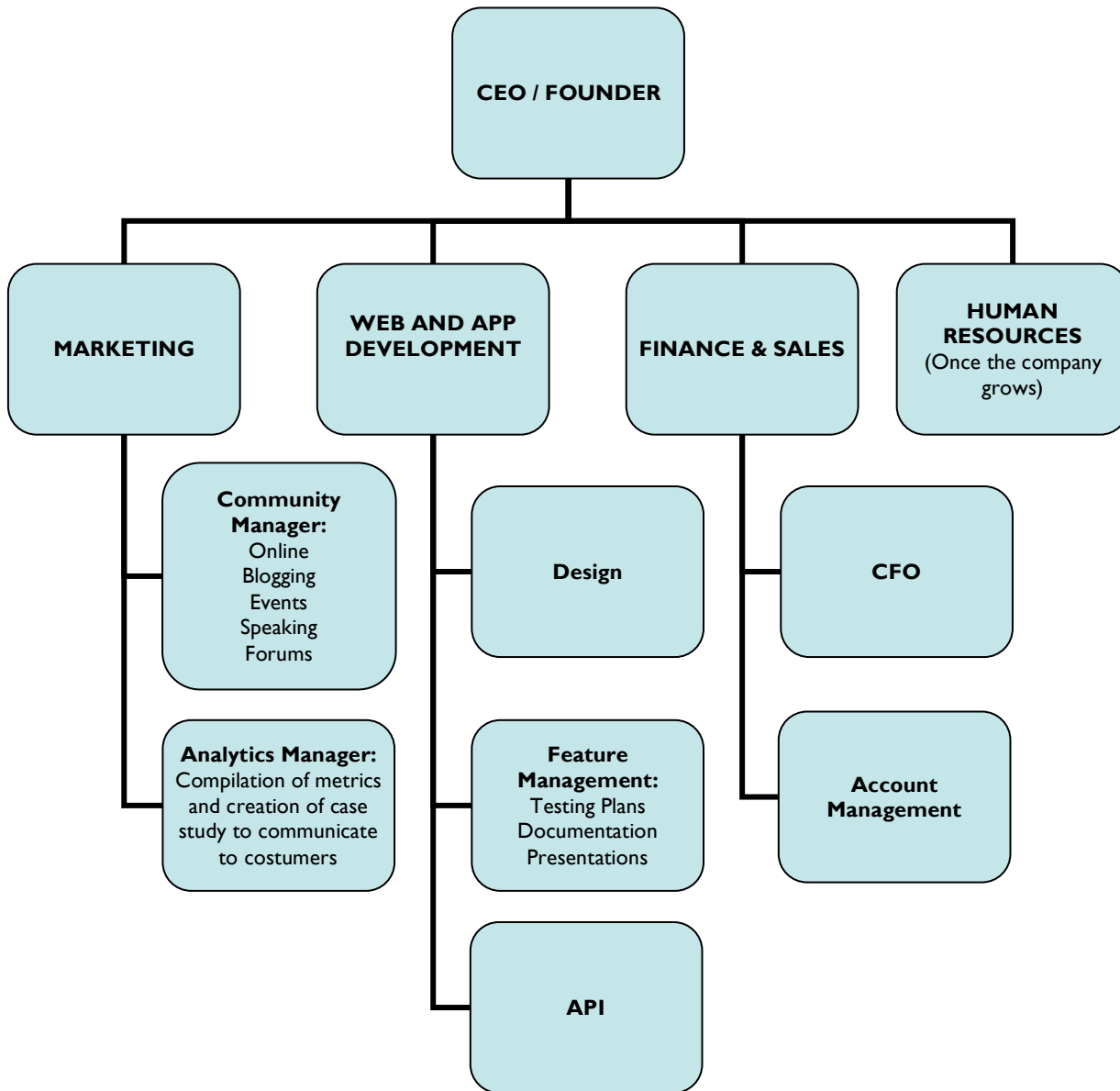
Through LinkedIn we will be able to contact both interns and future full-time employees with a more professional profile. This method will have a more impact and more use in future years and not in the beginning of the start-up, as these employees will demand higher salaries that U-Pay will be able to afford once in the 5<sup>th</sup> year.

- Professional platforms:

These platforms will be used to search mainly programmers and designers for the App and the Website. Examples of said platforms are: *Forobeta*, *La Web del programador* and *Behance*.

### 5. Organization Plan

The personnel behind U-Pay are divided in 5 sectors: Marketing, Finance, Operations, Human Resources and Web Development.





## **X. Operational Plan**

This section explains the daily operation of our business, including its location, equipment, personnel and processes.

### ***Service Delivery & Quality control***

Our product is delivered 100% digitally, thus there is no need to physically produce or to rent a large place to install our equipment. To deliver our product to our costumers the app will be uploaded into the App Store for the IOS platform and to Google Play for Android, where our clients will be able to download them for free and start to make use of our services. Through these two channels we will also announce future updates of the application.

To maintain consistency in the quality of our services there will be regular check ups every week and more thorough ones every month. These analyses will consist of different parts so that we can evolve into a better m-payment app.

- Analysis of the costumer feedbacks:

The feedback can come both from the app or mouth-to-mouth communication. From the app there are 2 different channels, app reviews from Google Play or the App Store, or in-app reviews from our users. Mouth-to-mouth comes basically from the interaction of our marketing specialists and personnel in the stands or spots we set up with the public.

In U-Pay we take extremely seriously the costumer feedbacks, as it is they who allow us to grow, evolve and continue our business.

- Analysis of the server feedbacks:

The servers and the code itself will send direct and indirect feedback to the Web & App Development team. Direct feedback will be given when the code does not work or the servers are saturated, or

when certain functions or services of the app are not fully functional. The indirect feedback will be read by the team when analysing: the response of the server to the different functions, its time lag, capacity, saturation and others.

- Analysis of the teams feedback:

The team responsible for the informatics developments will be the ones closer to the core of the product, thus they will be continuously observing its strengths as well as its weaknesses. They will be able to report in any drawback or mistake, no matter how small, so that it gets fixed right away.

- Server extension when possible:

The servers will continuously get upgraded, checked and extended so that our product never gets hanged and it is not operational. In U-Pay we want to differentiate us by being a trustworthy business that will never fail.

## **Location**

For the first year, to avoid having extra costs, U-Pay is set up in a small location found by the founder that is set in Sarria, Barcelona. This location will serve as the base of operations, and considering that in the first year U-Pay will consist of 3 employees and then grow to 6-8 (focusing mainly in the technical areas) and that for the majority of the work there is no need to be in the office but can be done from home, there is no need for a large space. The location has de following characteristics.

- Size: 30 m<sup>2</sup>.
- Type of building: Living Place.
- Zone: Plaza Sarria Barcelona, with near by bars and restaurants.
- Accessibility for employees: Accessible by car with Parking (2€/day). L6 of the TMB. Bus by H4, 68, 75.
- Costs: 150€/month.
- Utilities: 1 bathroom, 1 big space (ex living room), 1 small room (ex kitchen).



To successfully deliver our product we need just powerful servers and a competent code. Aside from these, the equipment necessary to start the business consists of:

- Computers
- Printers
- Projectors
- A bank account
- Desktop material

### ***Legal environment***

These Conditions are subject to Spanish jurisdiction and legislation.

The general terms and conditions of the Framework Agreement are governed by its own clauses and, if not provided, for by Law 16/2009 of 13 November on payment services and Order EHA / 1608/2010, June 14, on transparency of Conditions and information requirements applicable to payment services, and any other that may replace or supplement it in the future.

In the event that any conflict or discrepancy arises in the interpretation or application of what is established in the contract, the Courts and Tribunals that, in their case, will know the matter, will be those that can have the legal regulations applicable in matter of competent jurisdiction, in which, in the case of final consumers, the place of fulfilment of the obligations that may be derived from the services provided or to the domicile of the User, at his choice, and without prejudice to the User's ability to attend The Consumer Arbitration Board of its demarcation. For all purposes, it will be understood as place of fulfilment of the obligations that may derive from the contract that of the registered office of the Payment Entity.

The User is informed that the European Commission provides an online dispute resolution platform available at the following link: <http://ec.europa.eu/consumers/odr/>. Consumers will be able to submit their claims through the online litigation resolution platform.



## XI. Financial Plan

### ***General Costs and expenses***

#### **I. Initial Investment**

To view in more detail the initial investment we need to first divide between the equipment already in our possession and personnel that already in U-Pay and those that had to be bought for the start of the company or that will need to be bought.

- Already in possession:
  - Location
  - 3 Laptops
  - 1 Desktop
  
- Materials bought or that need to be bought:
  - 1 Printer: HP LaserJet Enterprise M606x – 1287,35€ (1.514,52€ with a 15% discount).
  - Desktop Materials: Paper, Writing Material, Printer Ink, Storage Material – 300€ initial, 150€ refilling.
  - 1 Coffee machine: Genio 2 automatic Nescafé – 116€.
  - Hygiene materials: Toilet paper, mop, all-purpose cleaner, glass cleaner, tile cleaner, duster, sponges, toilet brush, vacuum (Hoover Sprint Evo SE 51 – 75€), bucket – 175€.

#### **2. Administrative Costs**

- Rent of the location - 150€/month
  
- Internet: Movistar ADSL Fibra Óptica Simétrica 300Mb – 31,90€/month.
  
- Phone - 17,40€/month.

- Light – 40€/month.
- Gas – 20€/month.
- Cleaning service – 60€/month (15€/h\*2h\*2days/month).
- Attorney for legal contracts – 200€.
- Legal costs: Formation process, which includes company formation, founders stock issuances (including founders FF Preferred stock), option plan, offer letters for early employees and advisor and consulting agreements – 2.500€/year.
- Cloud services provider BeServices (Beclouds) – 57€/month ilimitado
- App maintenance – 108€/month (an estimate of 6h a month for 18€/h)
- Freelance Accountants – 30€/h.

Type of Accountant	Average Hourly Rate
Junior accountant, Billing analyst, Accounts payable analyst	20-35€
Senior accountant	35-50€

**3. Expected Marketing Expenses for the next year.**

- Quote for the Website creation, maintenance and evolution – 15.069€. This estimate was given by WebpageFX

Number of pages	1 - 10	\$ 1,000
Style of design	Simple yet attractive	\$ 2,000
Copywriting # of pages	5-10	\$ 1,000
SEO w/ Placement Guarantee	80 keywords	\$ 4,000
Responsive Design	Yes	\$ 3,000
Database Integration	Advanced	\$ 4,000
e-Commerce Functionality	None	\$ 0
CMS	Standard	\$ 2,000
<b>Total Estimated Quote</b>		<b>\$ 17,000</b>

Figure 11.1: Estimate annual quote for the creation, maintenance and future evolution of the U-Pay website.  
Estimate to 15.069€ (\$17.000)

- Social Media – there will be a spending of 100€ the first year, and as we expand to other campuses and universities, this number will increase to 200€.
- Publicity Campaign – there will be a spending of 500€ every year.
- Stands and Talks in the university – 50€/talk and stand. They will be done in September, December, February and May 2017, which correspond to the beginning of each semester and the period before exams.

Table 11.1 below shows the recapitulation of all cost and expenses for the next 12 months. In the chapter after, "Projected benefits foreseen the next 12 month and for the next 3 years" there will be a table showing the costs and expenses for the next 3 years.

	September 2017	October 2017	November 2017	December 2017	January 2018	February 2018
<b>Initial Investment and Administrative costs</b>						
<b>One time expenses</b>						
Printer	1.287,35	0	0	0	0	0
Coffee Machine	116	0	0	0	0	0
Legal costs	0	0	0	0	0	0
<b>Periodical Expenses</b>						
Desktop Materials	300	0	0	0	0	150
Hygiene Materials	175	0	0	0	0	75
Internet and Phone	49,3	49,3	49,3	49,3	49,3	49,3
Light	40	40	40	40	40	40
Gas	20	20	20	20	20	20
Cleaning Service	60	60	60	60	60	60
Cloud Services	57	57	57	57	57	57
App Maintenance (72h/year)	108	108	108	108	108	108
Accountant	120	120	120	120	120	120
GoogleDrive Business (8€/month*user)	24	24	24	24	24	24
Rent	150	150	150	150	150	150
<b>Marketing</b>						
Social Media	0	0	0	0	0	0
Webpage	0	0	0	0	0	0
Publicity Campaign	0	0	0	0	0	0
Stands and Talks	50	0	0	50	0	50
<b>Debt</b>						
Return of Debt	0	0	0	0	0	0
Founder	0	0	0	0	0	0
Programmer	0	0	0	0	0	0
Marketing	0	0	0	0	0	0
<b>Total Costs</b>	<b>2.556,65</b>	<b>628,3</b>	<b>628,3</b>	<b>678,3</b>	<b>628,3</b>	<b>903,3</b>
<b>Total Costs Accumulated</b>	<b>2.556,65</b>	<b>3.184,95</b>	<b>3.813,25</b>	<b>4.491,55</b>	<b>5.119,85</b>	<b>6.023,15</b>

Table 11.1.1: Estimate Cost and Expenses from the next 12 months of U-Pay.

	March 2018	April 2018	May 2018	June 2018	July 2018	August 2018
<b>Initial Investment and Administrative costs</b>						
<b>One time expenses</b>						
Printer	0	0	0	0	0	0
Coffee Machine	0	0	0	0	0	0
Legal costs	0	0	0	0	0	2.500
<b>Periodical Expenses</b>						
Desktop Materials	0	0	0	0	0	0
Hygiene Materials	0	0	0	0	0	0
Internet and Phone	49,3	49,3	49,3	49,3	49,3	49,3
Light	40	40	40	40	40	40
Gas	20	20	20	20	20	20
Cleaning Service	60	60	60	60	60	60
Cloud Services	57	57	57	57	57	57
App Maintenance (72h/year)	108	108	108	108	108	108
Accountant	120	120	120	120	120	120
GoogleDrive Business (8€/month*user)	24	24	24	24	24	24
Rent	150	150	150	150	150	150
<b>Marketing</b>						
Social Media	0	0	0	0	0	100
Webpage	0	0	0	0	0	15.069
Publicity Campaign	0	0	0	0	0	500
Stands and Talks	0	0	50	0	0	0
<b>Debt</b>						
Return of Debt	0	0	0	0	0	0
Founder	0	0	0	0	0	0
Programmer	0	0	0	0	0	0
Marketing	0	0	0	0	0	0
<b>Total Costs</b>	<b>628,3</b>	<b>628,3</b>	<b>678,3</b>	<b>628,3</b>	<b>628,3</b>	<b>18.797,3</b>
<b>Total Costs Accumulated</b>	<b>6.651,45</b>	<b>7.279,75</b>	<b>7.958,05</b>	<b>8.586,35</b>	<b>9.214,65</b>	<b>28.011,95</b>

Table 11.1.2: Estimate Cost and Expenses from the next 12 months of U-Pay.

## Income

### I. Premium & Extra services Income for the next 12 months

Using the prevision of sales done in the shown trough Graphics 1-4 in the “Forecast and Prospects of Sales” we can estimate the income that will come from the U-Pay mobile application each month (Table 11.2).

	September 2017	October 2017	November 2017	December 2017	January 2018	February 2018
Total Downloads	30	68	120	375	465	600
Income from Downloads (0€/u)	0	0	0	0	0	0
Premium Accounts	2	4	8	20	26	40
Income from Premium (4,99€/u)	9,98	19,96	39,92	99,8	129,74	199,6
Extra Deals	3	6	15	45	53	68
Income from Extra Deals (1,99€/u)	5,97	11,94	29,85	89,55	105,47	135,32
QR Scanner	3	6	23	53	60	83
Income from QR Scanner (1,49€/u)	4,47	8,94	34,27	78,97	89,4	123,67
Other Income	65.000					
<b>Total Income</b>	<b>65.020,42</b>	<b>40,84</b>	<b>104,04</b>	<b>268,32</b>	<b>324,61</b>	<b>458,59</b>

	March 2018	April 2018	May 2018	June 2018	July 2018	August 2018
Total Downloads	825	1.050	1.800	2.700	2.850	3.000
Income from Downloads (0€/u)	0	0	0	0	0	0
Premium Accounts	50	64	90	100	106	114
Income from Premium (4,99€/u)	249,5	319,36	449,1	499	528,94	568,86
Extra Deals	105	225	450	525	555	600
Income from Extra Deals (1,99€/u)	208,95	447,75	895,5	1044,75	1104,45	1194
QR Scanner	105	225	450	525	555	600
Income from QR Scanner (1,49€/u)	156,45	335,25	670,5	782,25	826,95	894
Other Income						
<b>Total Income</b>	<b>614,90</b>	<b>1.102,36</b>	<b>2.015,10</b>	<b>2.326,00</b>	<b>2.460,34</b>	<b>2.656,86</b>

Table 11.2: Estimate Income from the next 12 months of U-Pay.



Table 11.2 shows the income divides into:

- Total downloads
- Premium account
- Extra Deals
- QR Scanner

This monthly income results in an accumulated income of:

Total Income Accumulated	77.392,38
--------------------------	-----------

## 2. Other Income

Seen also in Table 5, the last line shows “Other Income”. This income is necessary for the beginning of the start-up. To be able to pay for the initial investments the company needs financial aid. This financing has been estimated to be 45.000€.

The first 15.000€ come from a personal initial investment of the founder and his two initial partners. The founder, as he has a 55%, invests 8.250€; the second, with 35% invests 5.250€; the last of the partners, with 10%, invests the remaining 1.500€.

The second 30.000€ will come from Family & Friends Financing, and will be returned in between the second and third year, with the respective increase of the CPI year-on-year rate, with a higher birth estimate to be an average of 0,3% increase per year.

This means, as shown in Table 11.3 below, that part of the debt will be returned between the second and third the third year and the rest in the fourth, as the benefits will increase in a positive direction.

	Year 1	Year 2	Year 3
Return of Debt	0	10.300	21.218

Table 11.3: Return of the Debt in the next 3 years.

### 3. Expected Income for the next 3 years

Maintaining the percentages of the market that we estimate to reach and the percentages of this market that will subscribe to either Premium accounts, Extra Deals or the QR Scanner, we have estimated the income for the next 3 years, as shown in Table 11.4.

These percentages mentioned before are: 45% for Premium accounts, 36% for Extra Deals, and 37% for QR Scanner.

	Year 1	Year 2	Year 3
Total Downloads (60% of Market)	3.000	20.000	60.000
Income from Downloads (0€/u)	0	0	0
Premium Accounts (45%)	114	700	1.800
Income from Premium (4,99€/u)	3.113,76	18862,2	48.502,8
Extra Deals (36%)	600	6.000	17.000
Income from Extra Deals (1,99€/u)	5.273,5	51.580,8	146.145,6
QR Scanner (37%)	600	5500	14.500
Income from QR Scanner (1,49€/u)	4.005,12	36.385,8	95.926,2
Other Income	45.000	0	
Income w/o Investment	12.392,38	106.828,80	290.574,60
Total Income	57.392,38	106.828,80	290.574,60
Total Income Accumulated	57.392,38	164.221,18	454.795,78

Table 11.4: Income estimate for the next 3 years.

### ***Projected benefits foreseen for the next 3 years***

In the same way the expected income for the next 3 years was estimated, for the costs and benefits we have kept the percentages of the market that we reach, as well as the respective increase of the CPI year-on-year rate (0,3/year) that affects both costs and salaries.

As seen in Table 8, the debt will begin to be returned in the second and third year with an amount of 10.000€ and 20.000€ respectively. Also, in the first year there is only 3 employees, the founder and his two partners, with each no salary, while the next 2 years there are 6. The first year there are no salaries, as everything is invested in the progress of the company, then in the second and third year the salaries for the founder and the programmer partner will be 30.000€ and 25.000€ respectively. The remaining 40.000€ are for the third partner (15.000€) and 3 interns from universities (8.333,34€ each).

The main costs, aside from the salaries, are both Web and App maintenance and development, but as they are our product we spend more on them to be able to offer a top tier product. The cost of the website is disaggregated in page 85 in "Expected Marketing Expenses".

Then, the next big costs are for the accountant and legal costs, both external to U-Pay, and rent for the office.

The evolution of the Total Downloads and the Premium services downloads rise as in the following years, second and third, U-Pay will expand to other campuses of UPC and UB the second year and to ESADE, IQS, UIC and Pompeu Fabra the third, as explained in the "Forecast and Prospect of sales for the next 3 years" chapter. We have estimated that around 50% of common users of the university facilities will download our app, thus obtaining 20.000 downloads the second year and 60.000 the third.

Table 11.5 in the following page shows the estimated income, costs and benefits for the next 3 years and its breakdown.

	Year 1	Year 2	Year 3
Total Downloads (60% of Market)	3.000	20.000	60.000
Income from Downloads (0€/u)	0	0	0
Premium Accounts (45%)	114	700	1.800
Income from Premium (4,99€/u)	3.113,76	18.862,2	48.502,8
Extra Deals (36%)	600	6.000	17.000
Income from Extra Deals (1,99€/u)	5.273,5	51.580,8	146.145,6
QR Scanner (37%)	600	5500	14500
Income from QR Scanner (1,49€/u)	4.005,12	36.385,8	95.926,2
Other Income	65.000	0	
<b>Total Income Accumulated with Investment</b>	<b>57.392,38</b>	<b>164.221,18</b>	<b>454.795,78</b>
<b>Costs and Expenses:</b>			
Printer	1.287,35	0,00	0,00
Coffee Machine	116,00	30,00	30,90
Legal costs	2.500,00	2.575,00	2.652,25
Desktop Materials	450,00	200,00	206,00
Hygiene Materials	250,00	180,00	185,40
Internet and Phone	591,60	609,35	627,63
Light	480,00	494,40	509,23
Gas	240,00	247,20	254,62
Cleaning Service	720,00	741,60	763,85
Cloud Services	684,00	704,52	725,66
App Maintenance (72h/year)	1.296,00	1.334,88	1.374,93
Accountant	1.440,00	1.483,20	1.527,70
GoogleDrive Business (8€/month*user)	288,00	593,28	611,08
Rent	1.800,00	1.854,00	1.909,62
<b>Marketing</b>			
Social Media	100	200	206
Webpage	15.069	15.521,07	15.986,7021
Publicity Campaign	500	515	530,45
Stands and Talks	200	400	800
<b>Debt &amp; Salaries</b>			
Return of Debt	0	10.300	21.218
Founder	0,00	25.000,00	25.750,00
Programmer (130h/year)	0,00	20.000,00	20.200,00
Other Salaries	0	55.000	56.650
<b>Total Costs Accumulated</b>	<b>28.011,95</b>	<b>160.995,45</b>	<b>308.465,45</b>
<b>Benefits</b>			
W/o Investment	-15.619,57	-26.154,70	143.104,60
Accumulated with Investment	29.380,43	3.225,73	146.330,33

Table 11.5: Income, Costs and Benefits estimate for the next 3 years.

## XII. Conclusion

U-Pay wants to take advantage of the current situation, an empty market regarding m-payment applications in the university campuses. Today, the public is more and more informed about these new kinds of apps, but the market still is not clear in who is going to take the top spot. U-Pay wants to reach this market through the universities, which will ensure us with a constant flow of downloads and a general enough public to be able to expand comfortably to other areas once settled.

What sets U-Pay apart from our competitors is our versatile product. We are offering to the people different services for different needs, instead of doing just one like most applications. We present an all-in-one kind of product. With P2P instant money transfers, B2P payments done through QR Codes, QR Scanners for those businesses that want to introduce themselves in the digital payment methods, Offers and Extra Deals from these businesses that use our product and a Premium Subscription that includes all of the previously mentioned without limits, we cover the needs of the public and hope to diminish the usage of credit cards, cash and over-filled wallets. We aspire for a digitalized commerce.

Following this plan, U-Pay will meet its financial goals and will be profitable in three years, with gross profits of over 160.000€ and income of over 470.000€ by the third year, with revenue of 290.000€ and benefits of 140.000€ in just the third year. Considering that the annual costs once in the second year do not vary significantly and in the contrary, the revenue does grow in a considerable amount every year, U-Pay is set for substantial growth in the following years.

Lastly, there is a need for a 30.000€ investment to amortize the costs and expenses of the first two years. This debt will be fully returned by the third year with an increase of a 3% per year. So we encourage taking this exciting opportunity to get in on the ground floor of a company with unlimited growth potential.



## XIII. Bibliography

- (1) **All-in-one Prototyping Tool for web and mobile apps**  
Justinmind - <https://www.justinmind.com/>
  
- (2) **Digital Wallets – 10 Mobile Payment Systems To Take You There**  
Brian Voo - <http://www.hongkiat.com/blog/digital-wallets/>
  
- (3) **Dónde encontrar a los mejores programadores y diseñadores freelance**  
<http://growthhackinglabs.com/donde-encontrar-a-los-mejores-programadores-y-disenadores-freelance/>
  
- (4) **How mobile payments will grow in 2016**  
Sarah Silbert - <http://fortune.com/2015/10/29/mobile-payments-grow-2016/>
  
- (5) **How Much Should a Website Cost?**  
<https://www.webpagefx.com/How-much-should-web-site-cost.html>
  
- (6) **How NFC Works**  
<http://nearfieldcommunication.org/how-it-works.html>
  
- (7) **Inside NFC: how near field communication works**  
Apc - <http://apcmag.com/inside-nfc-how-near-field-communication-works.htm/>
  
- (8) **Mobile Payments in the US Growing Fast, but Still Far from Mass Adoption**  
<https://www.emarketer.com/Article/Mobile-Payments-US-Growing-Fast-Still-Far-Mass-Adoption/1014689>
  
- (9) **Most Popular Mobile Payment Apps**  
Priya Viswanathan - <https://www.lifewire.com/most-popular-mobile-payment-apps-2373179>
  
- (10) **Paying Employees During the Startup Stage**  
Asheesh Advani - <https://www.entrepreneur.com/article/71108>

**(11) Predictions 2016: The Mobile Revolution Accelerates**

<https://www.mediapost.com/publications/article/265536/predictions-2016-the-mobile-revolution-accelerate.html>

**(12) QR Codes versus NFC Tags**

<http://nearfieldcommunication.org/qr-codes.html>

**(13) Sizing and profiling the in-app mobile payments market**

PCM Contributor - <http://www.paymentscardsandmobile.com/sizing-profiling-app-payments-market/>

**(14) Topic Centers**

<https://www.mobilepaymentstoday.com/topics/>

**(15) The evolution of the mobile payment**

John Rampton - <https://techcrunch.com/2016/06/17/the-evolution-of-the-mobile-payment/>

**(16) THE MOBILE PAYMENTS REPORT: Market forecasts, consumer trends, and the barriers and benefits that will influence adoption**

BI Intelligence - <http://uk.businessinsider.com/the-mobile-payments-report-market-forecasts-consumer-trends-and-the-barriers-and-benefits-that-will-influence-adoption-2016-5?r=US&IR=T>

**(17) What is mobile payment (m-payment)? - Definition from WhatIs.com**

<http://searchmobilecomputing.techtarget.com/definition/m-payment>

**(18) What's the Cost to Maintain an App? - App Press**

<https://www.app-press.com/blog/whats-the-cost-to-maintain-an-app>

**(19) When Is the Best Time to Write Your Business Plan?**

Tim Berry - <https://www.entrepreneur.com/article/226218>