THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

VIM PAY

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D5.4 – Business Requirements for VIMpay Version 4

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Final

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petaFuel

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Version	Status	Date
1.0	Document outline and first content	16.02.2017
1.1	Complete First Draft	17.02.2017
1.2	Updated First Draft	20.02.2017
1.3	Complete Final	22.02.2017

Executive Summary

This deliverable constitutes deliverable *D 5.4 – Business requirements for version 4 of the VIMpay app* of work package 5 (WP5) of the VIMpay project. Users have access to the core payment, the essential and non-essential VIMpay functions as described in the project description. The App has been released in the various app stores.

1 Scope of this Deliverable

This deliverable defines the business requirements and use cases for the final version (4) of the VIMpay app, called *Bam Bam*. This update also focuses on non-essential requirements and value adding features. This fourth release basically integrates a new registration process and several new features for VIMpay users, like a bot based customer service. Additionally, white labelled programs are introduced, the VIMpay based Benefit Card for wage subsidies for companies is integrated and more banks are supported in HBCI banking via the app.

2 Motivation for the Use Cases in Version 4 of the VIMpay App

This update drastically simplifies the user registration process. The new registration process integrates necessary distinctions between different use cases. A new type of card has been introduced, the Benefits Card. To reduce expenses, companies can now give benefits in kind to their employees in a fast and convenient way. For the employer, administrative bureaucracy is reduced to a minimum and the employee benefits from a prepaid MasterCard with which to spend his tax-free benefits in kind. Additionally, the card holder gets the VIMpay app, a mobile application to manage transactions and payments. With this update, the "snooze" feature is added to the VIMpay App for an enhanced security experience. This update also introduces enhanced customer service. With the VIMpay Chat, the user can now get Support services directly through the app. On top of the above new features, white label programs are introduced in this deliverable. Furthermore, the number of supported banks is continuously increased using the screen scraping procedure.

2.1 New requirements for final Version 4

2.1.1 New Registration Process

The registration process for new VIMpay users has been markedly simplified. Integrated is now a clear distinction of use cases between already registered users and new users or if a reference account has already been set up or not. All marketing of relevant advantages now reflect this updated registration process.

The new registration process contains the mandatory user details; name, password (setup) and mobile phone number. PayCenter GmbH and petaFuel GmbH Terms and Conditions are now a prerequisite. As soon as this data set has been sent to the petaFuel servers, the user is registered in our database. After the mobile phone number validation, the account is active and the user can now order a MasterCard. Depending on the selected VIMpay type, more personal details might be required.

Registration	User Activation	Escort status Standard + Plus	Escort status Premium
First Name Last Name Password Phone Number GTCs	Confirm Phone Number	Ref-Account Title Address (exist check) Date of Birth	Legitimation (Videoident, Postident) Title Date of Birth Plastic Card Address (verified check) PEP-Status

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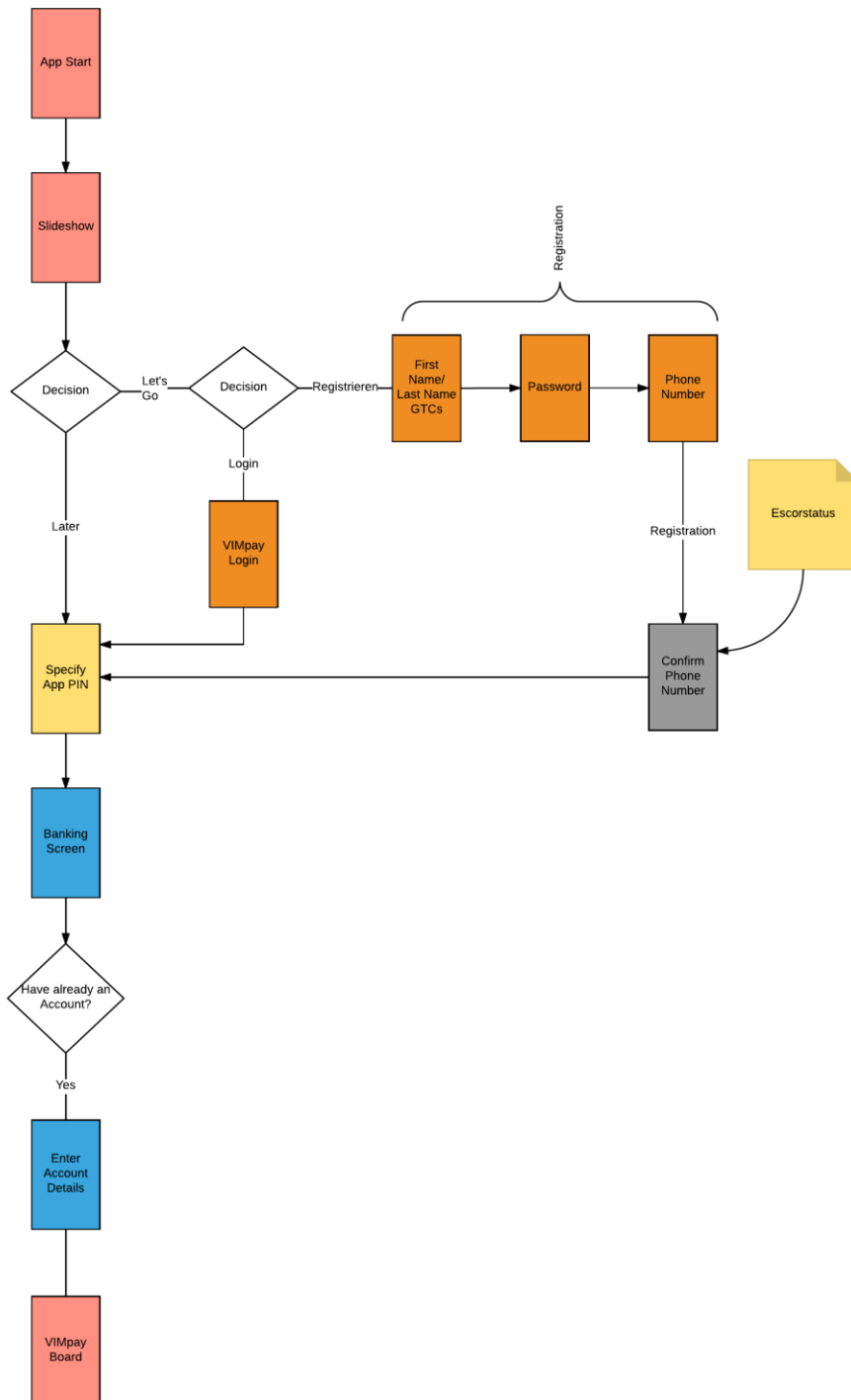
2.1.2 Customer Service Chat

To communicate within VIMpay, the VIMpay app gets a chat area. The chat functionality can be divided into two parts. The first part is the ability of the user to contact a Support representative directly from the app to quickly and efficiently solve problems. Secondly, there is also the possibility of using the VIMpay Valet, a personal assistant for tasks or to directly obtain assistance. Additionally, the user will have the ability to chat with other VIMpay users in the future. New messages to the user will be communicated via push notifications.

The user can contact VIMpay Support quickly and easily at any time. Responses will be communicated directly to the app via push notifications. This results in a very comfortable way of getting help when reporting issues without wasting time in queues or sending complex emails.

VIMpay users could also chat with the VIMpay assistant which acts as a bot. It can perform tasks, transmit reminders or even guide the user through his money transfers. Through keywords, corresponding queries are evaluated and either directly answered, processed or even converted to regular Support requests. When it comes to orders already in process, the user will no longer be forwarded to the transfer mask. They will instead actively communicate with their assistant in a chat. Information and incidents are communicated as Push messages in chat.

The chat function protects petaFuel and the user from phishing and malicious spam emails through the modernized communication interface with the users. The chat interface has been developed in a simple way to keep the main requests of the user in focus. It is no longer necessary for the user to leave the app to get access to Support services.

2.1.3 Screen Scraping

Screen scraping is a coded simulation of a web user without the real user's interaction. This procedure allows a VIMpay user to log into a third-party online banking website. The transaction sheet can then be downloaded to display payments and transactions (including details) in the VIMpay app. Due to the bespoke banking websites, an individual screen scraping script for every supported bank in needed.

The following parameters can be retrieved:

- username
- password
- accountId
- fromDate (to start the download from a certain date)
- bankCode

Screen scraping will allow all banking transactions through the VIMpay app even if the user's bank does not support HBCI banking communication. Hence, VIMpay will offer its users the management of non-German bank accounts.

2.1.4 Snooze Card Feature

The old VIMpay Card security status has been converted into a "snooze" mode. It is now not necessary to activate the card for every transaction. In case of loss, theft or the card is simply misplaced, the user can block every transaction immediately by "snoozing" his card. If the card is found again, the user can once again activate it again. This ensures that the user's funds are always secure including when suspicious cases arise.

Issues with overnight transactions that were previously declined due to the old security status have now been solved with this change. Our flexible backend architecture allowed these changes additional taxing efforts.
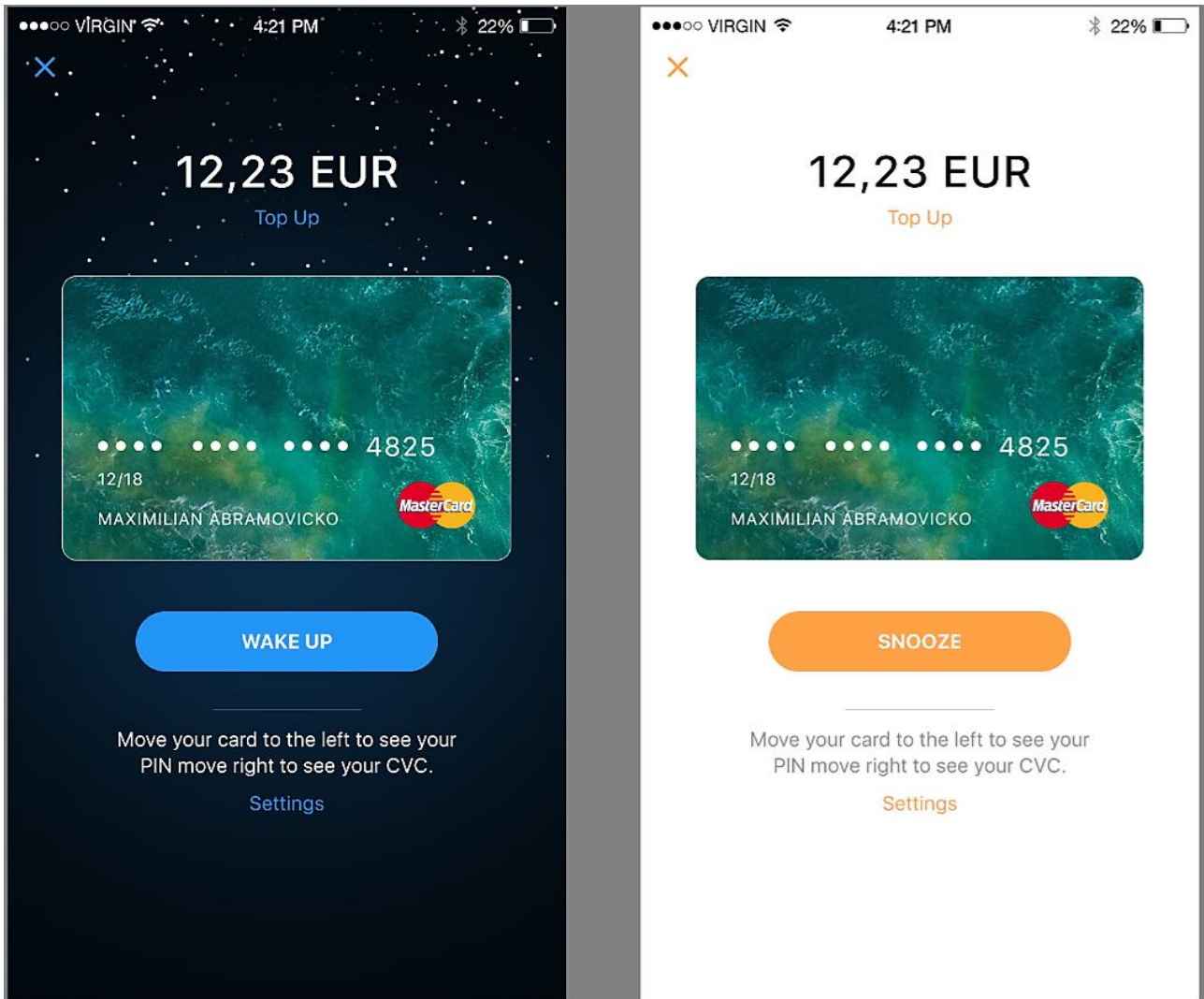
2.2 Additional Features for the VIMpay App

2.2.1 Benefits Card

Benefits in kind lead to tax advantages. Instead of salary increases, companies can now give benefits in kind to their employees. It is now possible to give 960 EUR tax-free and up to 11.000 EUR taxed at a flat rate per year to each employee. The following advantages to the employer and employee can be derived from using the petaFuel Benefits Card:

i)   Advantages of benefits in kind

Companies can give tax-free benefits in kind to their employees within the following legal limits as defined by German Income Tax Law (EstG) and the attached directives (LstR).

Type	**Details**	**Monthly**	**Annually**	**Legal Basis**
Tax exempt Benefits in kind	Must be transferred to the employees at respective month.	up to 44 €	up to 528 €	§ 8 Abs. 2 Satz 11 EStG
Car Advertisement	Advertising label on the private car from the employee. (Car, Motorbike, Bike, etc.) License plate holder	up to 21 €	up to 252 €	§ 22 Nr. 3 EStG
Presents for special private events	Max 3 private events with up to 60€: Birthday, Name day, private company anniversary, passed test, Wedding, etc.)	-	up to 180 €	R19.6 Abs. 1 LStR zu § 19 EstG
Internet flat charge	Refund for internet costs (Monthly Fee, Installation Costs; Hardware)	-	up to 600 €	§ 40 Abs. 2 Satz 1 EStG
Recovery allowance	156 € per employee, 104 € per marriage partner, 52 € per child. Recoverable up to 3 month before or after recovery measures.	-	such as 416 € (Family with 3 children)	§ 40 Abs. 2 Nr. 3 EStG
Non-cash benefits allowance	10.000 € Limit; Flat-rate tax are operating expenses; Requirements: Additionally, to the wage of the employee.	-	up to 10.000 €	§ 37b EStG

ii) Advantages of using a MasterCard

The Benefits Card is based on a prepaid MasterCard and can be topped up directly by the employer. An Individualized International Bank Account Number (IBAN) is assigned to each employee/card and forwarded to the employer to allow easy and convenient transfer of funds. The employee can then spend the money by using the individualized card anywhere MasterCard is accepted. A worldwide MasterCard network with over 35 million points of acceptance is at the disposal of the employee. Additionally, the Benefits Card can be produced with the employer's individual corporate design.

iii) Advantages to the employee

The employee benefits from an increased net wage, a free MasterCard with which to spend the extra income and a mobile app which acts as a convenient control tool for his card.

iv) Advantages to the employer

The employer benefits from savings in wage costs in comparison to ordinary wage increases. Additionally, the Benefits Card acts as a flexible tax control tool as benefits in kind can only be distributed monthly. This allows the employer to take advantage of the German Income Tax Law provision.

Process description

The Benefits Card is a prepaid MasterCard which can be topped up by the employer using the individual account number assigned to each card. The employer guarantees that each is legitimized and satisfies all the VIMpay KYC requirements. The registration and issuing of the MasterCard is done by petaFuel GmbH in coordination with the instructing company. An XLS data set with the future card holders' (=employees) details must be forwarded to petaFuel to set up the new benefits in kind cards. In return, the employer gets a system generated list with account numbers corresponding to each employee. The list includes the PIN numbers needed for the use of the MasterCard. The activation and shipping takes place after successful replenishment of the card. Using the CVC of the card. the Benefit Card users can then manage their own individual cards after setting up an account within the VIMpay app.
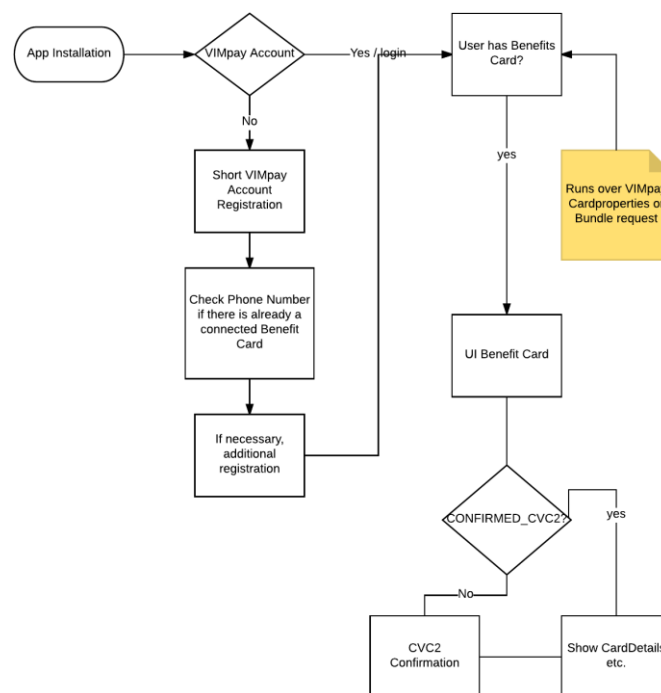
2.2.2 White Label Programs

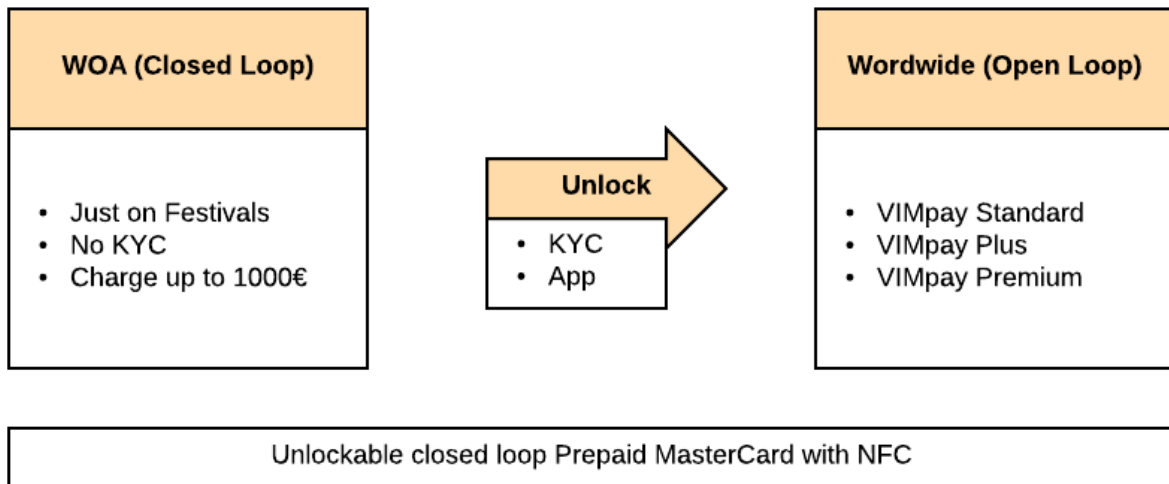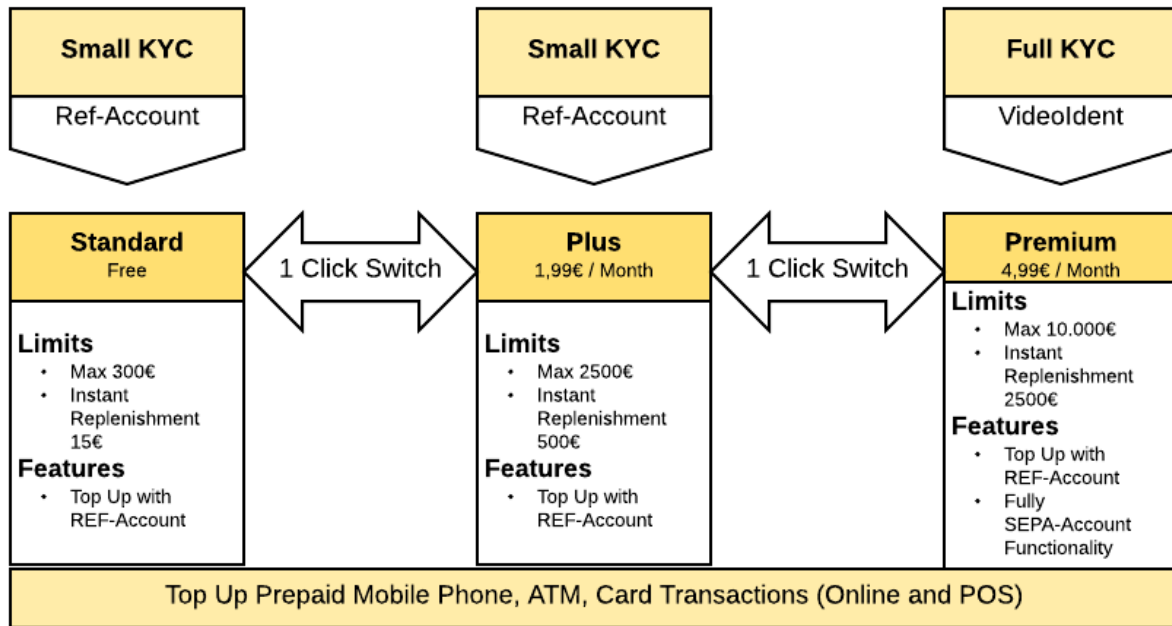The idea is to distribute the VIMpay Card as a white label program on certain events like *Wacken Open Air* or *Jazzopen in Stuttgart*. Individual cards will be produced for each event as a (mobile) payment solution. The card holders will then have an opportunity to "open" the card for use as a normal prepaid MasterCard once the event is concluded. This switch from "closed loop" to "open loop" use is optional.

A modified VIMpay app will also offered by petaFuel for each event. Card holders can easily manage their spending and can top up the even card via online banking. The petaFuel instant replenishment feature will be available for these cards as well. Additionally, the user can top up their card with cash deposits at the event or with voucher codes.

The event card can only be used to make payments totalling the amount of the topped-up credit. Before a transaction is authorized, the user's credit balance is electronically verified ensuring that the card is never overdrawn (prepaid MasterCard system). The transaction is secured using the PIN code which can be displayed using the app. Furthermore, the event card user will be able to make Contactless payments.

During the event, the user can make purchases such as beverages, event merchandise or even pay for extra entrance cards, special offers and etc. The essential difference between VIMpay white label and other "closed loop" systems is that the event card can be converted afterwards to a prepaid MasterCard for use all over the world. There is no need for complicated transactions if the user still has funds on his card account after the event. The VIMpay event cards have the built-in mechanism that allow the user to utilize the card long after the event is over.

WOA (Closed Loop)	Unlock	Wordwide (Open Loop)
• Just on Festivals • No KYC • Charge up to 1000€	• KYC • App	• VIMpay Standard • VIMpay Plus • VIMpay Premium

Unlockable closed loop Prepaid MasterCard with NFC

Benefits for VIMpay

The main advantage of the white label programs is that they provide VIMpay with a new user acquisition channel. VIMpay can now access the "closed loop" payment solutions market and generate new users. It is now easy for VIMpay to demonstrate on a wide and controlled scale the benefits of a prepaid MasterCard.

The integration of white label programs requires very little effort due to the flexible backend architecture. These new application fields can be added with relatively limited expenses.

Benefits for the event organizer

There are two categories of benefits for the event organizer.

- **Special offers**

Offering a convenient payment method will lead to an increase in sales. The popularity of the card exponentially increases when tied to special offers. This markedly increase the new user registration and eventual use of the card.

Here are some examples:

Type	Effect
Card Payments: buy 4 get 5	Increased sales
Discount for card payments	Increased number of card payments, less cash expenses
With certain number of transactions, card holder automatically takes part in a lottery	Increased number of card payments, less cash expenses
Card ID can be used for a discount for next season ticket	Increased number of visitors (long term)

- **Influencer Marketing**

Influencers will have a very high impact in marketing VIMpay when it comes to appealing to larger crowds. VIMpay allows us to easily identify influencers who have an affinity to digital payments. These influencers can then be deputized and supported to strengthen their positive impact on the image of the card. This channel allows a wider audience to interact with and experience the benefits of the mobile payment solution.

2.3 VIMpay Connect

VIMpay connect will allow the user to pre-register their VIMpay Card details in various online shops in a quicker and more convenient manner.

An overview of supported online shops where a user can automatically set up their card as a payment method will be offered to the user. To allow VIMpay access the necessary settings, all the user needs to do is log in with their online shopping account details. After completion of this step by the user, VIMpay will perform an automatic setup in the background. Manual input of card details such as PAN, CVC and expiry date is no longer necessary.

Initially, we will focus on larger online stores such as Amazon, iOS AppStore and Google Play store. The number of participating online stores will then increase gradually.

2.4 Overall description of the new functionalities

With VIMpay, the new registration process simplifies access to a modern banking experience. The new process is designed to assist the user on first encounter with the app. The Benefits Card now positions VIMpay into the B2B space. On the other hand, White label programs will generate new users and more traffic which will increase the popularity of the prepaid MasterCard. An old security feature has now been updated to allow the user to easily customize security setting in case of suspicious activity by "snoozing" the VIMpay Card. By generating new scripts for the screen scraping procedure, the number of supported banks will dramatically increase. Customer Support services have now been integrated directly into the app which allows the user to interact with both agents via chat and the VIMpay bot that can answer simple questions and execute small tasks. Finally, VIMpay connect will provide a simple method of pre-registering the VIMpay Card in online stores give the user a more comfortable and enjoyable online shopping experience.

2.5 Outlook and future of the VIMpay Project

After the official completion of the VIMpay project, improvements and updates to the VIMpay App will remain as a core and essential part of all work done at petaFuel. More features will be developed in keeping with future user needs and to continuously keep VIMpay as an innovative and modern banking tool. 2017 and 2018 will see the international launch of VIMpay in the Netherlands, Austria, Belgium and Luxembourg. This will include a continuous increase in the number of supported (non-German) banks, translation of the app and User Interface adaptions towards standardized European payments.

3 Use Case descriptions for Version 4 of the VIMpay App

3.1 New Registration

3.1.1 Use Case 1: New Registration

USE CASE NAME	New Registration
Precondition	New installation of the VIMpay App without a VIMpay Account
Postcondition	VIMpay User registered
Regular Steps / Description	2. First Name / Last Name 3. Password / Confirm Password 4. Phone Number 5. Send Registration 6. Registration of User

3.1.2 Use Case 2: First App Start with Registration

USE CASE NAME	First App Start with Registration
Precondition	New installation of the VIMpay App without a VIMpay Account
Postcondition	VIMpay User registered
Regular Steps / Description	1. First App Start 2. Slideshow with information about VIMpay 3. User decides to set up account 4. Registration as described in Use Case 1 5. Set up app PIN-Code 6. Optional set up of bank account

3.1.3 Use Case 3: First App Start without Registration

USE CASE NAME	First App Start without Registration
Precondition	New installation of the VIMpay App without a VIMpay Account
Postcondition	Only banking functionalities are used
Regular Steps / Description	1. First App Start 2. Slideshow with information about VIMpay 3. No account set up 4. Set up app PIN-Code 5. Find bank 6. Set up bank account

3.1.4 Use Case 4: First App Start Registration afterwards

USE CASE NAME	First App Start Registration afterwards
Precondition	New installation of the VIMpay App without a VIMpay Account
Postcondition	User starts using banking functionalities and later decides to set up a VIMpay account
Regular Steps / Description	1. First App Start 2. Slideshow with information about VIMpay 3. Set up app PIN-Code 4. No account set up 5. Set up app PIN-Code 6. Find bank 7. Set up bank account 8. User starts using banking functionalities 9. User decides to set up a VIMpay account after some time as described in Use Case 1

3.1.5 Use Case 5: Required User Data for Activation of the VIMpay Card

USE CASE NAME	Required User Data for Activation of the VIMpay Card
Precondition	User has set up his VIMpay Account and wants to activate his prepaid MasterCard
Postcondition	User has active prepaid MasterCard
Regular Steps / Description	1. User has set up his VIMpay account as described in Use Case 1 2. User would like to use his prepaid MasterCard 3. User must add additional personal details 4. VIMpay needs the address 5. VIMpay needs date of birth 6. User must add a banking reference account to top up the prepaid MasterCard 7. Card is active

3.2 Customer Service Chat

3.2.1 Use Case 1: Bot Reply

USE CASE NAME	Bot Reply
Precondition	User has simple issue or question
Postcondition	Users issue/question is solved
Regular Steps / Description	1. User sends request in chat 2. Request is send to backend to evaluate the question 3. Backend identifies the question as solvable for the chat bot 4. Chat bot answers the question

3.2.2 Use Case 2: Agent Reply

USE CASE NAME	Agent Reply
Precondition	User has a complex issue or question
Postcondition	Users issue/question is solved
Regular Steps / Description	1. User sends request in chat 2. Request is send to backend to evaluate the question 3. Backend identifies the question as not solvable for the chat bot 4. Agent answers the question

3.2.3 Use Case 3: Reminder

USE CASE NAME	Reminder
Precondition	User would like to set up a reminder
Postcondition	Chat bot reminds user
Regular Steps / Description	1. User tells chat bot to remind him 2. Chat bot asks for details (reason, time, date) 3. Chat bots reminds user

3.2.4 Use Case 4: Send Money

USE CASE NAME	Send Money
Precondition	VIMpay user A wants to send money to VIMpay user B
Postcondition	Money has been transferred (from A to B)
Regular Steps / Description	1. User A choses user B in the chat area 2. User A enters amount 3. Money is transferred to user B

3.2.5 Use Case 5: Request Money

USE CASE NAME	Request Money
Precondition	VIMpay user A wants to receive money from VIMpay user B
Postcondition	Money has been transferred (from B to A)
Regular Steps / Description	1. User A sends request to user B, including exact amount 2. User B approves request 3. Money is transferred to user A

3.3 Screen Scraping

3.3.1 Use Case 1: Supporting Banks without HBCI Access

USE CASE NAME	Supporting Banks without HBCI Access
Precondition	User has no access to his bank account
Postcondition	User has access to his bank account
Regular Steps / Description	1. User enters his banking login data 2. VIMpay loads website in the background and executes scrren scraping script 3. User is logged in 4. User can see transactions, transaction details and balances

3.3.2 Use Case 2: Screen Scraping Script Sync

USE CASE NAME	Screen Scraping Script Sync
Precondition	Script for Bank XY is outdated
Postcondition	Script for Bank XY has been updated to newest version
Regular Steps / Description	1. User wants to update his bank accounts (incl. bank XY, without HBCI communication) 2. App checks Screen Scraping Script version 3. App downloads new script from pF database 4. Accounts are updated

3.4   Snooze Card Feature

3.4.1   Use Case 1: Snooze Card

USE CASE NAME	Snooze card
Precondition	VIMpay Card is open for payments
Postcondition	VIMpay Card transactions are blocked
Regular Steps / Description	1. User puts VIMpay card into "snooze" mode 2. Snooze mode is activated in the backend 3. VIMpay card blocks all transactions

3.4.2   Use Case 2: Wake Up Card

USE CASE NAME	Wake Up Card
Precondition	VIMpay Card transactions are blocked
Postcondition	VIMpay Card is open for payments
Regular Steps / Description	1. VIMpay card blocks all transactions 2. User deactivates "snooze" mode 3. VIMpay card status is updated in the backend 4. VIMpay card is open for transactions and ready to use

3.5   Benefits Card

3.5.1   Use Case 1: Activation Benefit Account with existing VIMpay Account

USE CASE NAME	Activation Benefit Account with existing VIMpay Account
Precondition	User has active an VIMpay account and inactive benefits card account
Postcondition	User has an active VIMpay and benefits account
Regular Steps / Description	1. User enters VIMpay app 2. User navigates to his account overview 3. User refreshes account overview 4. Benefits card appears in account overview 5. Benefits account is active, the card itself is still inactive

3.5.2   Use Case 2: Activation Benefits Account with VIMpay Account setup

USE CASE NAME	Activation Benefits Account with VIMpay Account setup
Precondition	User has no VIMpay account but an inactive benefits account
Postcondition	User has an active VIMpay and benefits account
Regular Steps / Description	1. User downloads VIMpay app 2. User sets up VIMpay account (Use case 1 New Registration) 3. User navigates to his account overview 4. (Inactive) Benefits appears

3.5.3   Use Case 3: Activation Benefits Card

USE CASE NAME	Activation Benefits Card
Precondition	Benefits Account holder has an inactive Benefits Card
Postcondition	Benefits Account holder has an active Benefits Card
Regular Steps / Description	1. User enters VIMpay app 2. User navigates to account overview 3. User sees benefits card with hint to activate it 4. User taps on the card to start activation process 5. User is asked to enter the CVC of his (plastic) benefits card 6. User enters CVC 7. Benefits card is activated

3.5.4   Use Case 4: Show PIN

USE CASE NAME	Show PIN
Precondition	User doesn't know PIN
Postcondition	User sees PIN in his App
Regular Steps / Description	1. User opens VIMpay app 2. User enters app PIN-Code 3. User navigates to his card view 4. User pulls card to the left 5. PIN code appears behind the card

3.5.5   Use Case 5: Show CVC

USE CASE NAME	Show CVC
Precondition	User doesn't know CVC
Postcondition	User sees CVC in his App
Regular Steps / Description	1. User opens VIMpay app 2. User enters app PIN-Code 3. User navigates to his card view 4. User pulls card to the right 5. CVC appears behind the card

3.5.6   Use Case 6: Snooze Card

USE CASE NAME	Snooze card
Precondition	Benefits Card is open for payments
Postcondition	Benefits Card transactions are blocked
Regular Steps / Description	1. User puts benefits card into "snooze" mode 2. Snooze mode is activated in the backend 3. Benefits card blocks all transactions

3.5.7   Use Case 7: Wake Up Card

USE CASE NAME	Wake Up Card
Precondition	Benefits Card transactions are blocked
Postcondition	Benefits Card is open for payments
Regular Steps / Description	1. Benefits card blocks all transactions 2. User deactivates "snooze" mode 3. Benefits card status is updated in the backend 4. Benefits card is open for transactions and ready to use

3.5.8 Use Case 8: Show Transactions

USE CASE NAME	Show Payments
Precondition	User wants to see his benefits card transactions
Postcondition	User sees his benefits card transactions
Regular Steps / Description	1. User opens VIMpay app 2. User enters app PIN code 3. User navigates to his account overview 4. User enters the benefits card section 5. User sees his transactions

3.6 White Label Program

3.6.1 Use Case 1: White Label App Download

USE CASE NAME	White Label App Download
Precondition	User wants to download the White Label (VIMpay) app
Postcondition	User has a White Label (VIMpay) app
Regular Steps / Description	1. User enters App Store / Play Store 2. User searches for the events name he is participating 3. User sees the event payment app 4. User downloads app

3.6.2 Use Case 2: White Label Card Replenishment (Cash)

USE CASE NAME	White Label Card Replenishment (Cash)
Precondition	User would like to top up his card with cash
Postcondition	Card is topped up
Regular Steps / Description	1. User arrives at VIMpay point of sale at the event location 2. User pays the amount he wants to top up his card with 3. Card is replenished instantly

3.6.3   Use Case 3: White Label Card Replenishment (Voucher Code)

USE CASE NAME	White Label Card Replenishment (Voucher Code)
Precondition	User would like to top up his card with a voucher code
Postcondition	Card is topped up
Regular Steps / Description	1. User buys voucher code (online or at the event location) 2. User enters voucher code 3. Card is topped up instantly

3.6.4   Use Case 4: White Label Card Replenishment (VIMpay Instant Replenishment)

USE CASE NAME	White Label Card Replenishment (VIMpay Instant Replenishment)
Precondition	User would like to top up his card via instant replenishment
Postcondition	Card is topped up
Regular Steps / Description	1. User sets up his reference account 2. User executes instant replenishment 3. Card is topped up with instant replenishment amount

3.7   VIMpay Connect

3.7.1   Use Case 1: VIMpay Card deposit

USE CASE NAME	VIMpay Card deposit
Precondition	Active VIMpay card user wants to set up his card as the primary payment method in an online shop
Postcondition	VIMpay card is set up as the primary payment method
Regular Steps / Description	1. User choses one of the supported online shops where he wants to deposit his card details 2. User enters his login data of the individual online shop 3. VIMpay deposits the card details in the background