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D 5.1 – Business requirements for version 1 of the VIMpay

App

Version 1.2

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Executive Summary

This deliverable constitutes deliverable *D 5.1 – Business requirements for version 1 of the VIMpay app* of work package 5 (WP5) of the VIMpay project.

The document defines the business requirements and use cases for version 1 of the VIMpay app, the initial release. As referenced in the proposal this version basically merges existing functionalities of the current petaFuel applications for SEPA payments and card management. Additionally, this version is aligned with the updated and current processes and requirements for the card management without complex KYC.

1 Scope of this deliverable

The use cases and requirements for version 1 are derived from both **existing** requirements and **new** VIMpay project related requirements. The structure of this deliverable follows this approach. First the use cases for version 1 and their context are explained. Second, in context of these use cases, corresponding business (and technical) requirements are defined.

2 Context for the use cases in version 1

2.1 Existing Apps- Functionalities

The main functionality of VIMpay is to enable users to perform SEPA banking and card based payments (cf. [1]). The banking functionalities are derived or taken from the existing 123Banking mobile app by petaFuel (Download link at [2]). This app was optimized for online banking and SEPA transactions during the last few years and has about 160,000 active users. The management of Prepaid MasterCard comes from Prepaid MasterCard app, which was developed for the administration of PayCenter products. At the moment it is downloaded by around 10,000 cardholders and provides access to all necessary user areas for all PayCenter cards. VIMpay will combine these features and add some new functionalities.

The following sections explain, which functionalities are taken from the respective apps.

2.1.1 123Banking existing functionalities to be ported to VIMpay

	Functionality	Description
1	Add and manage third party online bank accounts	The user can add and manage his third party accounts in the app
2	Bank account transactions	The app can display all transactions from the bank account and his details
3	SEPA transactions	The app can manage and execute SEPA credit transfers from their third party accounts
4	Terminated transactions and standing orders	The app can manage scheduled transfers and standing orders

2.1.2 Prepaid MasterCard app existing functionalities to be ported to VIMpay

	Functionality	Description
1	Card data	The card data are displayed on an image in the app.
2	Card transactions	The app shows all transactions from the PayCenter cards.

2.2 New Requirements for Version 1

Based on this core functionality the VIMpay app provides users with the first version of the VIMpay card, enabling them to perform card based payments with the included VIMpay Prepaid MasterCard.

2.2.1 VIMpay basic version support

The first version of the VIMpay app includes a free Prepaid MasterCard, with a limit of 300€. This version is called **VIMpay Basic**, the detailed pricing model from this upgrade level is described in deliverable D. 7.1 (c.f. [3]) and shown in overview in the following table.

VIMpay Freemium Pricing Model			
	Basic	Plus	Premium
Monthly Subscription	0 €	1,50 €	1,50 €
Additional Charges			
(Plastic VIMpay Card) - OT	15 €	15 €	15 €
(Plastic Card Personalisation)	0 €	0 €	0 €
** (SEPA Bank Account Features) - PM	-	-	5 €
(Bank Transfers) - per transfer	-	-	0,15 €
(Direct Debits) - per DD	-	-	0,15 €
(ATM Withdrawals) - per withdrawal	5 €	5 €	5 €
(Mobile Phone Top-up) - per Top-up	0,90 €	0,90 €	0,90 €
*OT-One Time, *PM-Per Month, *DD-Direct Debit	**SEPA Bank Account Features option available for Premium accounts		

Table 1 First VIMpay pricing model

In Version 1, as outlined in the proposal, card registration for VIMpay Basic will be possible, with the option to upgrade later on.

2.2.2 KYC requirements for account replenishment with reference account

In general "Know Your Customer" (KYC) describes the process for identification of new customers. These processes are driven by different regulative requirements defined in different laws. For Germany, KYC is described in **KWG §25n** (c.f. [4]).

As outlined in the proposal VIMpay will support different KYC processes by providing users with different functionalities based on the regulative requirements and KYC status of the user. This starts with a "no KYC status at all" which translates to anonymous cards and ends with fully legitimated users (via Post-Ident or other means of full identification). The specific requirements and dependencies will be described later in the project in Deliverable 5.2. However for the first version of the app it is important to note that VIMpay Basic and VIMpay Plus are requiring a **basic KYC with reference account verification**.

KYC with reference account verification (aka “basic” KYC)

The KYC with reference account verification specifies that every VIMpay Card needs a SEPA bank account referred as the "reference" account. This account must be attached to the card during the registration for the VIMpay Card and cannot be removed. KYC is guaranteed by the constraint that the identity of the account holder of the reference account must be the name of the card holder. Otherwise the card will not be activated. In addition it is only allowed to replenish the VIMpay card from the reference account. Any other replenishments will be transferred back.

New guidelines from the BaFin require that we have to check that the user is the owner from the reference account.

To satisfy this requirement the **instant replenishment feature** is brought forward to the first version of VIMpay. The instant replenishment checks the technical ownership of the reference account during each top up and provided that the connection was positive, the user is allowed to replenish the card.

Required personal data
Date of birth
Name
Phone number or email address
Private address from the customer
SEPA bank account

2.2.3 Instant Replenishment

Instant Replenishment is a VIMpay specific service, which allows the user to replenish his VIMpay Card within seconds. It is no longer necessary to wait for the complicated transfer process. After the User authorizes the SEPA transaction with the VIMpay App, the amount is provided by petaFuel GmbH until the transfer is completed. As a nice side effect the replenishment process is now up to 3 days faster.

From a process point of view the instant replenishment uses the fact that the VIMpay app can trigger money transfers from a third party bank account of the user to the VIMpay card account programmatically. As we have full control over the transfer process we can first ensure that the money is actually transferred, thus minimizing fraud risk, and secondly we can ensure that the user has indeed access and ownership to the reference account.

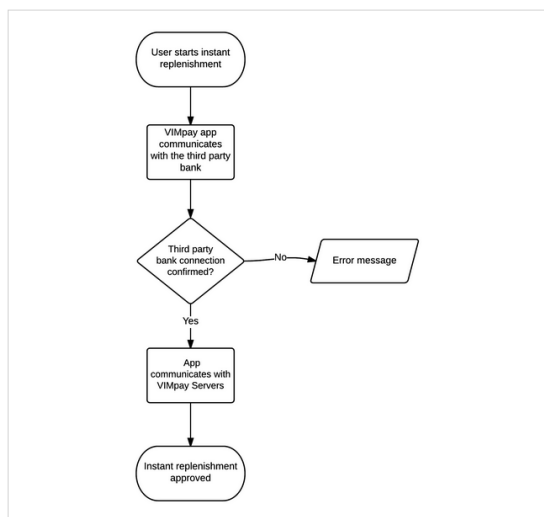


Figure 1 VIMpay Instant replenishment process

2.2.4 UI Revamp

The VIMpay app has been completely redesigned. All standards of the different mobile operating systems are heeded, to ensure, that the typical user experience is maintained.

2.2.5 API Connection

In the initial proposal for the VIMpay project and the subsequent Description of Action we have highlighted that the smartphone application will communicate with the petaFuel systems through a dedicated open interface (an API). The VIMpay specific functionalities and also the processing-related functionalities directly related to payment will be accessible over a new central API.

2.2.6 API Multiple Devices

The API supports multiple devices connected to the same user account. Through this way the usability of the app increases. The user can log into his VIMpay account and sees his card data from different devices.

2.2.7 API Cacheable

The credentials, login data and session token (as described under *Authentication through Session Tokens: Concept & Login* in deliverable D 3.1 of WP3) should be cacheable in the app. We need this functionality to enable the VIMpay app to run API Calls in the background, which are required for a lot of future functionalities of the app. Additionally, for user acceptance reasons we do not want to bother the user to re-login every time he is using the app.

2.3 Design decisions / Overall description of the functionalities

VIMpay, as a modern and powerful financial product, **offers safe and easy banking**. It is able to connect several accounts from different banks through one app. It is now possible to make new bank transfers and to manage existing ones in addition to standing orders to other bank customers. From now on, the user only needs one single app to handle all his bank accounts and

to use all the banking functionalities he is accustomed to. Daily banking is transferred to the user's pocket.

Additionally, the VIMpay app contains an optional Prepaid MasterCard product. Right after the user has installed the app, it is possible to register for the VIMpay Card. With a few steps, the card can be activated and is then ready for payments. Another milestone is the form of charging the VIMpay Card. With the new instant replenishment feature, the waiting time for the bank transfer is skipped in full compliance with regulative requirements.

3 Use case descriptions for Version 1 of the VIMpay App

3.1 Use case 1: Third party account registration

USE CASE NAME	Third party account registration
Precondition	User has downloaded the app
Post condition	The user can manage his third party account via the app
Regular Steps / Description	<ol style="list-style-type: none"> 1. User starts configuration from the online bank account 2. User needs to choose his bank in a bank list 3. User has to enter the online bank account information from this bank 4. App gets all bank data from the server 5. App integrate the third party account into the management interface

3.2 Use case 2: Third party account management

USE CASE NAME	Third party account management
Precondition	The user can manage his third party account via the app
Post condition	The user managed his bank accounts
Regular Steps / Description	<ol style="list-style-type: none"> 1. The user can manage the accounts in settings from the VIMpay app 2. It is possible to edit the information from the accounts 3. Also it is possible to delete some of the third party accounts

3.3 Use case 3: Third party account SEPA payment

USE CASE NAME	Third party account SEPA payment (SEPA credit transfer)
Precondition	The user has configured a third party account and starts the transaction in the overview from all bank accounts
Post condition	The user has successfully executed the SEPA form
Regular Steps / Description	<ol style="list-style-type: none"> 1. The user needs to choose a sender account 2. The user must enter a receiver <ol style="list-style-type: none"> 1. He can choose a receiver in a list. 2. He can enter all receiver data manually: <ol style="list-style-type: none"> 1. Name 2. IBAN 3. BIC 3. The user must enter an amount 4. The user can optionally enter a purpose for the transaction 5. The user has two more optional possibilities <ol style="list-style-type: none"> 1. The user can activate a scheduled transfer <ol style="list-style-type: none"> 1. On which date the transfer shall effected 2. Or the user can activate standing order

	<ol style="list-style-type: none"> 1. The user has to enter a time on which date the transfer should start 2. And it is necessary to choose how often the transfer should carry out
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3.4 Use case 4: The user can register for a VIMpay Basic card

USE CASE NAME	The user can register for a VIMpay Basic card
Precondition	The User has downloaded the app and starts the registration for the VIMpay Card
Post condition	The user can now see all his VIMpay card data in the app. Also it is now possible to pay online with the card
Regular Steps / Description	<ol style="list-style-type: none"> 1. User needs to enter his name 2. User needs to enter his date of birth 3. User needs to enter a password for the VIMpay account 4. User needs to accept the general terms and conditions 5. User needs to enter his SEPA online bank account information 6. User needs to enter email address or phone number 7. User needs to confirm this data: <ol style="list-style-type: none"> 1. The email address needs to confirm with an email 2. Phone number needs to confirm with a code 8. Last step, user needs to add his private address

3.5 Use case 5: The user can see his card details in the app

USE CASE NAME	The user can see his card details in the app
Precondition	User is successfully registered for the VIMpay Card
Post condition	User sees his card details
Regular Steps / Description	<ol style="list-style-type: none"> 1. User opens App 2. User data will decrypted 3. User activates the VIMpay Card 4. Card data will load over the API 5. App shows the card data

3.6 Use case 6: The user will replenish his VIMpay Card

USE CASE NAME	The user will replenish his VIMpay Card
Precondition	User is successfully registered for the VIMpay Card, Reference account is managed by the VIMpay app
Post condition	The VIMpay Card is topped up
Regular Steps / Description	<ol style="list-style-type: none"> 1. User starts the top up process 2. App checks, if is he allowed to replenish his card through the API 3. User types in his replenishment amount. 4. App checks again the amount through the API 5. API tells the app if everything is ok

- | | |
|--|--|
| | <ol style="list-style-type: none">6. App initiates the money transfer through the reference account7. App sends transfer confirmation to API8. API checks the transfer and initiates the top up process in the backend |
|--|--|

4 Consolidated List of Requirements

Based on the use cases above we can define a list of functional requirements for version 1 of the VIMpay app. These are divided into VIMpay Card related requirements and requirements related to the SEPA payment functionality.

Requirements are categorized by Should, Shall and May requirements:

- Shall requirements are necessary for the projects success
- Should requirements are part of the initial work plan
- May requirements are non-essential features enhancing customer experience

4.1 VIMpay Card

VIMpay Card Management & KYC	
1	The app shall provide an easy, simple and fast registration for a Prepaid MasterCard, using email address or cell phone number. Following additional data is necessary: date of birth, reference account and address.
2	The app should verify email address or cell phone number during the registration.
3	Because of safety reasons, the app shall only allow SEPA online bank accounts for registration.
4	The app should create a VIMpay account, containing a virtual Prepaid-MasterCard, by registration.
5	The VIMpay Card should be displayed visually. Card data needs to be viewed and can be used for online payments.
6	The app should replenish the card directly with a certain amount by instant replenishment . The maximum amount of the VIMpay card is 300 EUR.
7	The VIMpay account should allow access to see the card data from multiple devices.
8	With the app it should be possible to change personal data and deactivate the VIMpay account.
9	The VIMpay card should contain the following limits: max. card balance: 300,- EUR; max. annual turnover: 2.500,- EUR.
10	The app should communicate with the backend, using an API.

Instant Replenishment	
1	The app may offer an instant replenishment. It's not necessary to wait until the normal bank transaction is available on the Prepaid MasterCard.
2	With N cleared instant replenishments, the app should allow N+1 instant replenishments.
3	The app should offer instant replenishments for a daily amount of 15EUR.
4	The app may simplify this process, as the transfer form has already been filled out and only needs to be confirmed by a TAN.

Security	
1	The app shall encrypt all data to protect from unauthorized access.
2	The app should give the opportunity to define a PIN to protect from unauthorized access.
3	The app may be locked on inactivity.

4.2 Non-Card based SEPA Payments

Account Setup

1	The app should give an overview of all online banks.
2	The app shall offer a simple and easy way log into an online bank account.
3	The app may give support in case of problems.

Account Overview

1	The app shall display all accounts.
2	The app shall display the revenues of an account.
3	The app shall display the details of a revenue.
4	The app should offer a possibility to search all revenues.
5	The app may offer a possibility to filter revenues.
6	The app may support the export of revenues.
7	The app shall support the management of terminated transactions and standing orders.

Transactions

1	The app shall offer a SEPA transaction.
2	The app may offer a shortlist of recipients to choose from.
3	The app should be able to create terminated transactions and standing orders.
4	The app may guide the user through a SEPA transaction step by step.

User Experience

1	The Android app should use Google Material Design standards.
2	The iOS app should use Apple Design standards.
3	The app shall offer a board with access to the most important functionalities.
4	The app shall gain a recognition effect through the VIMpay board.

5 References

- [1] p. GmbH, „VIMpay Description of Action,“ 2015.
- [2] petaFuel GmbH, „123Banking Android Appstore,“ 2015. [Online]. Available: <https://play.google.com/store/apps/details?id=net.petafuel.mobile.banking&hl=de>.
- [3] petaFuel GmbH, „D 7.1. First enhanced exploitation and pricing plan,“ 2015.
- [4] Bundesministerium für Justiz und Verbraucherschutz, „Gesetz über das Kreditwesen,“ 2015. [Online]. Available: http://www.gesetze-im-internet.de/kredwg/___25n.html.