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D 5.3 Business requirements for version 3 of the VIMpay app

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1 Document Control

Version	Status	Date
0.1	Document outline and first content	25 April 2016
1.0	Complete First Draft	11 July 2016
1.1	Final content	01 August 2016
1.2	Final reviewed document	05 August 2016

2 Executive Summary

This deliverable constitutes the business requirements for version 3 of the VIMpay app. In Version 3 petaFuel focused on delivering essential additional features to improve the customer experience with the app based on the review process employed during work package 9. Main features are data synchronization across multiple devices, the support for video based KYC and additional modules to enhance the overall experience.

3 Scope of this deliverable

This deliverable defines the business requirements and use cases for version 3 of the VIMpay app, called Mojito. This third release basically integrates data synchronization between different devices and a browser-based access for VIMpay users. Additionally, multiple essential features that increase usability and payment comfort in daily life are defined.

4 Motivation for the use cases in version 3

In this VIMpay update the main focus is on giving the customer a wide range of options for accessibility, when it comes to banking as a smooth experience. Synchronization of already stored data permits the independent usage on other devices. A card management website guarantees the access to essential functions even when there's temporarily no device available containing an installed VIMpay app. Furthermore, the website enables users to manage every active VIMpay session in case of a stolen devices.

On top of these function sets there'll be two new features called „Kontowechselservice“ and „dynamisch versichert“. These essential features will upgrade VIMpay to a much more productive product.

5 New Requirements for Version 3

To improve the financial banking experience in everyday life, VIMpay is going to be available across different devices. In this regard, there will be two requirements to deal with:

First a synchronization of the stored data on all used devices is necessary.

In addition, there will be a browser-based access to see the revenues of the VIMpay card in a password-protected personal area of the VIMpay website. A management of third-party accounts will not be provided here, but is of course still available on mobile devices. Data synchronization and access via the website are described later on in this deliverable.

5.1 Data storage and synchronization

As proposed in D5.2 (Business requirements for version 2 of the App, section 2.1.6), VIMpay supports a multi-tiered approach to manage the data of the user. Version 2 introduced the data access specific parts of this approach with the so called trust model for data access.

In this version we extend this model with regards to the storage of the private data of the user (all personal settings in the app and banking credentials as well as the revenues). We developed different levels (or stages) for data storage (c.f. Fig. 1). The user can change these settings and adapt them to his needs and wishes at any time. It is important that no matter what type of data storage the user chooses, he is never going to give up the sovereign right on his data and they are encrypted at all times.

The goal of these stages are to support different levels of data synchronization across multiple devices.

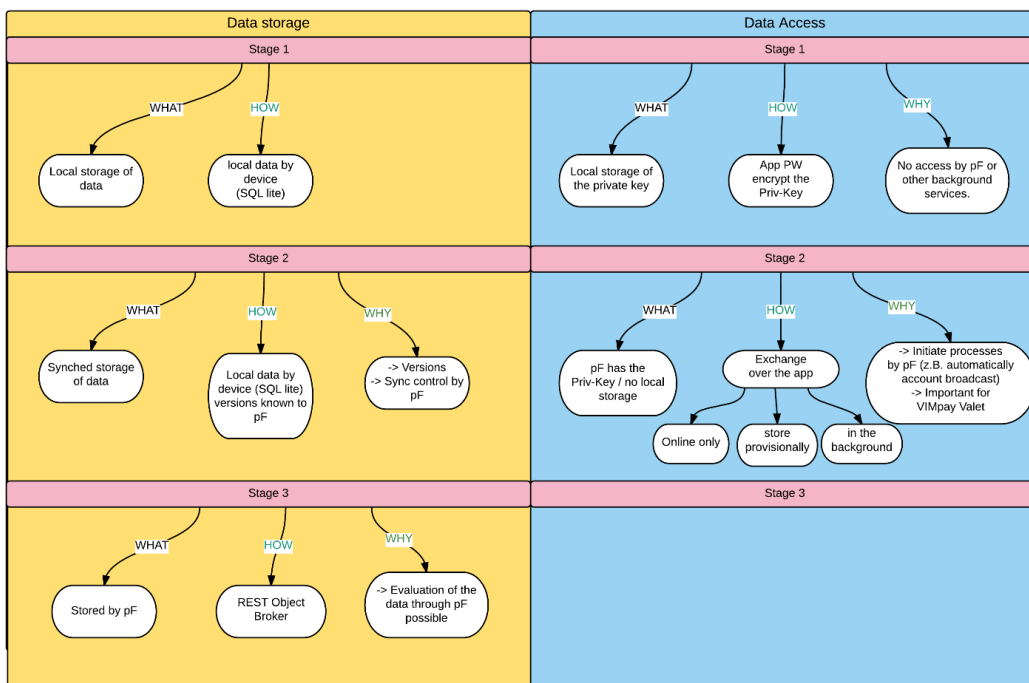


Figure 1: Different stages of data management

5.1.1 Level 1: local storage on the smartphone

The data is stored locally on the phone and is always encrypted by a private key. There is no synchronization across multiple devices. In case of loss the device, a recovery is not possible. This is the default setting and recommended for users with only one device.

5.1.2 Level 2: cloud based storage (Google Drive, Dropbox, iCloud, OneDrive, etc.)

The data is stored locally but can be synchronized / stored in the users preferred cloud storage service. In this case, it is necessary that petaFuel manages the different versions of the user data, so that it can be checked if the data on the current device is the most current version.

With this level activated, apparent advantages for the user show. Restoring data and settings and gapless synchronization across all devices is then possible. In addition, it should be mentioned that new installations on other devices are arranged even simpler and faster using this type of data storage.

5.1.3 Level 3: storage on the servers petaFuel

In case that the user is not confident about the popular cloud storage services it is possible to store the data directly at petaFuel. In this stage data is synchronized in real time with the petaFuel servers and not stored locally. The data are always up to date on petaFuel servers and the normal synchronization in level 2 is no longer needed. However, the device must always be online for data changes.

5.2 VIMpay Websites

For VIMpay two sites are required. First there is a product information and marketing page and next to it, the card management website. Responsive design guidelines have been considered, so that the websites are presented optimized and usable for any respective device. URL: <https://www.vimpay.de/>, <https://www.vimpay.com/>

The product-based website provides information and the main marketing of VIMpay. It informs about features and the security of VIMpay, VIMpay Card and the VIMpay app. From the product-based website the user is guided directly to the card management website after the activation of the VIMpay Card.

The card management website is intended to be a personal area. Here, the user is able to manage his card and personal data, terminate sessions on smartphone or tablet and make transactions. The website can only be used by customers who have already registered for the VIMpay Card. This area represents the browser-based equivalent of the VIMpay app.

The structure of the card management website is generally similar to the structure of the VIMpay app. The use occurs via segments which contain the various functions.

5.3 VIMpay Valet

The VIMpay Valet acts as a personal (financial) assistant, to help the user in the daily use of VIMpay. The user has the opportunity to give the assistant a name to establish a personal bond to it. A picture can be stored for the VIMpay valet, too. The assistant also helps you explore the app for the first time and explains the various functions of VIMpay. Furthermore, the assistant helps the user to categorize all revenues of the registered SEPA accounts and the VIMpay Card. Therefore, all transactions are categorized/filtered locally on the device for specific keywords and then assigned to the defined categories. The analysis options to categorize revenues are endless. Because of the ability of the assistant to differ between revenues and expenditure by keywords the user can get a monthly graphic of his transactions.

In order to allow a clear evaluation of the categories, there is a juxtaposition of these former in a list, which is sorted according to expenditure. This is providing that the user sees at a glance on which areas he spent most of his money. Furthermore, the total amount of all expenditure is displayed above the list. By swiping left and right on the screen the user can navigate through individual months. By typing on a certain category the user gets all revenues displayed that have been assigned to it.

5.4 VIMpay Chat

To communicate within VIMpay, the VIMpay app gets a chat area. The chat functionality can be divided into two parts. On the one hand it is possible to contact a support representative directly from the app to quickly and efficiently solve problems. There is also the possibility of using the personal assistant, the VIMpay Valet, for tasks or to obtain assistance. Also, the user should be able to chat with other VIMpay users in the future. The user will be informed about new messages via push notifications.

The chat function protects us and the user of fake and malicious spam emails and is a modern way to communicate with users. It is developed very simple and keeps the main requests of the user in focus. It is no longer necessary to leave the app to get access to support services.

5.4.1 Support Chat

The user may contact the VIMpay support quickly and easily at any time. Answers will arrive directly to the app via push notifications. This results in a very comfortable way to get help through reporting problems, without wasting time in queues or sending complex emails.

5.4.2 VIMpay Valet Chat

Users can chat with the VIMpay assistant, which acts as a bot. It can perform tasks, reminders and guides the user through his money transfers. With keywords corresponding requests are evaluated and either directly answered or processed, or even converted to a support request. When it comes to already started orders the user will no longer be forwarded to the transfer mask, but communicates only with his assistant. In addition, the assistant communicates actively with the user in the chat. Information and incidents are communicated as Push messages in chat.

5.5 Videoident

D8.1 (Report on European Focus Countries, section 3.1) and D.8.2 defined the KYC requirements for the VIMpay product including necessary steps for an European market entry. To fully legitimize the user for VIMpay Premium, the Postident system is used in Germany (already in place since version 2).

To simplify this process for VIMpay users and to enable the EU-entry, the video identification procedure was added to the app. The process consists of several steps. Preliminary various conditions are checked. The user requires a fast Internet connection, a quiet room, his passport or identity card and 5 minutes. The first step of the video ident requires the entry of his identification data. After that the video call will be started. Here, the user is checked and verified by an external certified third party, based on the proposed requirements. During the conversation, pictures of the user and his identity card are taken. After petaFuel received all necessary data, the person is fully legitimized.

Please note: In D.8.2 we referenced some difficulties with the regulative authorities on the usage of video ident for VIMpay. These issues have now been resolved and video ident will be used as initially planned.

5.6 Account Exchange Service (Kontowechsel-service)

For a bank customer an account change is usually associated with a lot of effort. Because of this many dissatisfied customers stay with their bank, thinking that the effort is tedious. VIMpay is going to simplify this problem in cooperation with Bertelsmann SE & Co. KGaA (hereinafter "arvato"). For this purpose, a system was developed that provides VIMpay customers the opportunity to fully change from their old bank to VIMpay with little effort. The only thing that needs to be done is a registration of the user for VIMpay Premium so that he is fully legitimated and has an account with all features.

When the VIMpay user decides to perform a change of account from another account to VIMpay, he only needs to select the function "Kontowechsel-service" for account exchange. Subsequently, the HBCI access data of the old account will be required. The "Kontowechsel-service" transmits all the necessary data for a move of existing direct debits and will notify the elected officials about the account change.

5.7 dynamisch versichert

"dynamisch versichert" (hereinafter dv) is an additional app, which is available in the AppStore. It represents the insurance division of VIMpay accounts, and is firmly linked to VIMpay. The app will only be available if the user is already a VIMpay Premium customer. It generates an overview of all insurance policies and contracts that may be taken from the accounts of VIMpay. In addition, the user can manage his own insurance, compare it with other insurances and change to a low-cost insurance.

5.7.1 Insurance be sought / Insurance are compared

Once the app is installed and the user opens dv, the app searches for revenues in VIMpay and for specific keywords for insurance (Allianz, Ergo, etc.). Then all insurances found are displayed to the user, which he can manually edit and also add new insurances. The user can photograph documents to upload in the app. Even before an agents mandate is signed by the user, he has the opportunity/possibility to compare his previous insurances. The app displays to the respective insurance adapted to respective insurance class and alternative tariffs (cheaper or performance optimized).

5.7.2 Agents mandate

To fully use the app dv, the user sees its new pre-filled broker mandate in the form of a PDF so that he has to sign in the app. He confirms the mandate and sends the order to dv. Through sending the new agents order, it is valid. The user confirms that he has given no further orders through the duration of his contract. Thus, the user automatically announces dv as new agent.

5.7.3 Compare Insurance / Complete New Insurance / Change Insurance

After the agent mandate of dv was confirmed, the user gets access to the list of their existing insurance policies and now has the opportunity to compare his previous insurance with other offers, to conclude new insurance or change its existing insurance to another/cheaper insurance.

5.8 VISeye

Since October 2013, the pF cooperates with the LMU on the public funded R&D VISeye. The aim of the research project is to develop a hybrid method that can identify products by pictures, photographed with a smartphone camera. Here, many different features of an object are extracted and stored in a database or compared with existing data. For the design and research of hybrid process, the research team of LMU is in responsibility. With this technique the user can easily scan products in a catalog, by using the camera of his smartphone. VIMpay recognizes the objects through the camera. The user has the possibility to choose the object and can immediately buy the product via his VIMpay Card.

5.9 VIMpay Connect combined with PoS

VIMpay Connect provides the possibility for users to add their VIMpay card at various online stores as primary form of payment.

With VIMpay Connect the user gets an overview of all online merchants where he can add his VIMpay card data automatically. To store his VIMpay card in an online shop, the user first needs to enter his log in data. In background, VIMpay itself now logs in the customer. The login data will only be used once and will not be stored on the device. Upon successful registration the VIMpay card is automatically stored as the primary form of payment. The user himself saves time with this function by no longer entering name, PAN and CVC. He simply waits a few seconds before his card data is stored in his preferred shops.

The number of available stores is steadily increasing. In the beginning, mostly influential and popular merchants will be supported. However, the list of stores available will grow quickly to provide an expanding comfort for the user.

6 Use case descriptions for version 3 of the VIMpay app

6.1 Data storage change

6.1.1 Use Case 1: Change default storage in level 2

USE CASE NAME	Change default storage in level 2	
Precondition	Activated VIMpay user and local data storage	
Postcondition	Data storage activated in level 2 (Cloud services)	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User chooses cloud storage service 3. User enters to cloud storage service via log in 	<ol style="list-style-type: none"> 2. App is uploading encrypted data of the user in cloud storage

6.1.2 Use Case 2: Installation of the VIMpay app via cloud storage on a device

USE CASE NAME	Installation of the VIMpay app via cloud storage on a device	
Precondition	Activated VIMpay user and cloud data storage	
Postcondition	VIMpay is installed on a device	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User logs in to VIMpay 3. User generates additional UI-Lock PIN 4. Stored data is displayed on the device 	<ol style="list-style-type: none"> 2. App is uploading encrypted data on the device out of the cloud storage

6.1.3 Use Case 3: Synchronization of data with cloud storage

USE CASE NAME	Synchronization of data with cloud storage	
Precondition	Activated VIMpay user, active cloud storage and VIMpay is installed on more than one device	
Postcondition	All devices have a current state by synchronization	
Regular Steps / Description	<ol style="list-style-type: none"> 1. Data change on one device 	<ol style="list-style-type: none"> 2. VIMpay transfers the changes to the cloud storage and synchronizes the new database version with petaFuel 3. All VIMpay sessions are updated

6.1.4 Use Case 4: Change default data storage in level 3

USE CASE NAME	Change default data storage in level 3	
Precondition	Activated VIMpay user and local data storage	
Postcondition	Online data storage activated in level 3 (petaFuel server, online only)	
Regular Steps / Description	1. User chooses pF Server	2. App is uploading encrypted data of the user to the pF server

6.1.5 Use Case 5: Change default data storage from level 2 to level 3

USE CASE NAME	Change default data storage from level 2 to level 3	
Precondition	Activated VIMpay user and cloud data storage	
Postcondition	Data storage activated in level 3 (petaFuel Server)	
Regular Steps / Description	1. User chooses pF Server	2. App deletes data out of cloud storage service 3. App uploads encrypted data of the user to the pF server

6.2 Card management website

6.2.1 Use Case 1: Dashboard

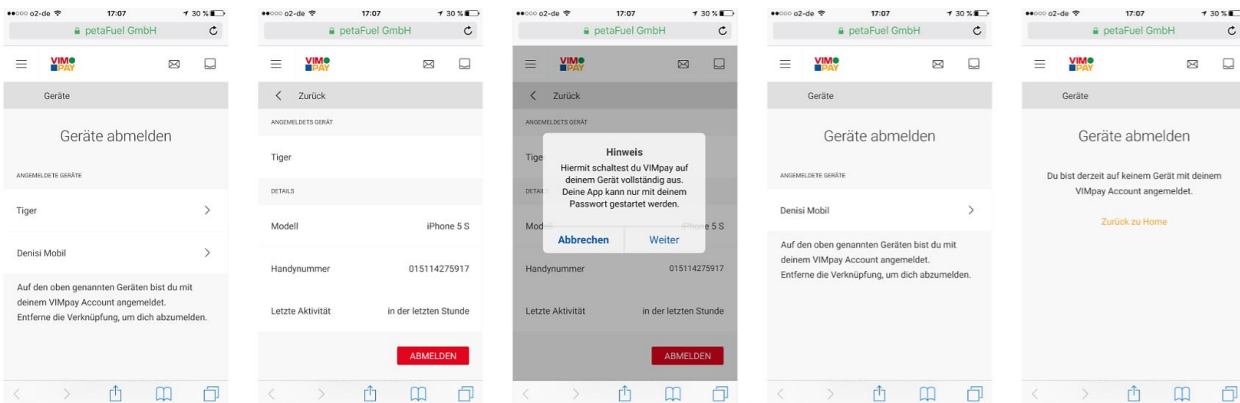
USE CASE NAME	Dashboard
Precondition	VIMpay user wants an overview of his VIMpay account
Postcondition	VIMpay user is able to see all relevant information in one dashboard
Regular Steps / Description	1. VIMpay user enters the website via login 2. VIMpay user sees his dashboard with personal details of his account, like account balance and the last five transactions etc.

6.2.2 Use Case 2: Segments

USE CASE NAME	Segments
Precondition	VIMpay user wants to navigate through the website
Postcondition	VIMpay user is in the website area of his interest
Regular Steps / Description	<ol style="list-style-type: none"> 1. VIMpay User has quick access to his VIMpay Card PIN 2. User can easily see his VIMpay account balance 3. The user can directly contact the VIMpay Support

6.2.3 Use Case 3: Tokenmanagement

USE CASE NAME	Log out Token	
Precondition	VIMpay user is logged in on several devices	
Postcondition	VIMpay user is logged out on several devices	
Regular Steps / Description	<ol style="list-style-type: none"> 1. Frontend shows list of connected devices 2. User terminates one of the VIMpay sessions 	<ol style="list-style-type: none"> 3. Token is deleted 4. VIMpay app requests VIMpay password



6.2.4 Use Case 4: Profile

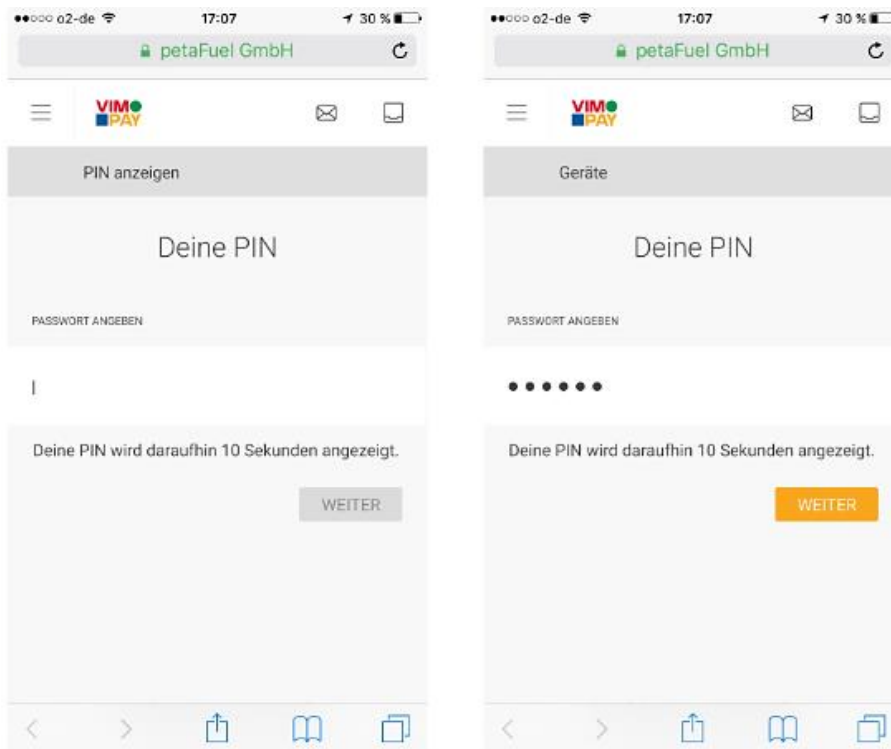
USE CASE NAME	Profile	
Precondition	VIMpay user wants to manage his personal data	
Postcondition	VIMpay user can manage his personal data	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User can edit email address, phone number and his private address 2. Changes need to be confirmed 	

6.2.5 Use Case 5: Security status

USE CASE NAME	Security status	
Precondition	VIMpay user wants to change his security status	
Postcondition	VIMpay user changed the security status	
Regular Steps / Description	<ol style="list-style-type: none"> 1. Customer can change the security status in the settings 2. User can see which status is active 	

6.2.6 Use Case 6: Show PIN

USE CASE NAME	show PIN	
Precondition	VIMpay user does not know his PIN	
Postcondition	VIMpay user knows his PIN	
Regular Steps / Description	<ol style="list-style-type: none"> 2. User enters his password 	<ol style="list-style-type: none"> 1. Frontend requests password 3. PIN is shown by Frontend for 10 seconds



6.2.7 Use Case 7: Revenues

USE CASE NAME	Revenues	
Precondition	VIMpay user does not know his current revenue status	
Postcondition	VIMpay user knows his current revenue status	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User is in Dashboard/Home 3. User clicks on the menu point revenues 5. User sees his revenues 6. User can see the details of his revenues 	<ol style="list-style-type: none"> 2. Frontend shows current revenues in an overview 4. Frontend shows the details of the users revenues

6.2.8 Use Case 8: SEPA-transactions

USE CASE NAME	SEPA transactions	
Precondition	VIMpay Premium user wants to perform a transaction	
Postcondition	VIMpay Premium user performed a transaction	
Regular Steps / Description	<ol style="list-style-type: none"> 2. User fills in the transaction mask 3. User can select the option of a standing order or a date transfer 5. User sends order 7. User gets SMS notification for TAN conformation 8. User entries TAN in Frontend 	<ol style="list-style-type: none"> 1. Frontend shows transaction mask 4. Frontend receives performed order 6. pFREST sends SMS notification to the deposited phone number 9. Frontend receives the TAN the user entered 10. Order is about to be performed

6.2.9 Use Case 9: Protection against garnishments

USE CASE NAME	Protection against garnishments	
Precondition	VIMpay Premium user isn't protected against garnishments	
Postcondition	VIMpay Premium user is protected against garnishments	
Regular Steps / Description	<ol style="list-style-type: none"> 2. User activates protection against garnishments 3. User confirms data 6. User receives SMS for TAN confirmation 7. User enters TAN in Frontend 	<ol style="list-style-type: none"> 1. Frontend shows advantages of the protection against garnishments 4. Frontend pushes data forward after confirmation 5. pFREST sends SMS notification to deposited phone number 8. Order is about to be performed

6.3 VIMpay Valet Categorization

6.3.1 Use Case 1: Categorization

USE CASE NAME	Categorization	
Precondition	Non categorized revenues	
Postcondition	Categorized revenues	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User activates categorization 6. User can see monthly categorization of the revenues 	<ol style="list-style-type: none"> 2. App analyses all revenues of the disposed SEPA-account 3. App allocates revenues to categories by using keyword analysis 4. App integrates clearly arranged display of categories 5. App grades revenues by month

6.4 VIMpay Chat

6.4.1 Use Case 1: Support Chat

USE CASE NAME	Support Chat	
Precondition	VIMpay user has a problem	
Postcondition	Answered support request	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User sends problem as message to the support chat 4. User receives answer via PUSH notification 	<ol style="list-style-type: none"> 2. New ticket is generated in the support frontend 3. Support employee solves problem

6.4.2 Use Case 2: VIMpay Valet

USE CASE NAME	Chat with your personal assistant	
Precondition	VIMpay user and activated VIMpay Valet	
Postcondition	VIMpay Valet reacts on customers request	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User types with the VIMpay Valet 4. User receive a notification 6. User is happy 	<ol style="list-style-type: none"> 2. Bot analyzes the transmitted words 3. Bot responds to the message 5. Bot answers to the User

6.5 Videoident

6.5.1 Use Case 1: Videoident

USE CASE NAME	Videoident	
Precondition	VIMpay user	
Postcondition	Fully legitimized VIMpay user	
Regular Steps / Description	<ol style="list-style-type: none"> 1. Start legitimization 2. Enter identity data 7. User is legitimized 	<ol style="list-style-type: none"> 3. Identity data are sent to a certified third party 4. Video call is initiated 5. Picture taken of the user and the identity card 6. Legitimization is about to be checked

6.6 Account Exchange Service

6.6.1 Use Case 1: Account Exchange Service

USE CASE NAME	Account Exchange Service	
Precondition	Fully legitimized VIMpay user, German accounts only	
Postcondition	Exchange from old german account to a VIMpay account	
Regular Steps / Description	<ol style="list-style-type: none"> 1. Start Kontowechselservice 2. Old personal data and IBAN are entered 4. Old account data are indicated 6. User is informed, that his old account is resigned and that all data of transaction has now exchanged to his VIMpay account 	<ol style="list-style-type: none"> 3. Data is committed to the system 5. A generated letter is sent to the bank, insurances etc. 7. Old account is about to be resigned 8. All transactions are now performed from the VIMpay account

6.7 dynamisch versichert (German market only)

6.7.1 Use Case 1: Overview of the insurances

USE CASE NAME	Overview of the insurances	
Precondition	VIMpay Premium user has no overview of his insurances	
Postcondition	VIMpay Premium user receives an overview of his insurances	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User opens segment dv 3. User receives an overview of his insurances 	<ol style="list-style-type: none"> 2. dv searches for keywords connected to insurances in the revenues 4. dv shows a list of all existing insurances

6.7.2 Use Case 2: Add insurance

USE CASE NAME	Add insurance	
Precondition	Not all of the insurances were found, transactions to insurances were taken from another account	
Postcondition	VIMpay user deposited insurance in dv	
Regular Steps / Description	<ol style="list-style-type: none"> 2. User chooses an insurance 3. User adds the corresponding class of insurance 4. User adds proper amount of payment 6. User adds insurance 	<ol style="list-style-type: none"> 1. dv shows a list of all existing insurances 5. dv shows insurances 7. Insurance is added to the overview of all other insurances

6.7.3 Use Case 3: Agents mandate

USE CASE NAME	Agents mandate	
Precondition	The VIMpay user hasn't given the broker mandate to dv	
Postcondition	The VIMpay user gave his broker mandate to dv	
Regular Steps / Description	<ol style="list-style-type: none"> 2. User sees a pre-filled broker mandate 4. User signs the PDF 5. User sends the order to dv 	<ol style="list-style-type: none"> 1. Dv uses the personal data from VIMpay 3. dv shows the user a signature field 6. Dv now can manage the insurance of the user

6.7.4 Use Case 4: PDF scan

USE CASE NAME	PDF scan	
Precondition	VIMpay user has documents of his insurance	
Postcondition	VIMpay user digitalized his documents and added them to his insurance	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User photographs his documents by using the app/chooses pictures out of the gallery 4. User can optimize photographed images 5. User can use filters to reach an optimized contrast for the documents 6. User adds documents to the insurance 	<ol style="list-style-type: none"> 2. dv recognizes frames in the taken image and optimizes it 3. dv offers four different filters to optimize the image 7. dv archives scanned documents to the current insurance

6.8 VISeye

6.8.1 Use Case 1: Identifying objects

USE CASE NAME	Identifying objects	
Precondition	VIMpay user wants to buy an article	
Postcondition	User can use VISeye of VIMpay by scanning articles to buy them	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User scans article with VIMpay 4. App shows the article including a description and price 5. User buys article 	<ol style="list-style-type: none"> 2. Database is searched for the article 3. Article is displayed

6.9 VIMpay Connect

6.9.1 Use Case 1: Deposit the VIMpay Card at an online shop

USE CASE NAME	Deposit the VIMpay Card at an online shop	
Precondition	VIMpay user wants to deposit the VIMpay Card at a shop	
Postcondition	User deposited his VIMpay Card successfully	
Regular Steps / Description	<ol style="list-style-type: none"> 1. User chooses a retailer via VIMpay Connect 2. User enters his log in data for this retailer 5. User deposited his VIMpay Card as primary means of payment 	<ol style="list-style-type: none"> 3. User is logged in by VIMpay 4. VIMpay Card is deposited as primary means of payment at the retailer 6. User is logged out automatically