

ShopAdmin

Control your expenses with receipt scanner



LIVE DEMO

APPROACH

DETAILS

CONCLUSION

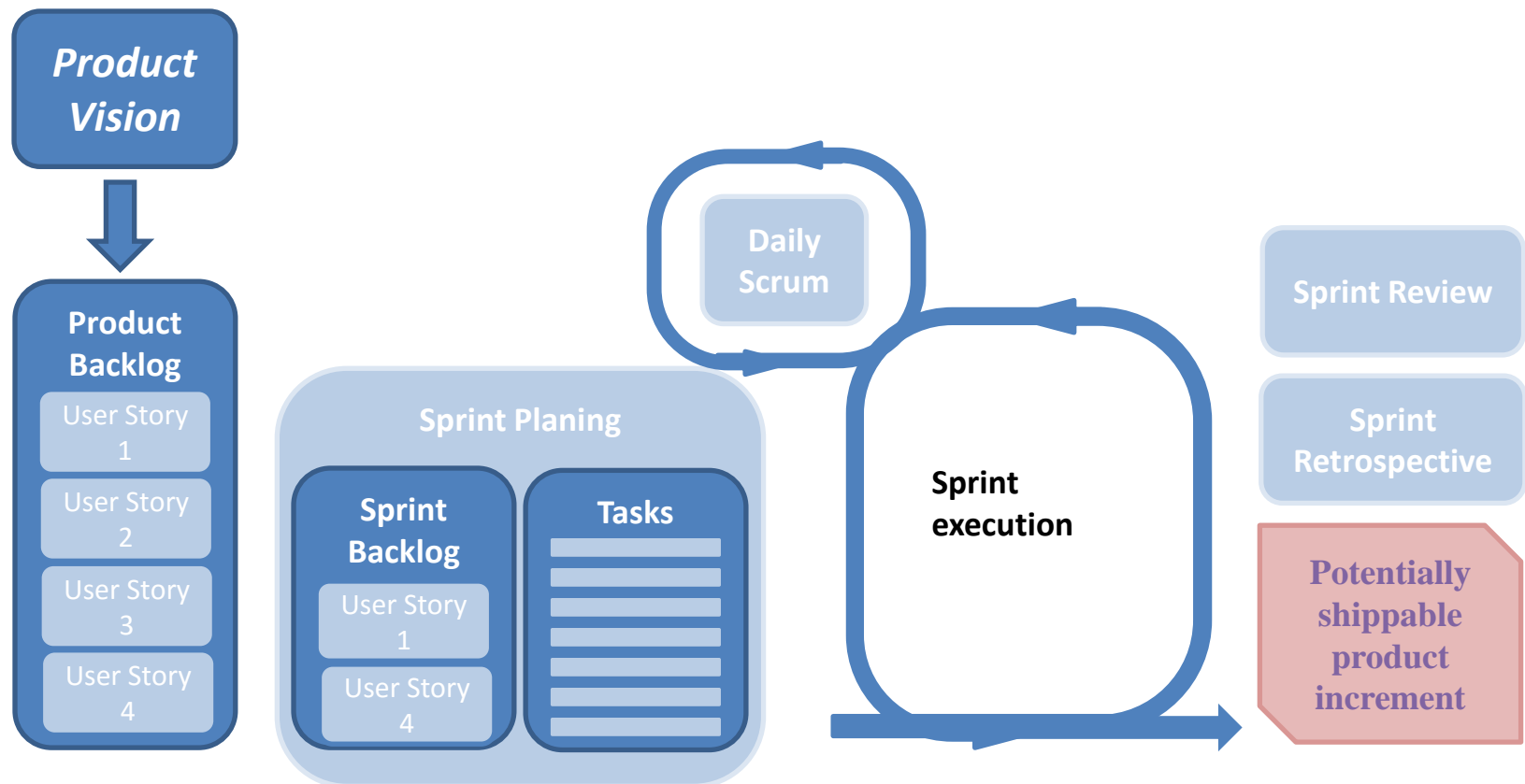
LIVE DEMO

APPROACH

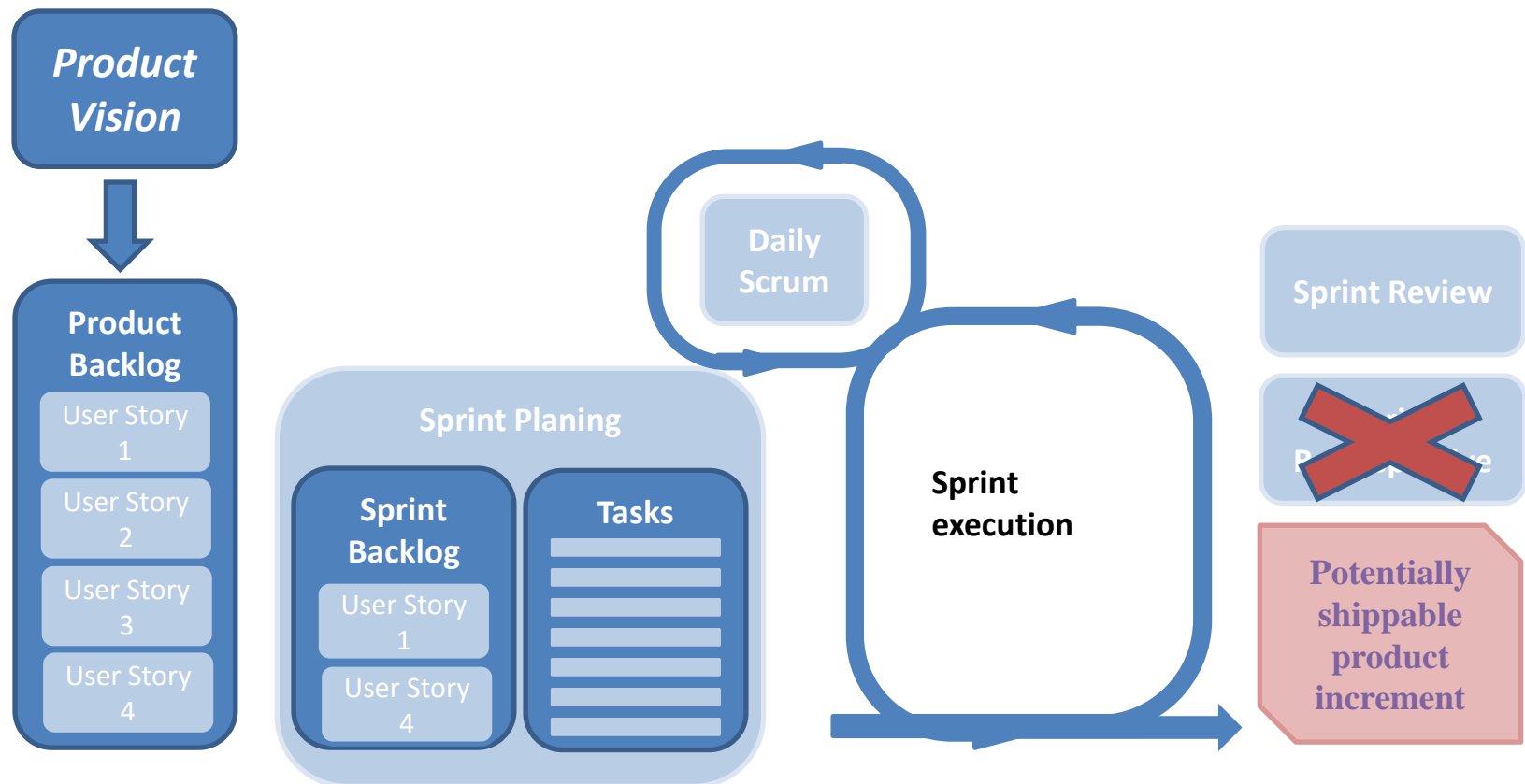
DETAILS

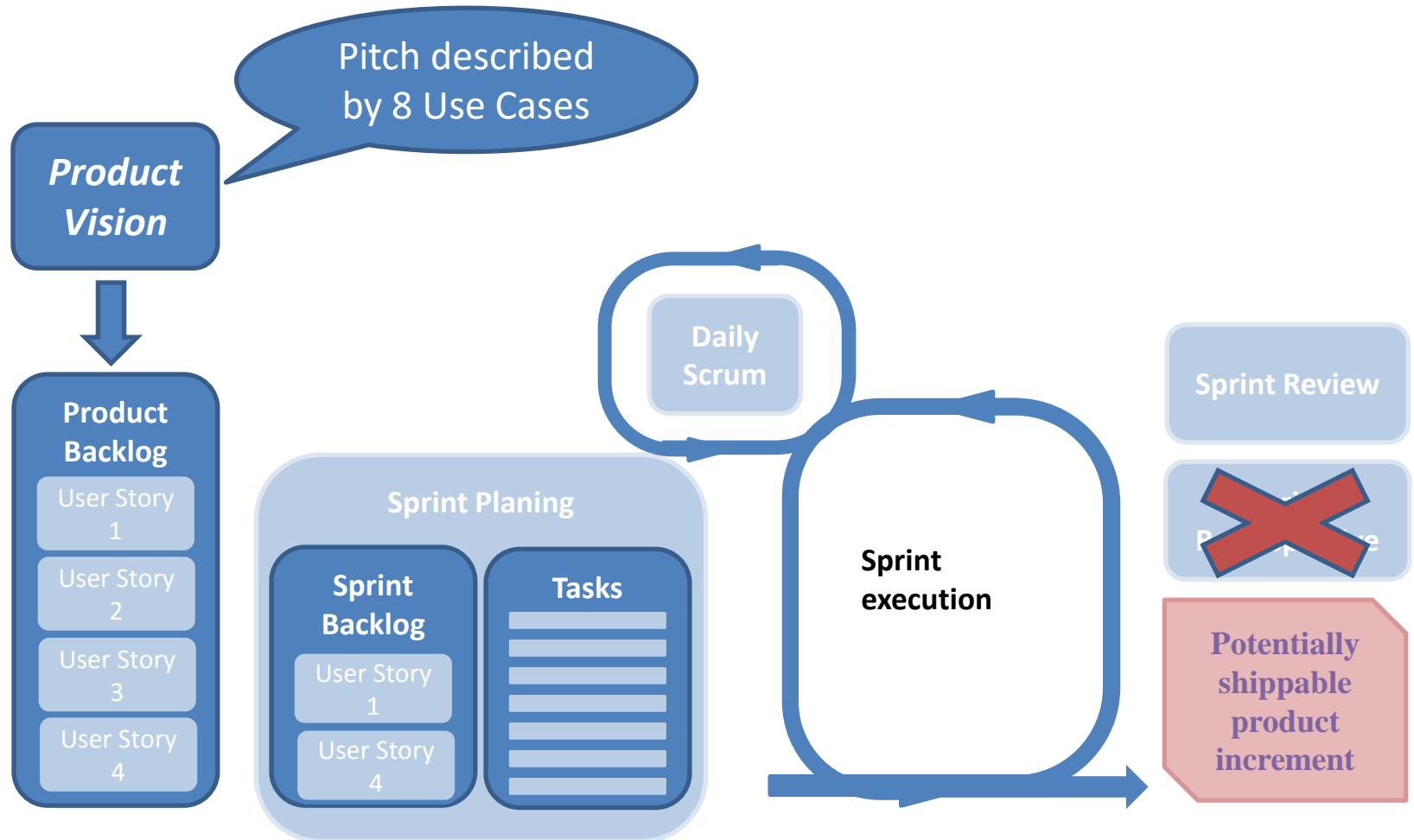
CONCLUSION

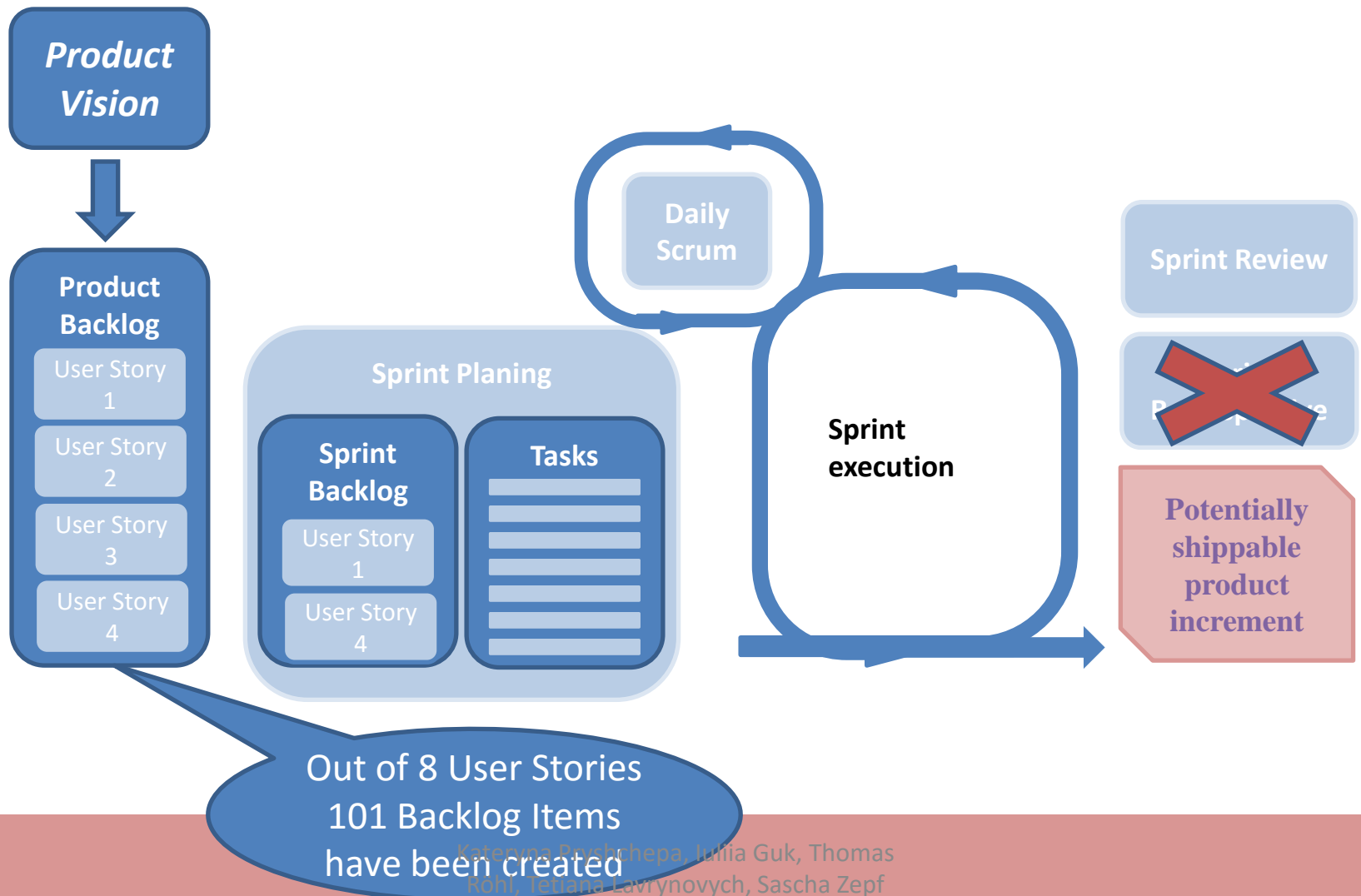
For the realization of ShopAdmin it was decided to use SCRUM

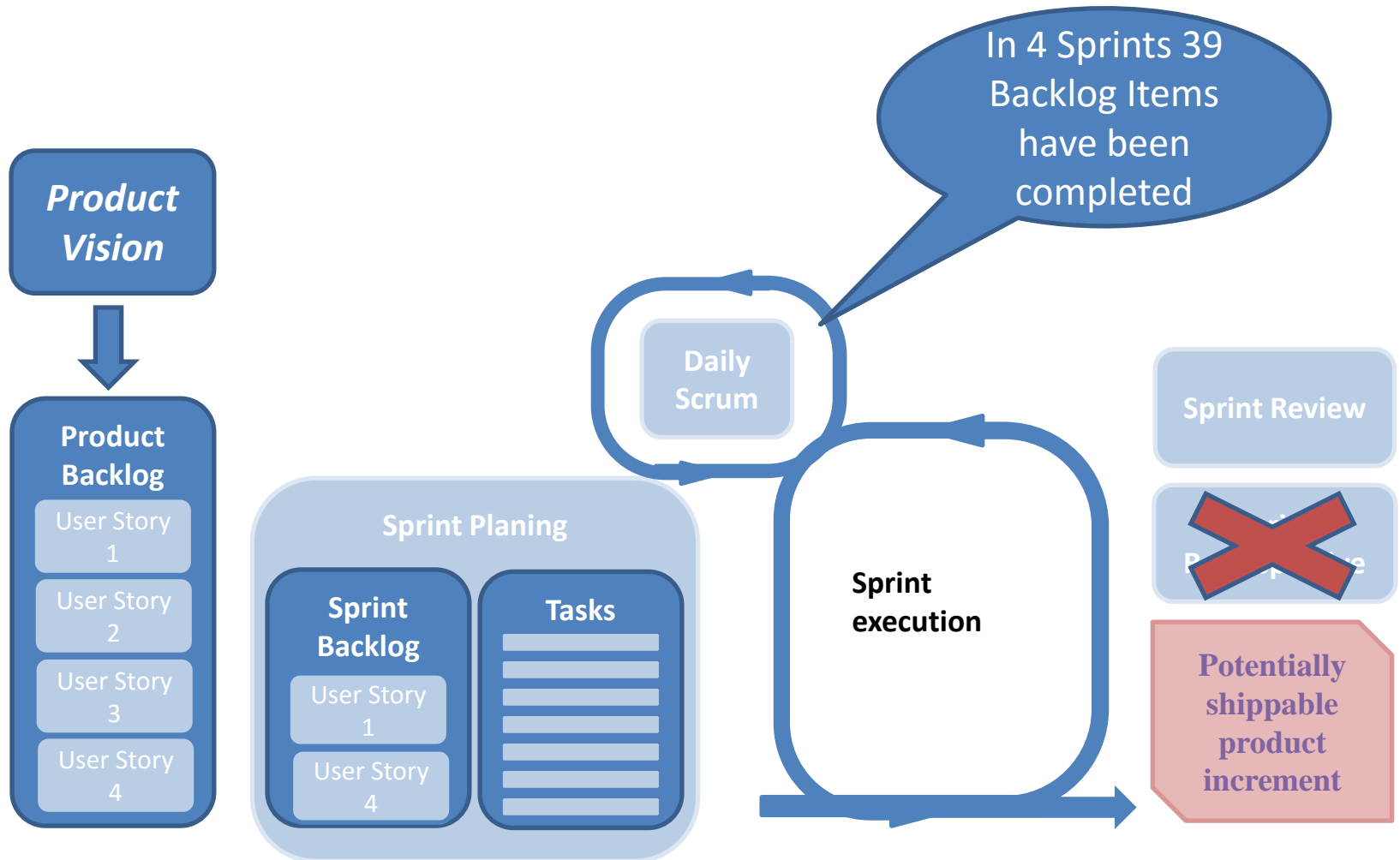


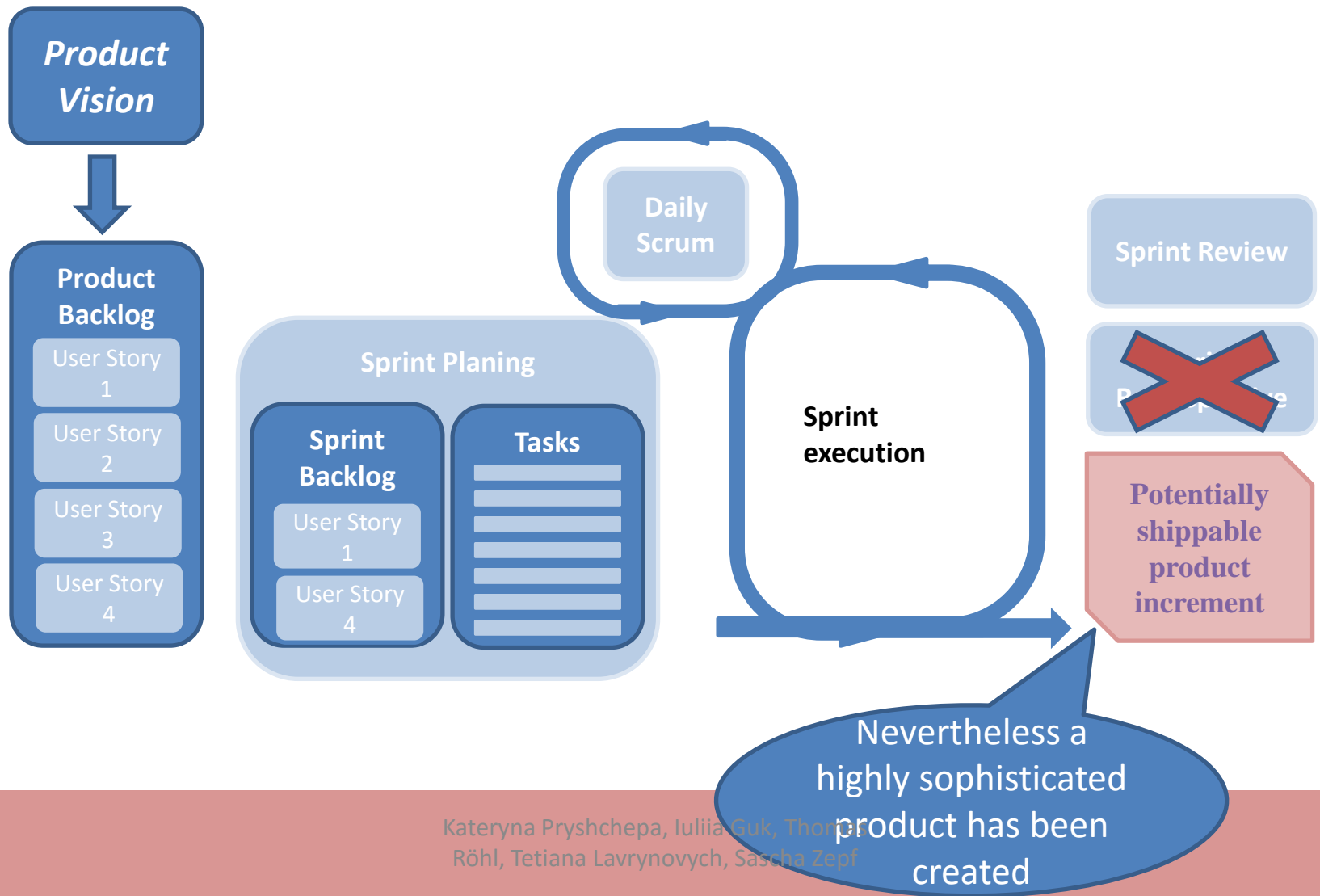
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*Core
Competences*

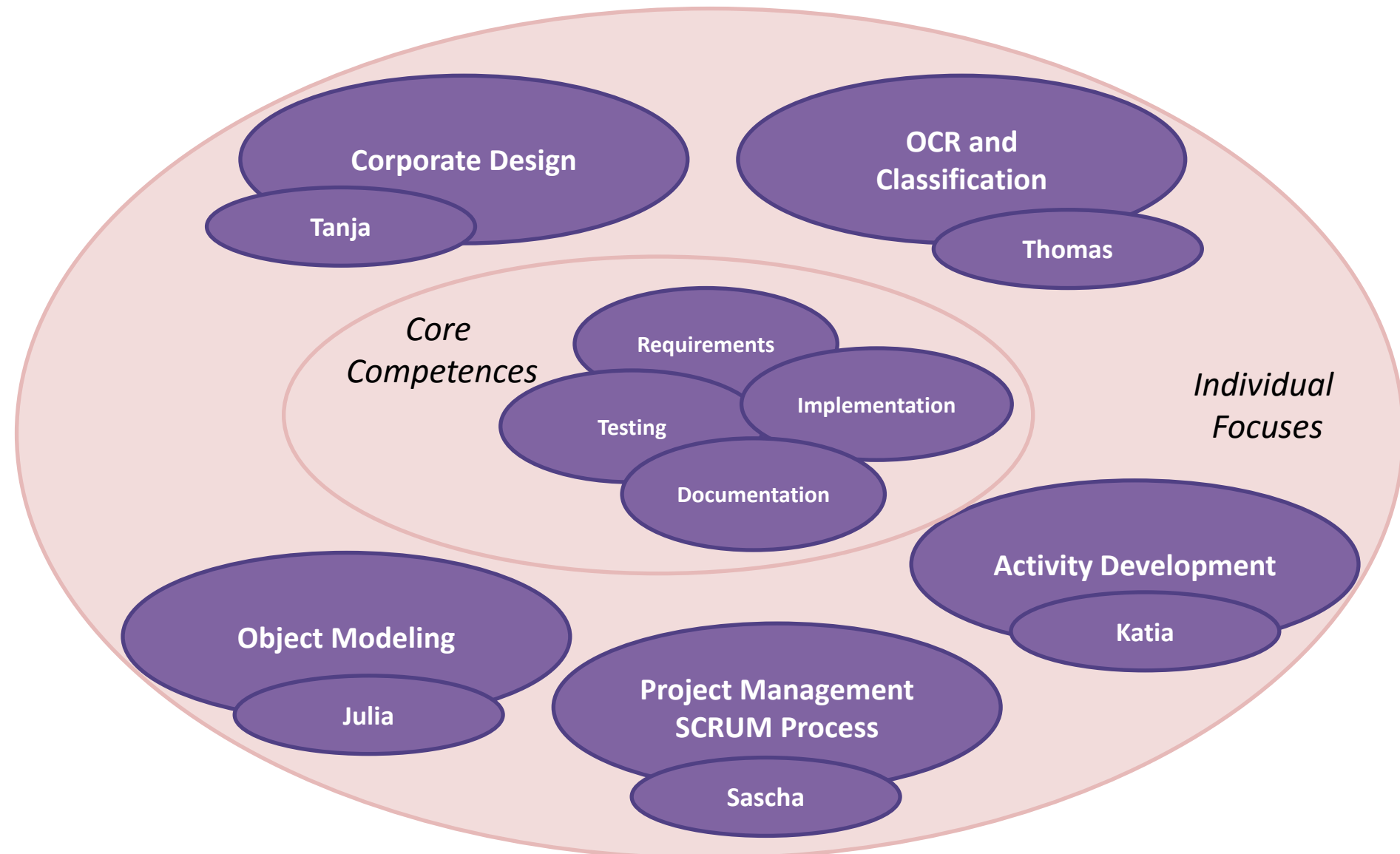
Requirements

Testing

Implementation

Documentation

*Individual
Focuses*



LIVE DEMO

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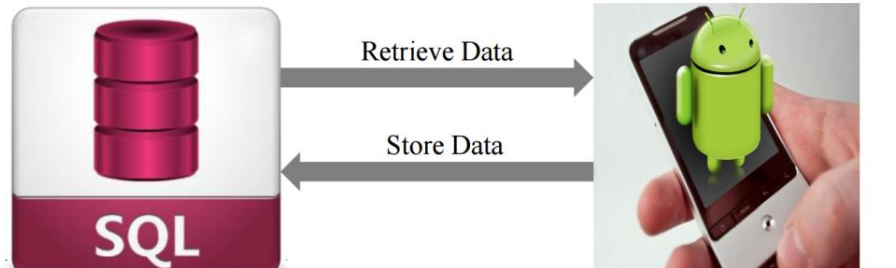
TECHNICAL DESIGN

ANDROID DETAILS

RECEIPT EXTRACTION

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Architecture



Model

Store required info:
shop name, date and
time, amount.

Controller

Number & text
recognition OCR
(optical character
recognition)

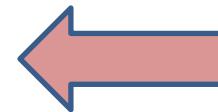
View

- Display receipt information
- Sort and categorize expenses
- Summarize expenses

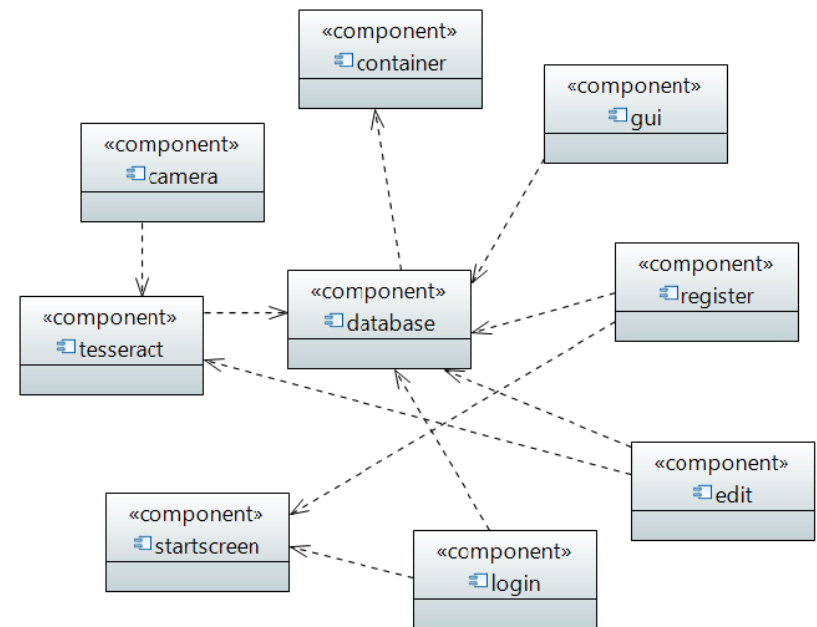
- ▼ camera
 - CameraController
 - CameraControllerInterf
- ▶ container
- ▶ database
- ▶ edit
- ▶ gui
- ▶ login
- ▶ register
- ▶ reports
- ▶ startscreen
- ▶ statics
- ▶ tesseract

Project Structure:

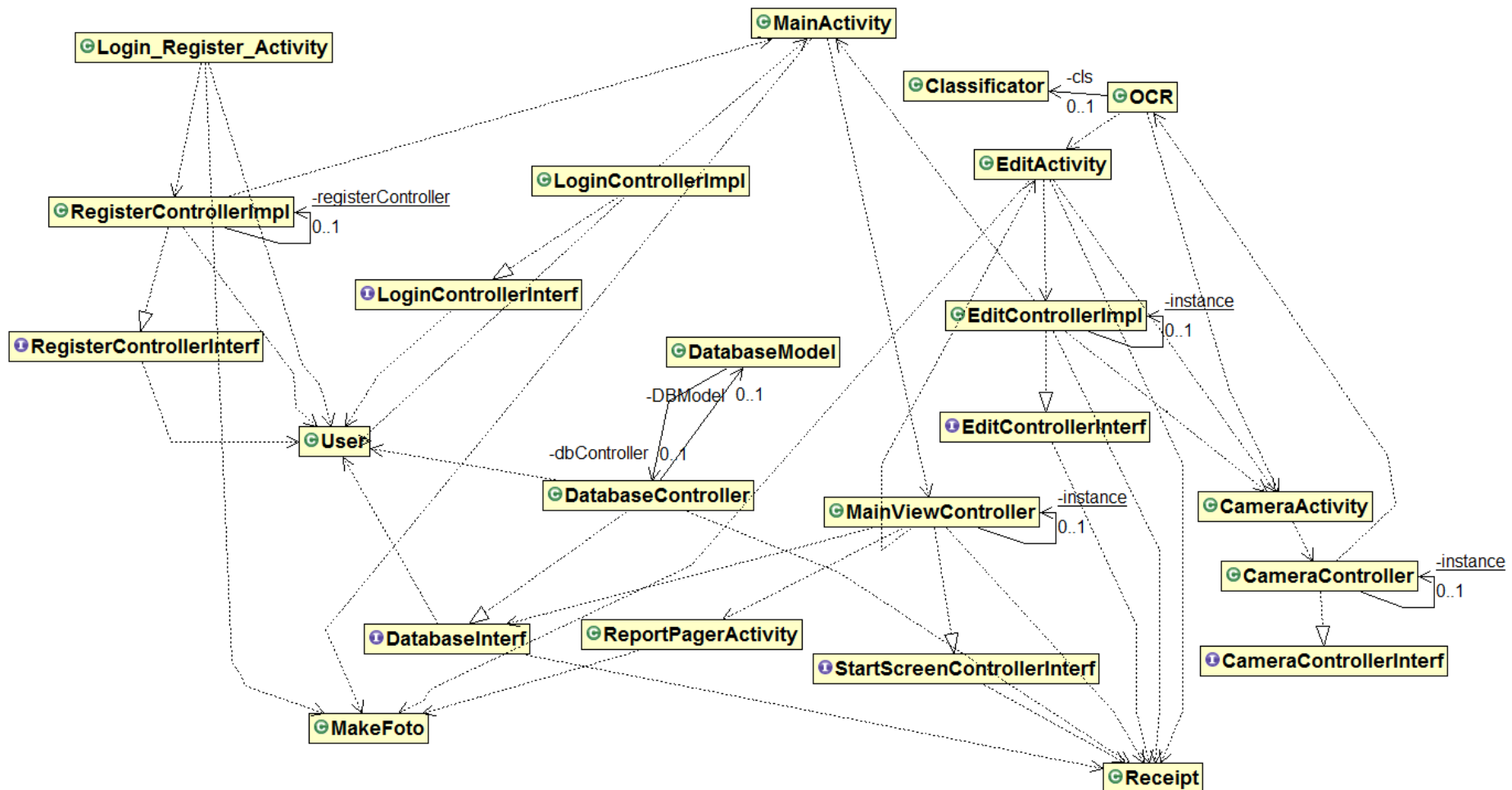
- division into 9 components
- full rebase: controller/implementation



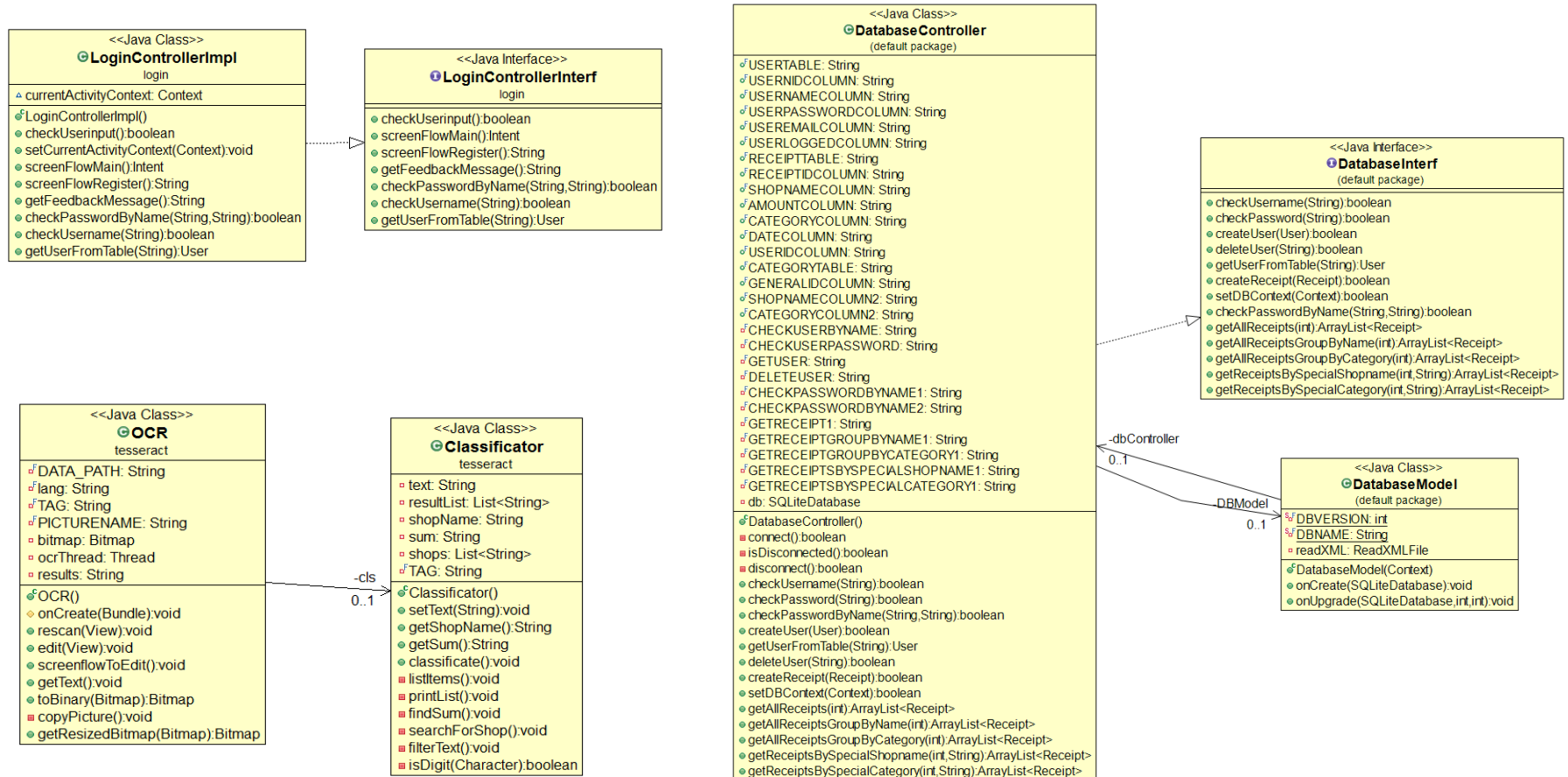
How it all began...

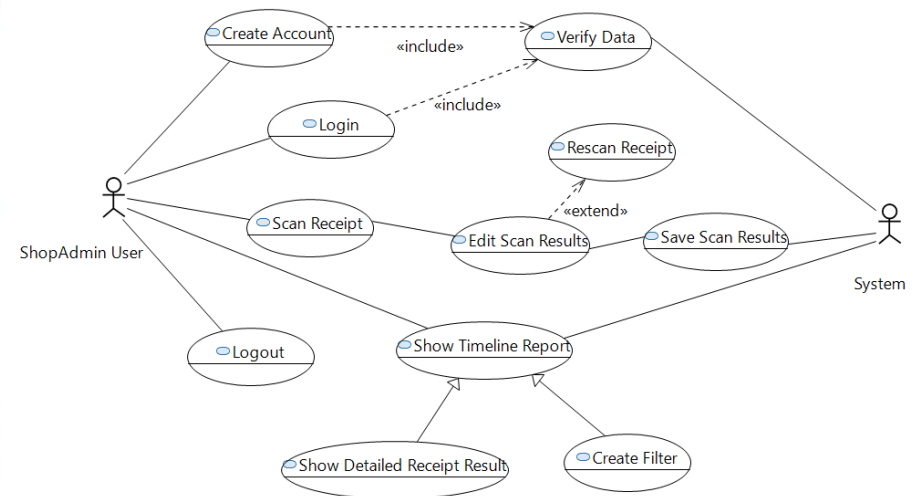
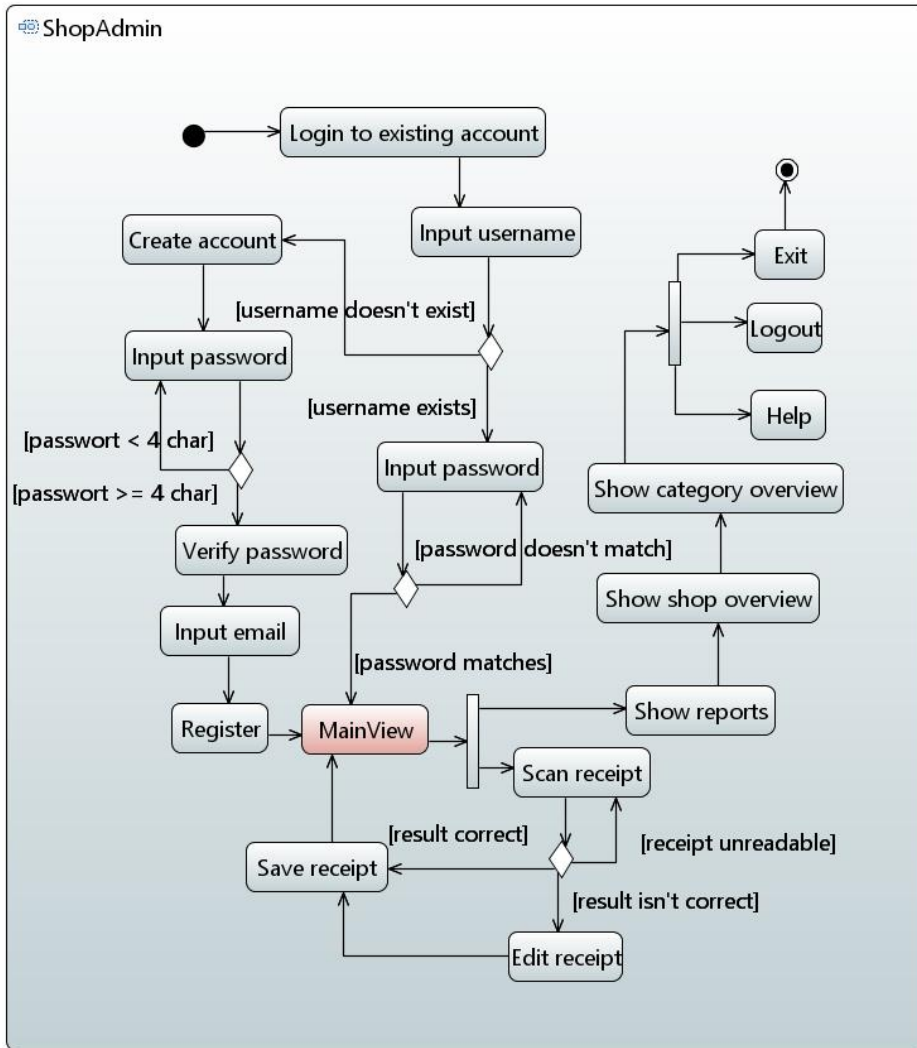


It became more and more complicated...



It became more and more complicated...





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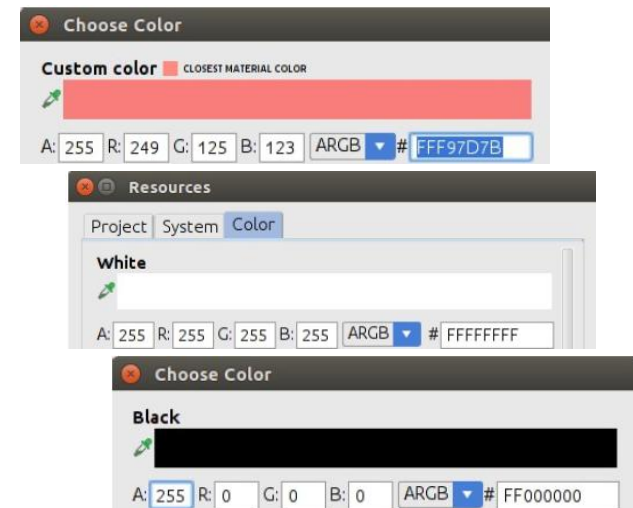
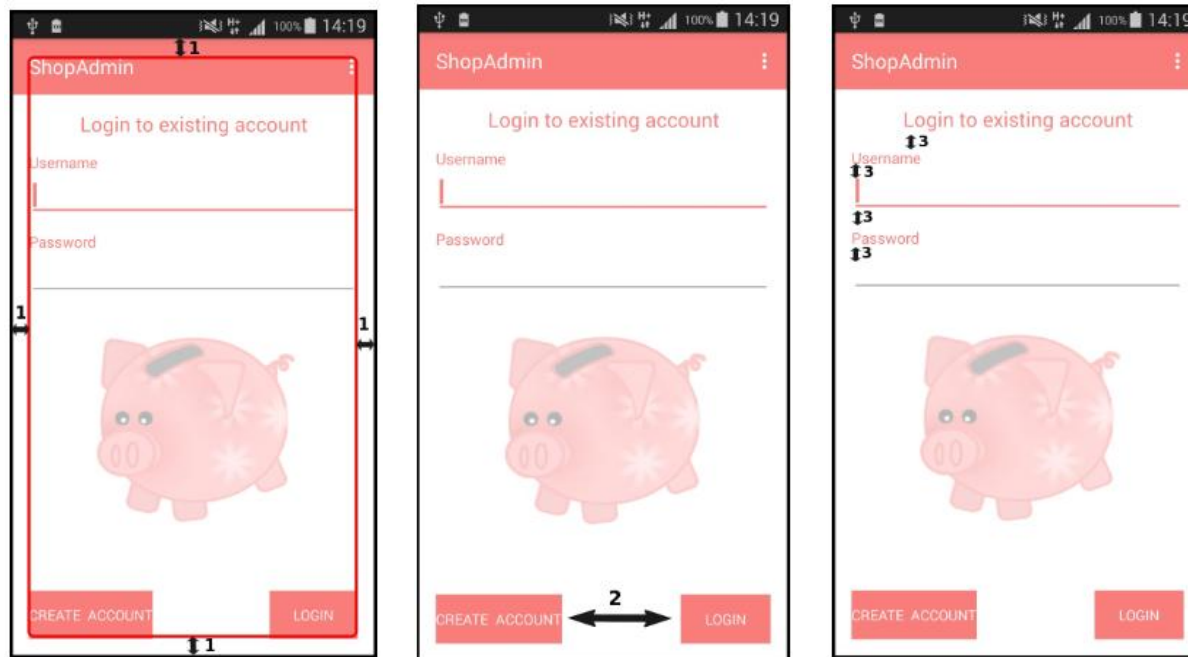
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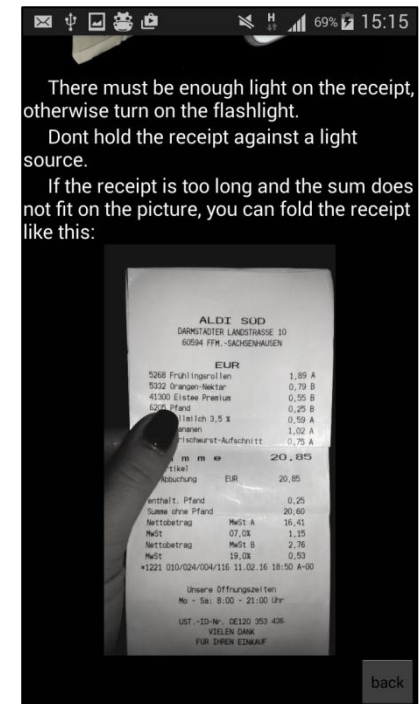
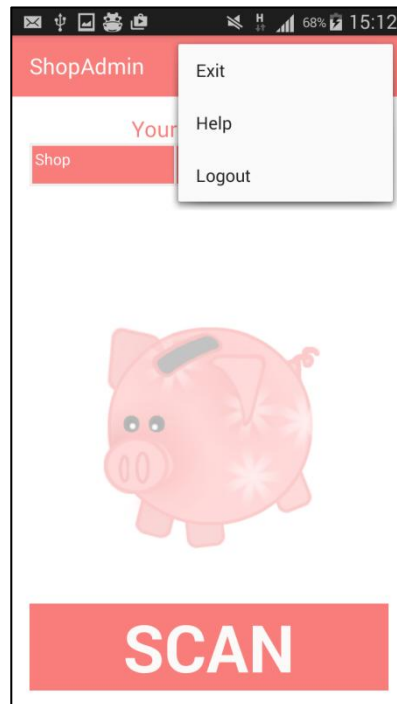
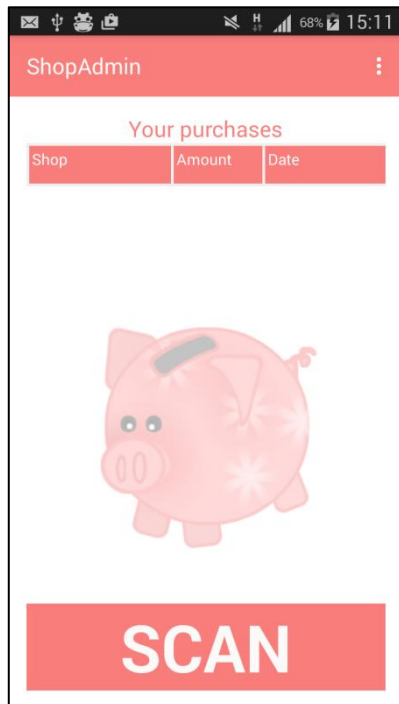
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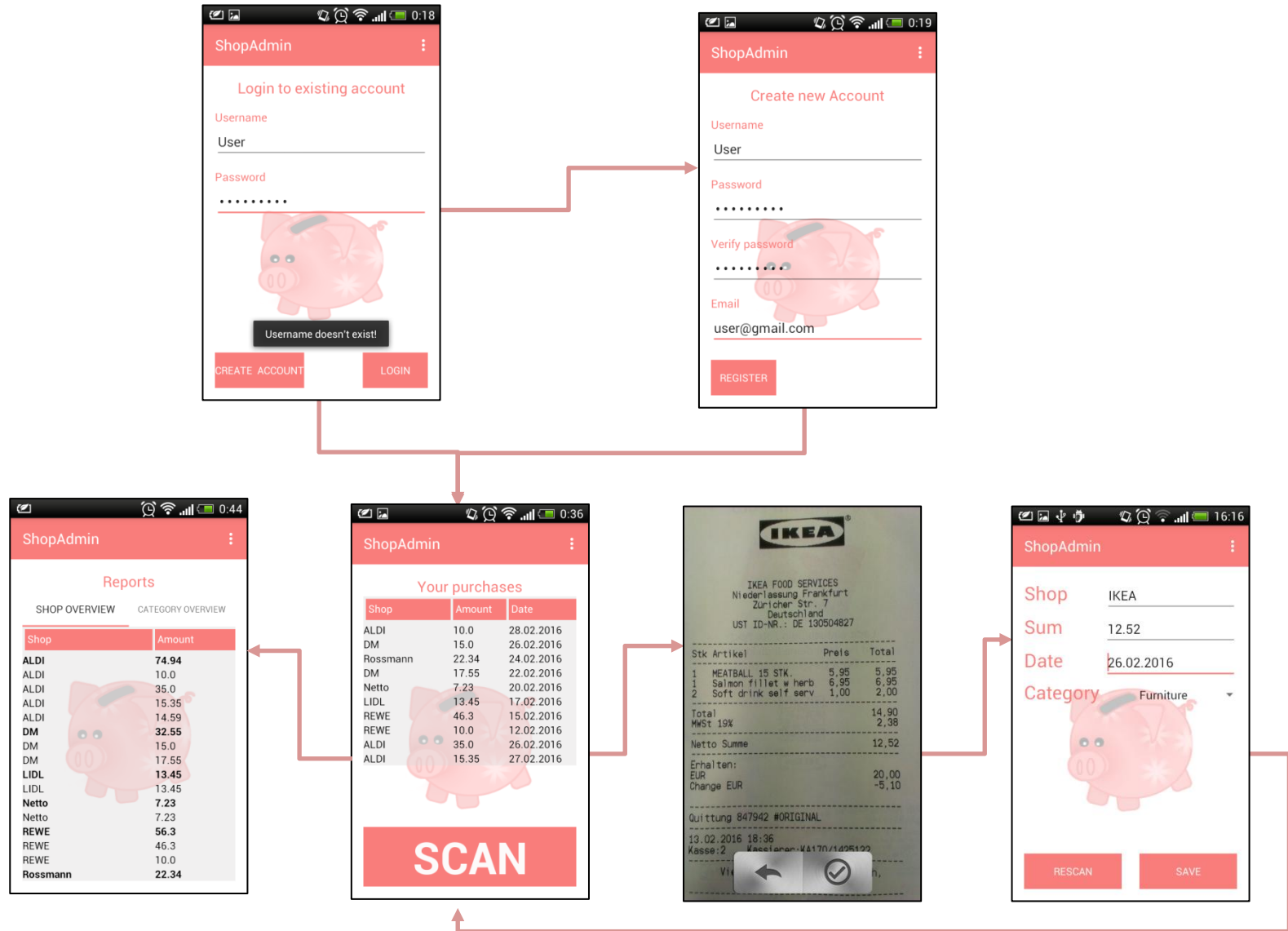
- Colors
- Logo: piggybank (background in the app)
- Pictures for Menu Help



ACTION BAR WITH OVERFLOW MENU

- Functionality:
 - Exit
 - Help





- Creation of Register and Login View
- Functionality in Register and Login view:
 - verifications
 - user name, password, email, complete input
 - visualize user feedback
 - save user data in database
 - hide and show fields in Register view
 - screen flow to Main view

ShopAdmin

Login to existing account

Username

User

Password

.....

Username doesn't exist!

CREATE ACCOUNT LOGIN

ShopAdmin

Create new Account

Username

User

Password

.....

Verify password

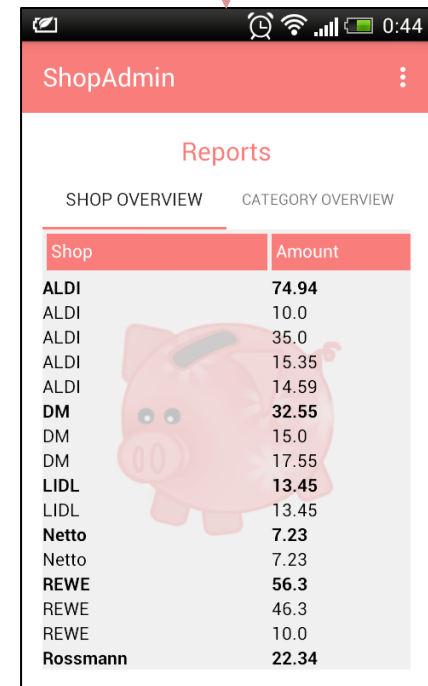
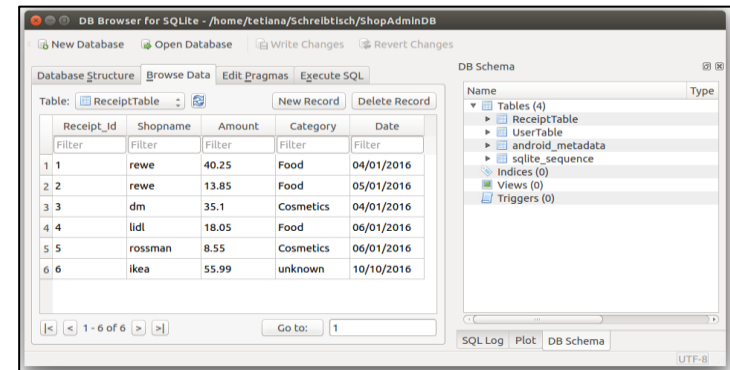
.....

Email

user@gmail.com

REGISTER

- Functionality in Main view
 - get 20 latest receipts from database
- Functionality in Report view
 - get all receipts grouped by name
 - get all receipts grouped by category
 - expand receipts grouped by selected shop name
 - expand all receipts grouped by selected category



User manual in 7 Steps:

- Step 1 Registration
- Step 2 Login
- Step 3 Main view
- Step 4 Scan receipt
- Step 5 Check results
- Step 6 Main view with summary
- Step 7 Reports view

User manual “ShopAdmin”



Software User Manual version 0.1.0,
26. February 2016

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- Use camera orientation to rotate picture
- Resize image to 2000 x 1200 pixel
- Colored image to black and white
- Tesseract train language deu_frak

- Pre analysis
- Filter insignificant symbols
- Combine single letters
- Levenstein-algorithm
- Post result adaption

- Orientation misleading - does not represent picture orientation
- Tesseract can not detect bold or large fonts
- Shop name classification highly depends on name length
- Receipt sum detection is very depending on OCR results

TESTS & STATISTICS : HOW TO MAKE THE PHOTO

good lighting	
flashlight	without flashlight
90%	85%

bad lighting	
flashlight	without flashlight
85 %	5 %

text style	
normal	bold
90%	1%

folded receipt	
no	yes
90%	30 %

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- Some Key-functionalities couldn't be finished during the semester. Major Topics are:
 - Session handling
 - Group functionalities
 - Online Database
 - Advanced filter possibilities for Reports
 - Advanced picture processing



ShopAdmin

Control expenses app with receipt scanner

Vision

Whom is it for?

students or young family.

Functionality:

- Manually enter your outgoing transactions
- Scanners that auto-extract receipt information such as shop names, data and time, amount

What problems does it solve?

Save time for counting expenses.

Challenges:

- Using Android for the first time
- Implementing Tesseract Library OCR engine and Leptonica Image Processing Library