

ShopAdmin

Control your expenses with receipt scanner



LIVE DEMO

APPROACH

DETAILS

CONCLUSION

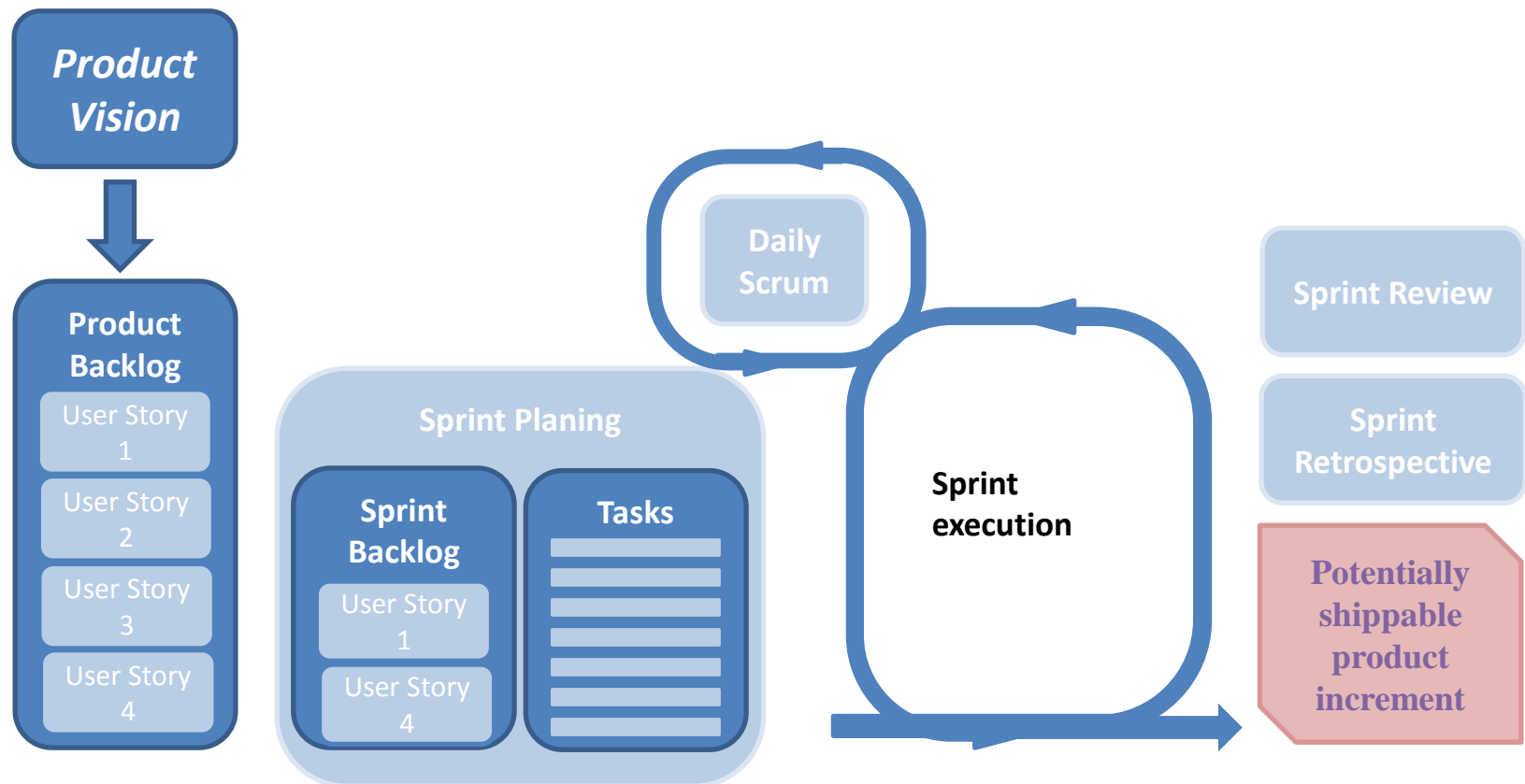
LIVE DEMO

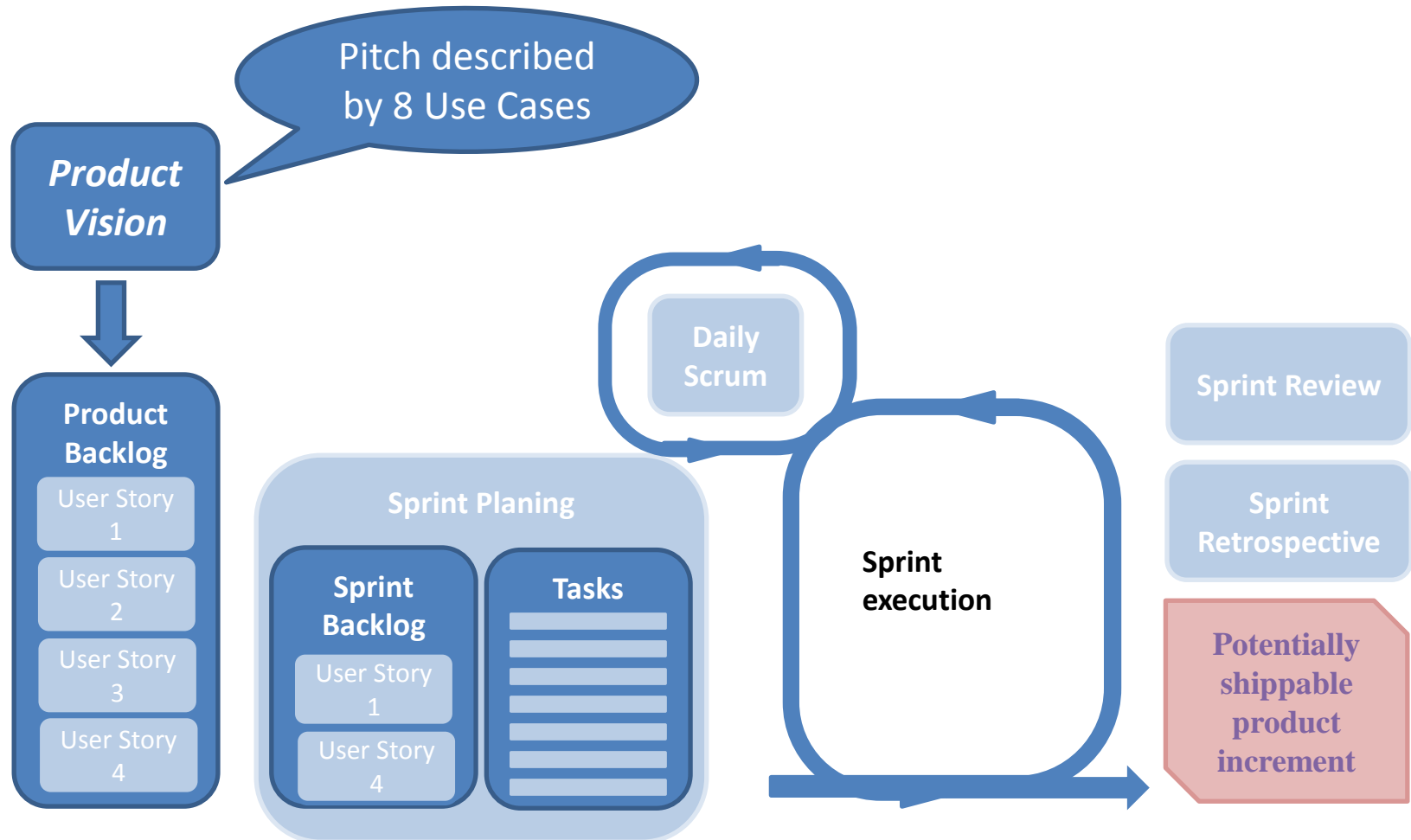
APPROACH

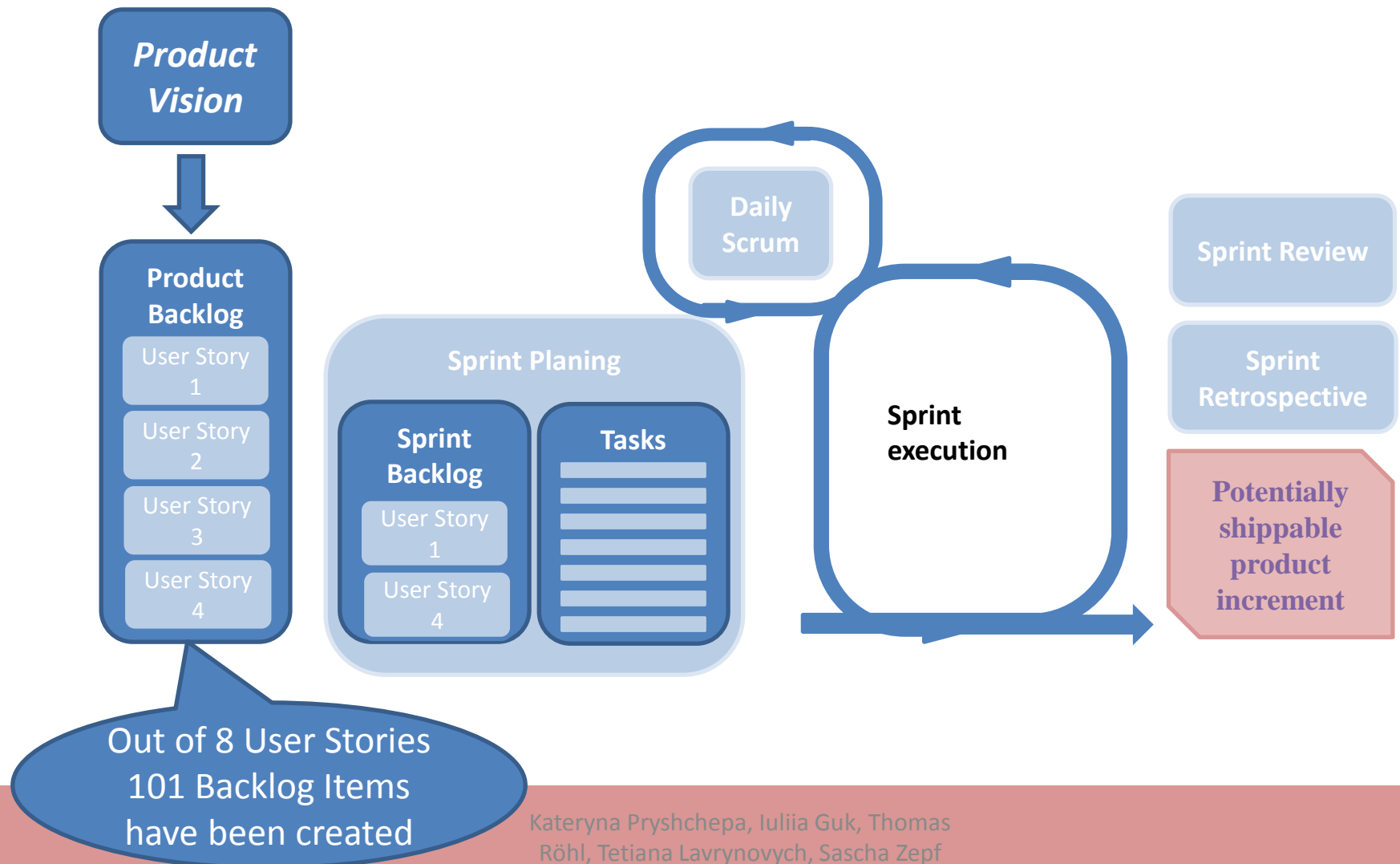
DETAILS

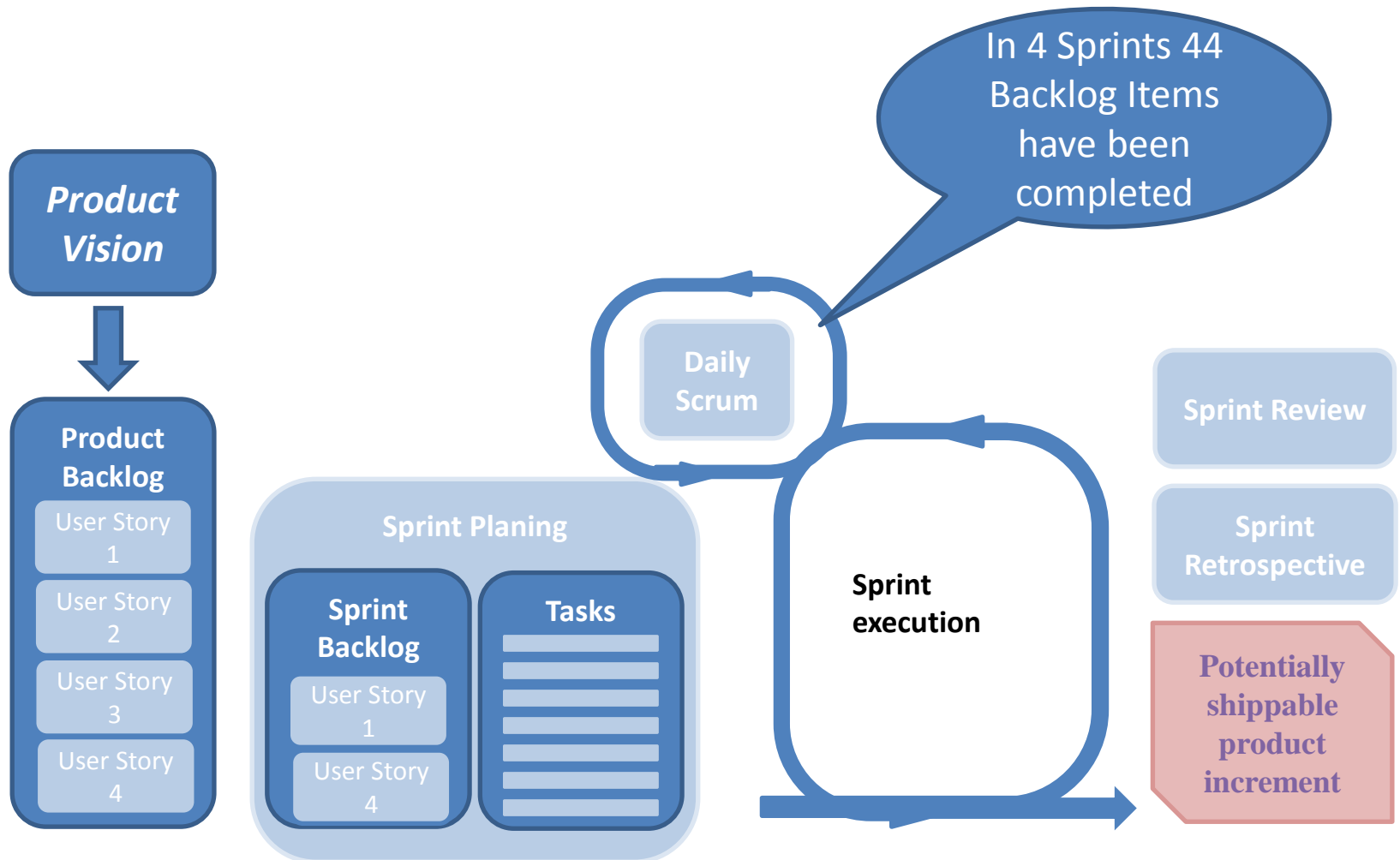
CONCLUSION

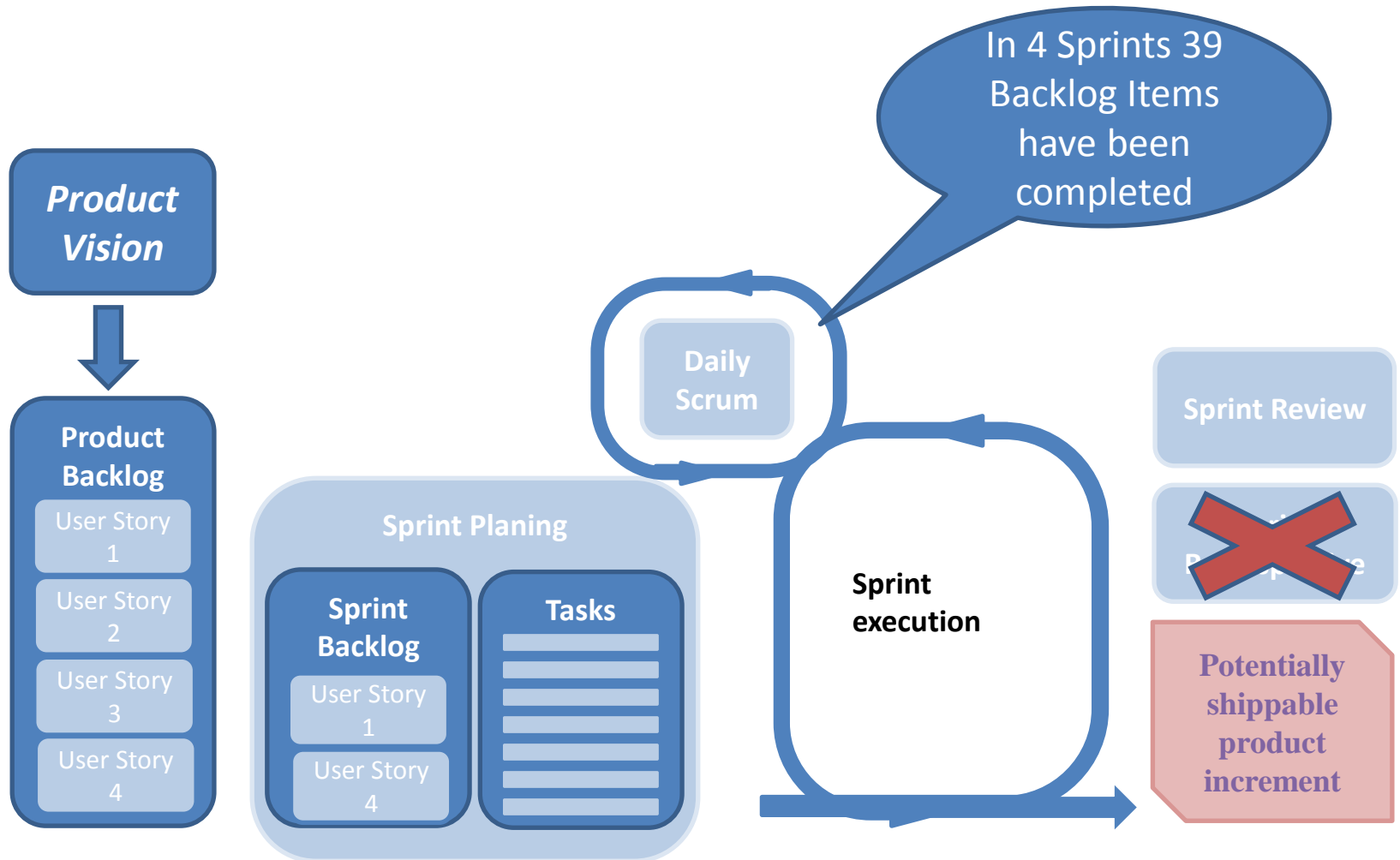
For the realization of ShopAdmin it was decided to use SCRUM

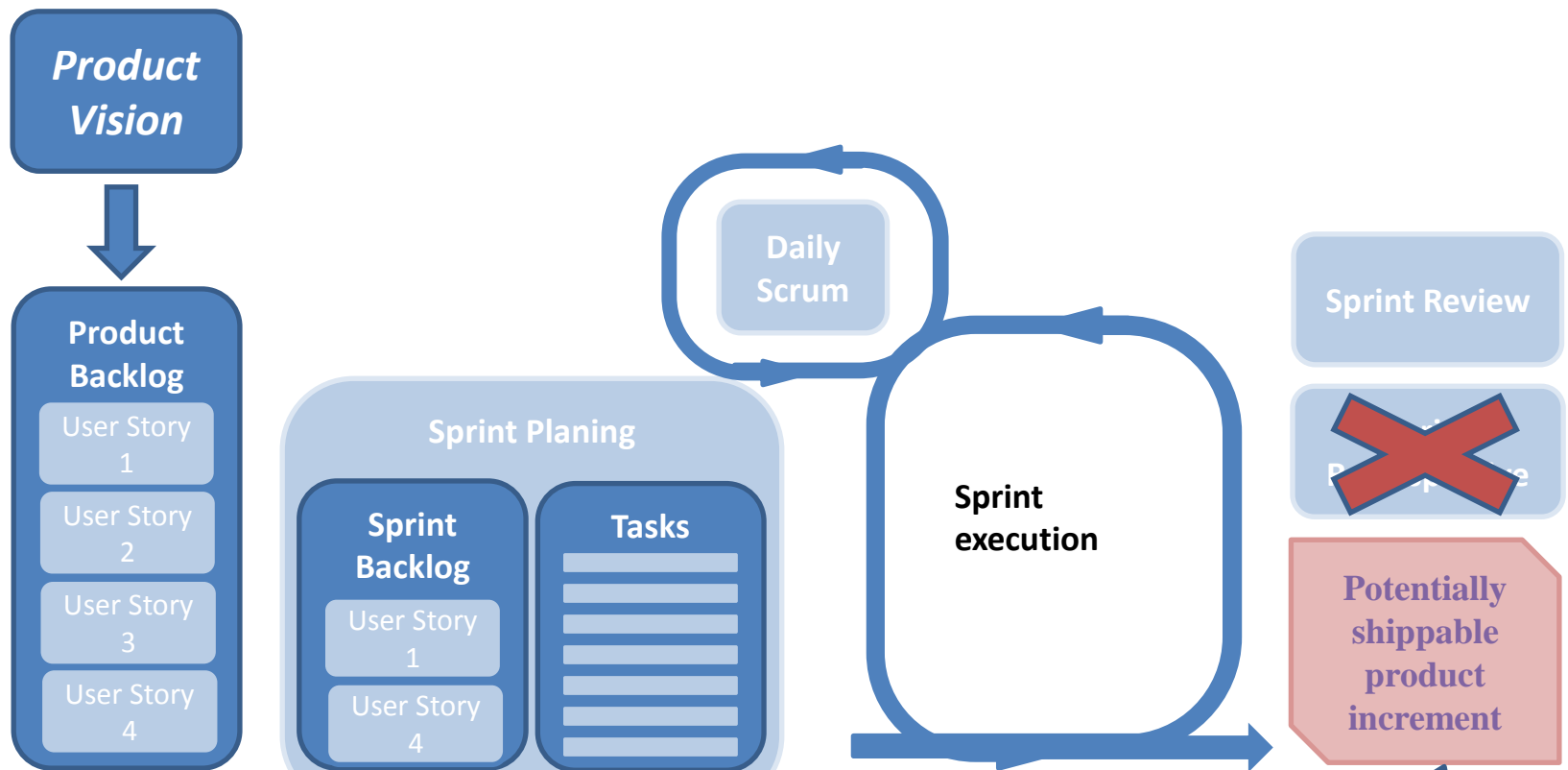












Nevertheless a highly sophisticated product has been created

*Core
Competences*

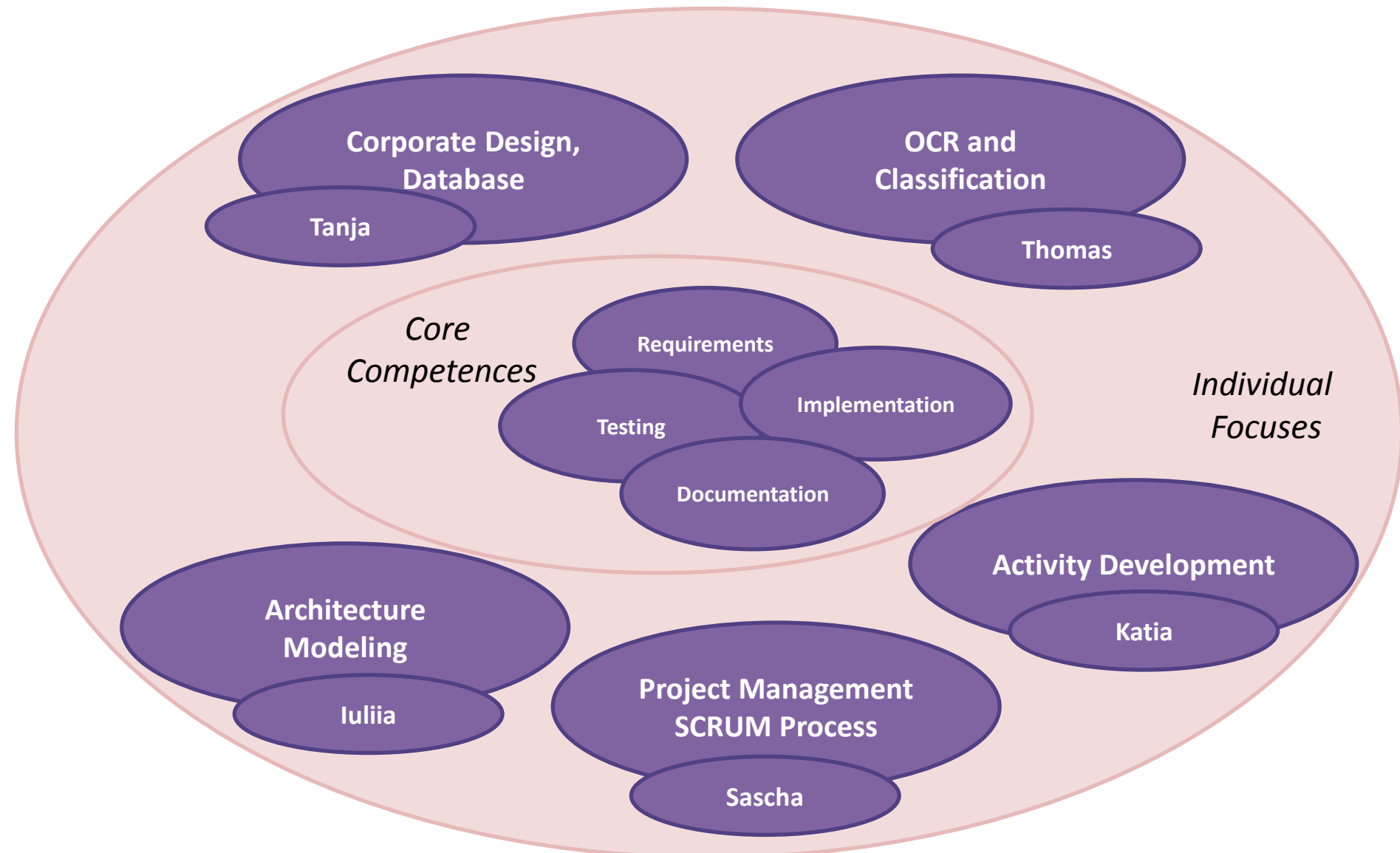
Requirements

Testing

Implementation

Documentation

*Individual
Focuses*



LIVE DEMO

APPROACH

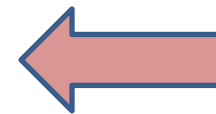
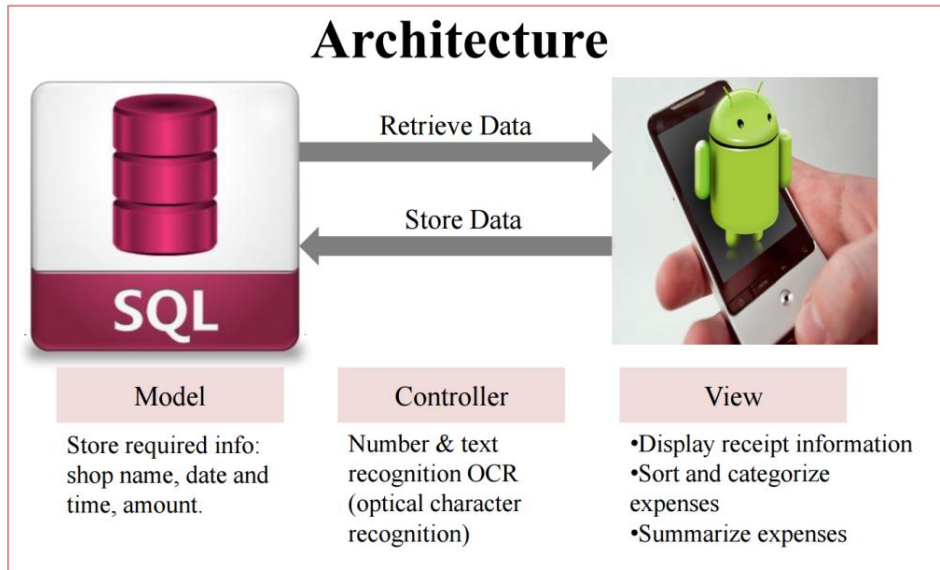
DETAILS

TECHNICAL DESIGN

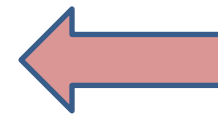
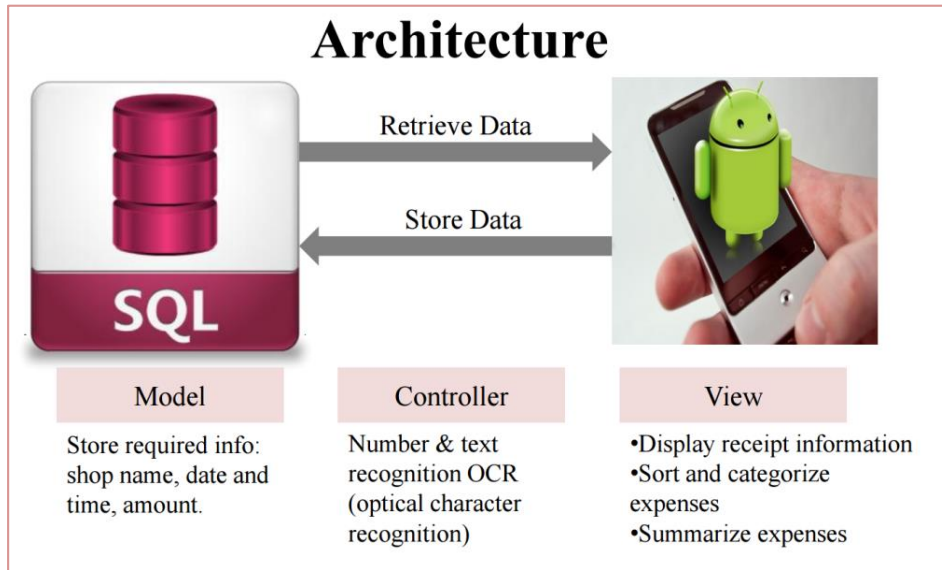
ANDROID DETAILS

CHARACTER RECOGNITION AND RECEIPT EXTRACTION

CONCLUSION



How it all began...

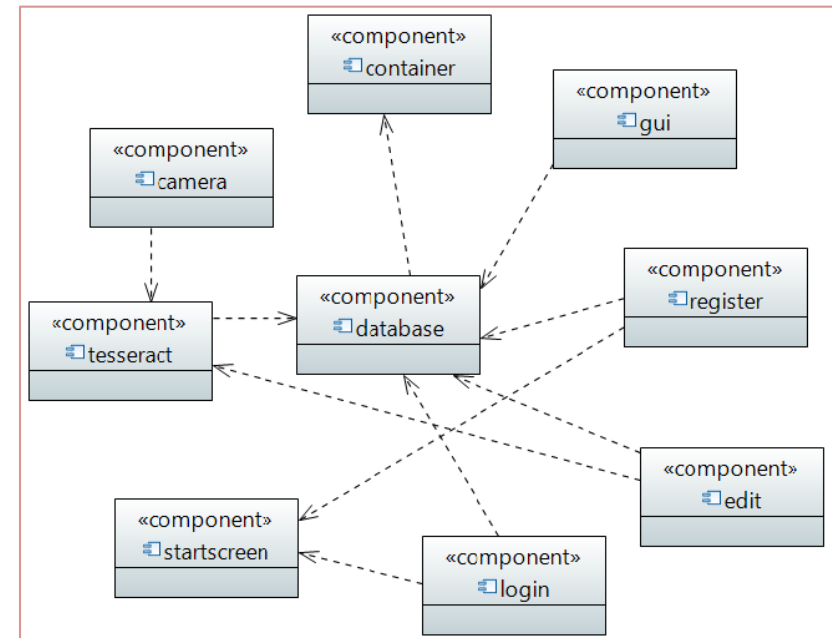


How it all began...

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

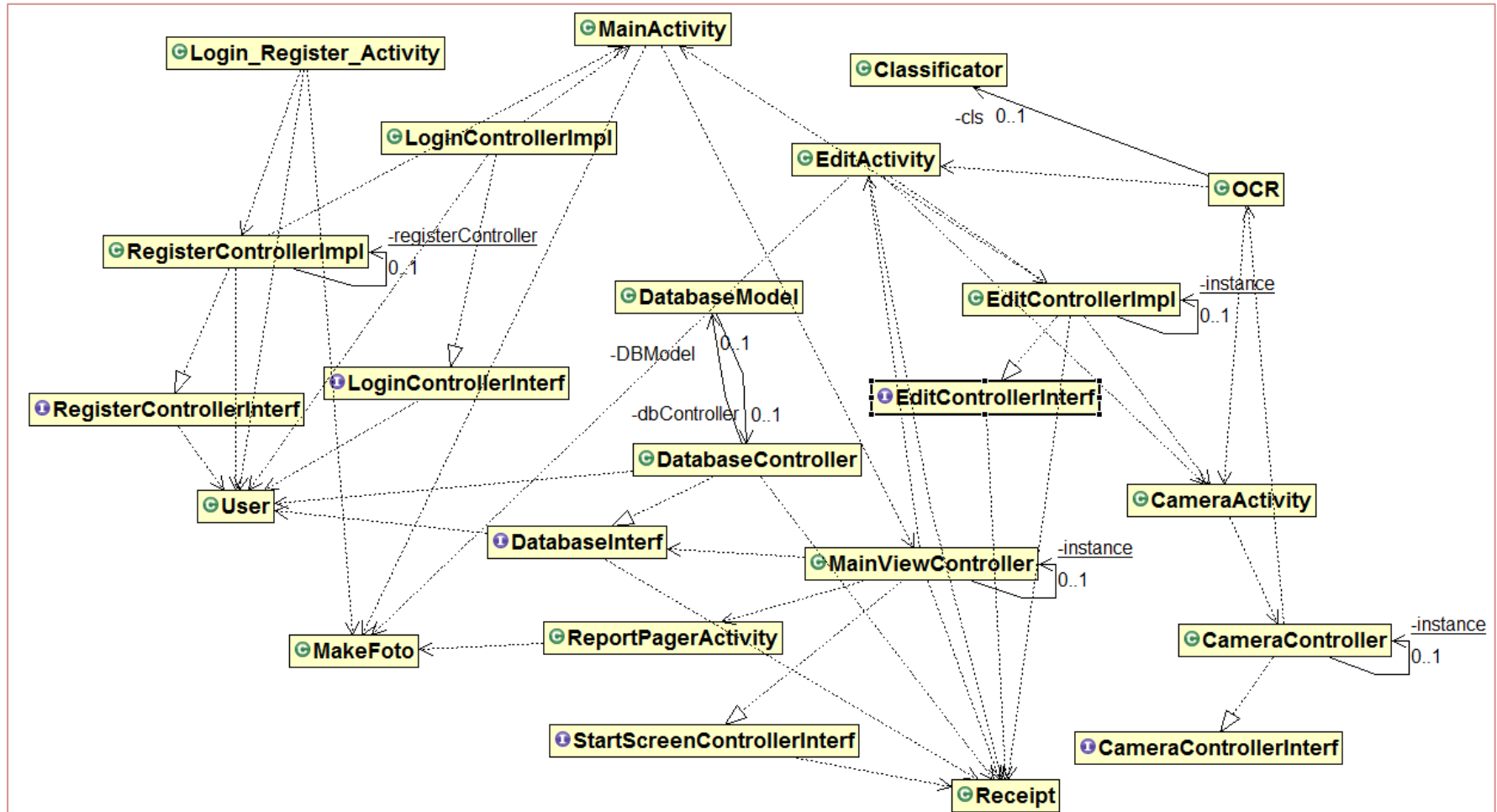
Project Structure:

- division into 9 components
- achieving modularity: interface/implementation



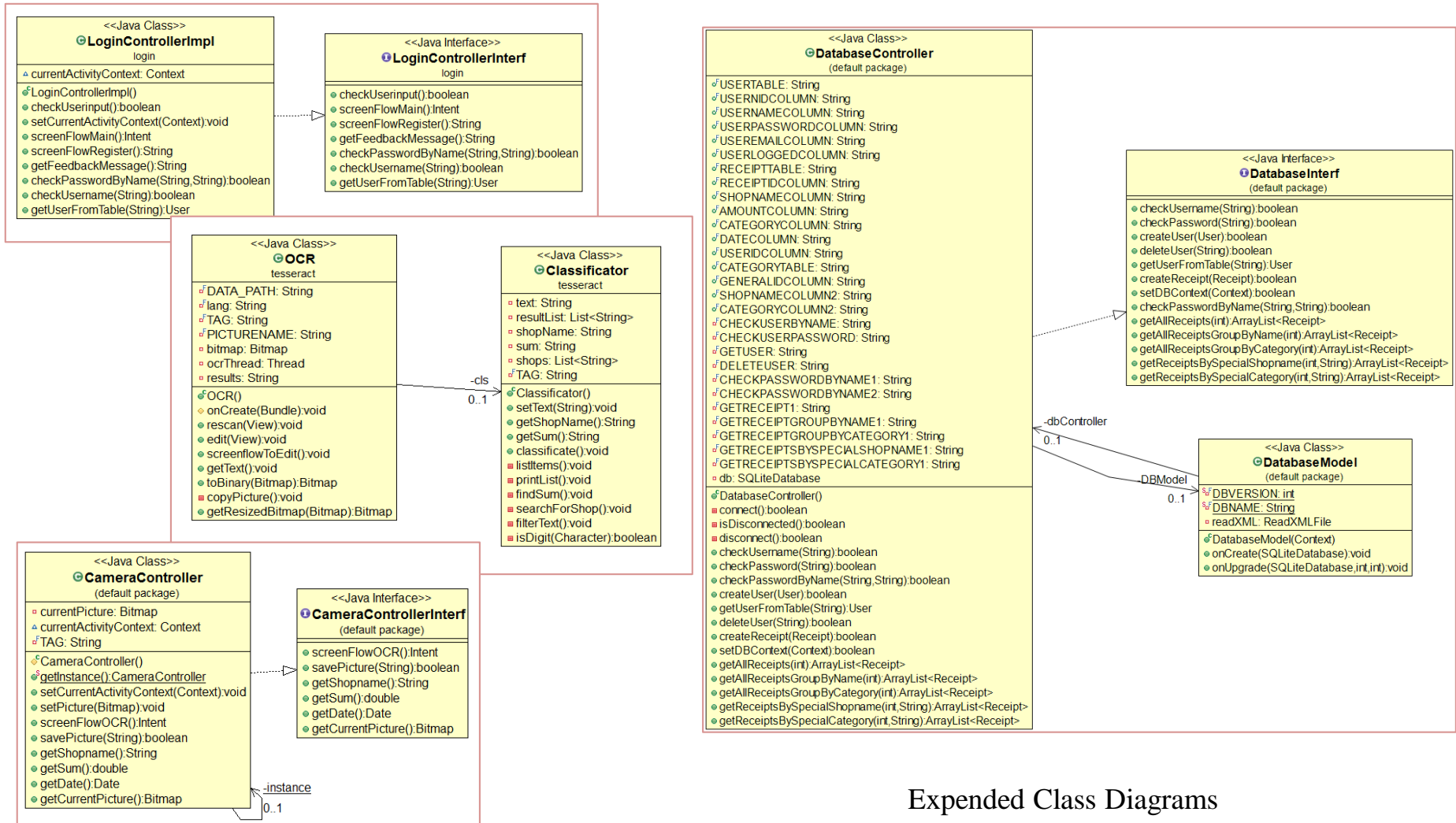
Component Diagram

Project structure became more and more complicated...



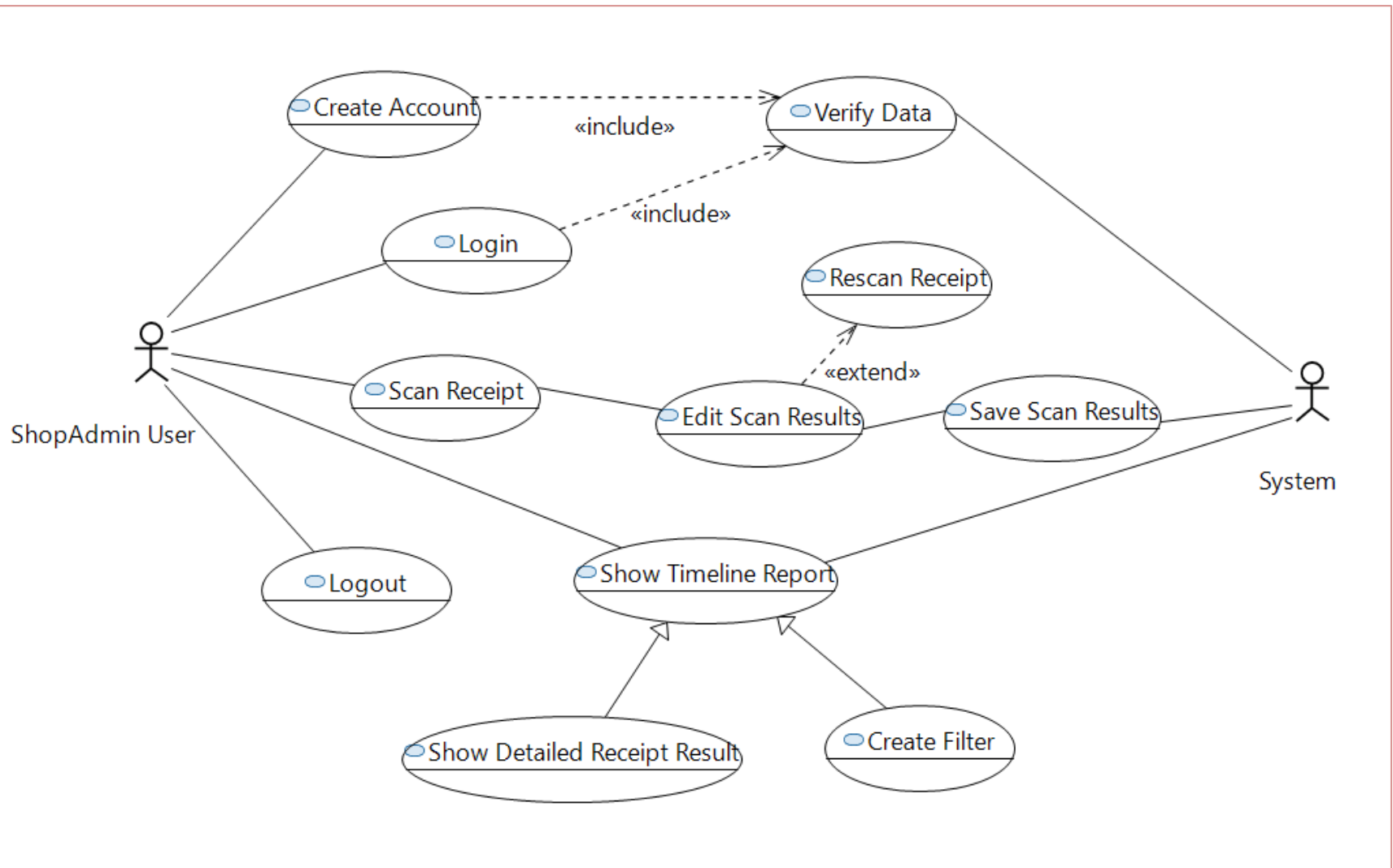
General Class Diagram

Project structure became more and more complicated...



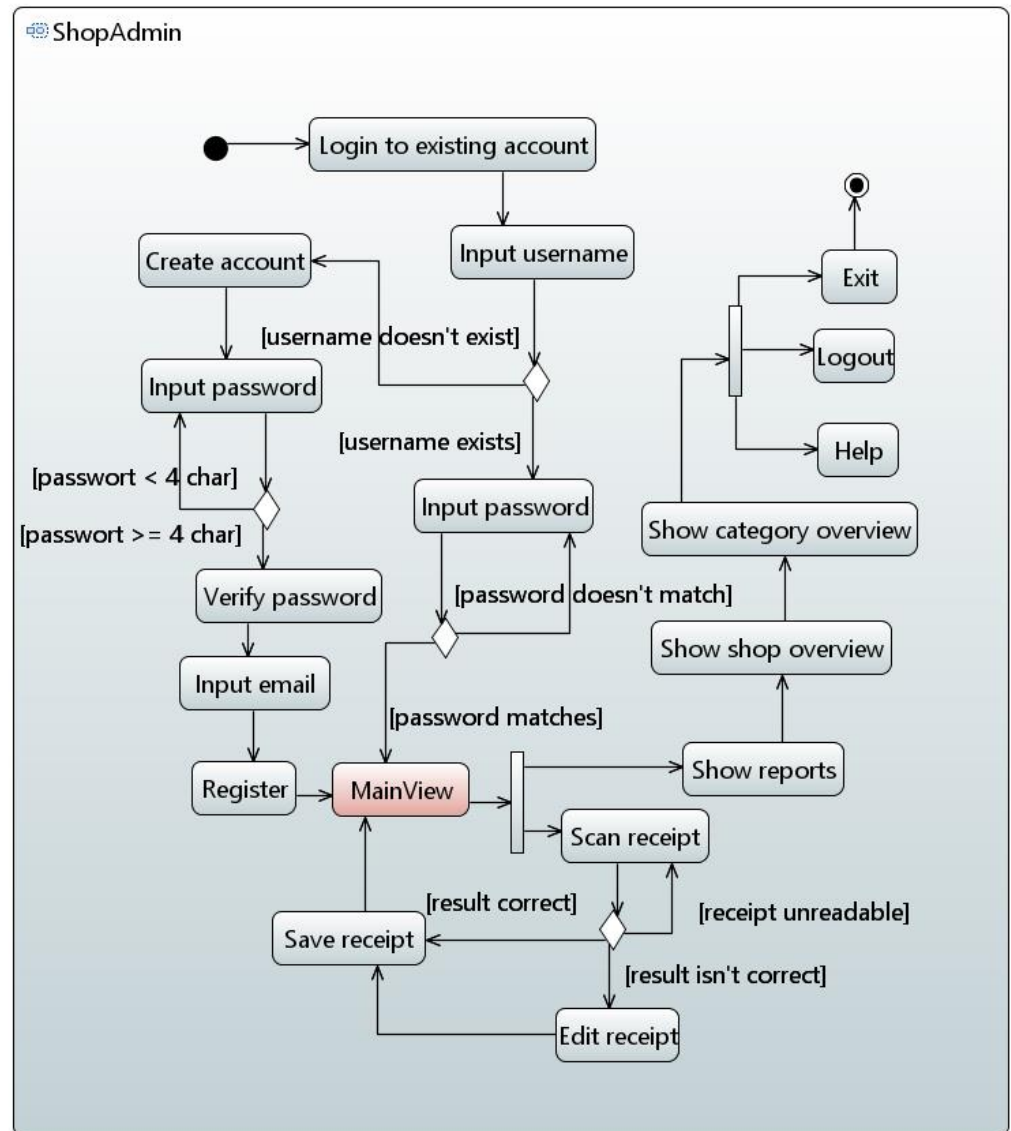
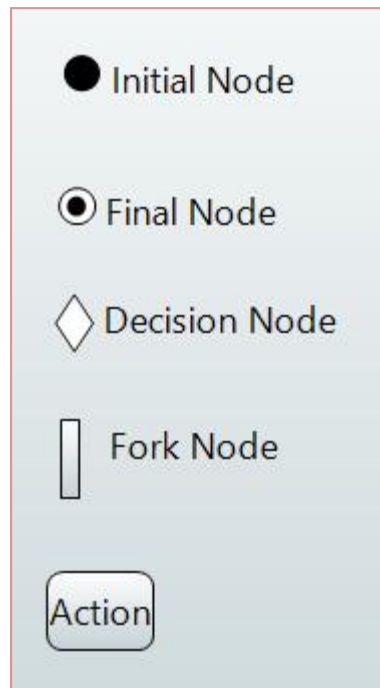
Expended Class Diagrams

Usecase Diagram



Activity Diagram

Notation Overview:



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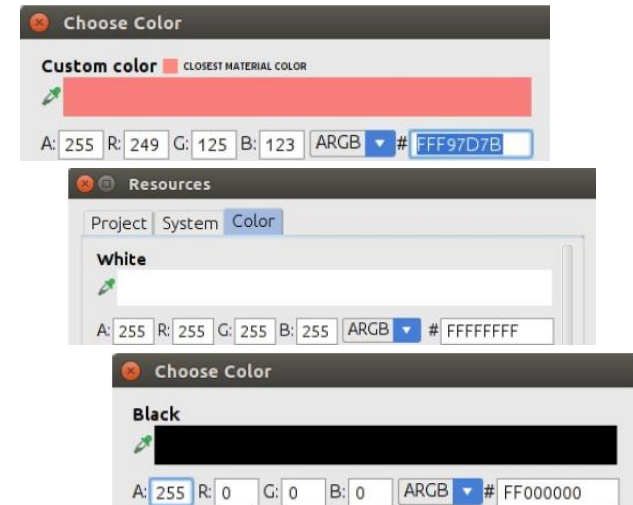
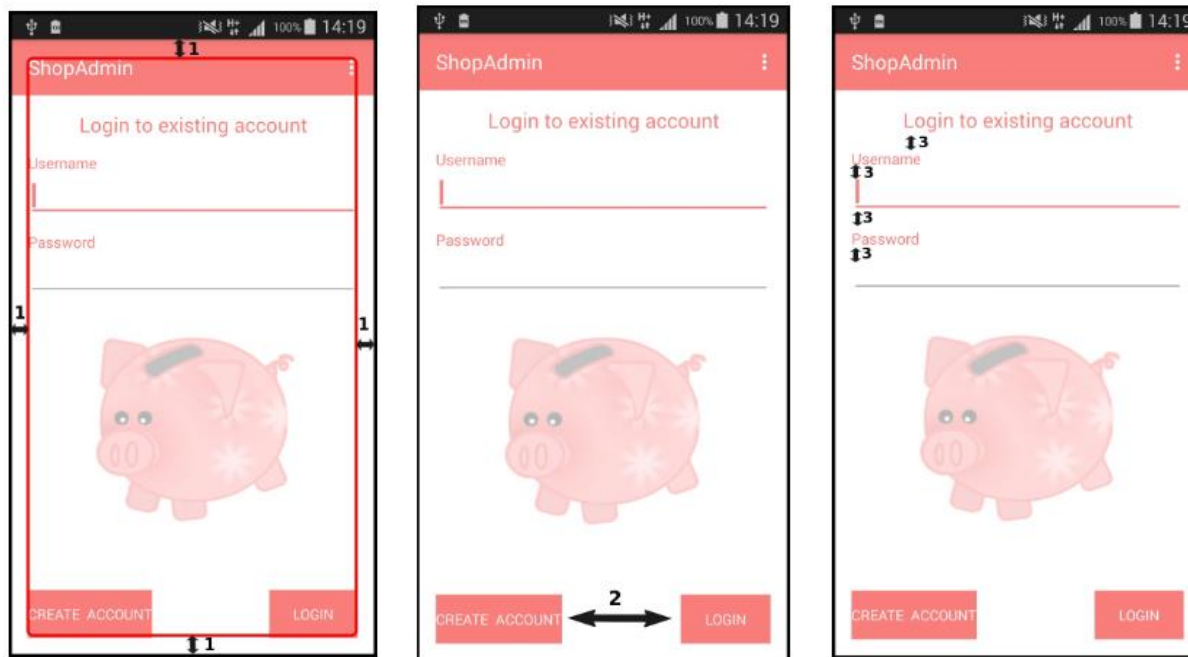
CORPORATE GUIDELINE

ACTIVITIES

CHARACTER RECOGNITION AND RECEIPT EXTRACTION

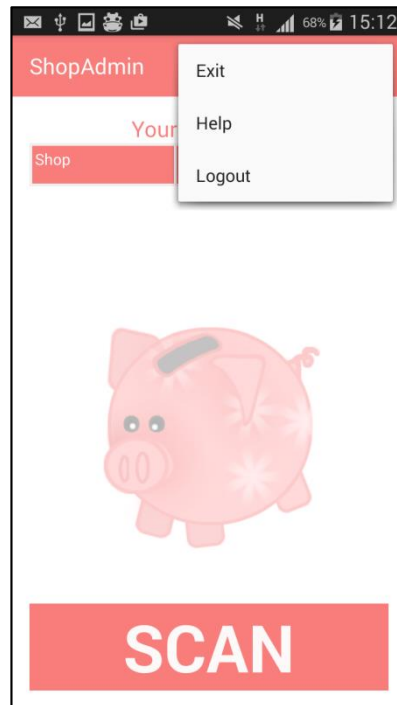
CONCLUSION

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



ACTION BAR WITH OVERFLOW MENU

- Functionality:
 - Exit
 - Help



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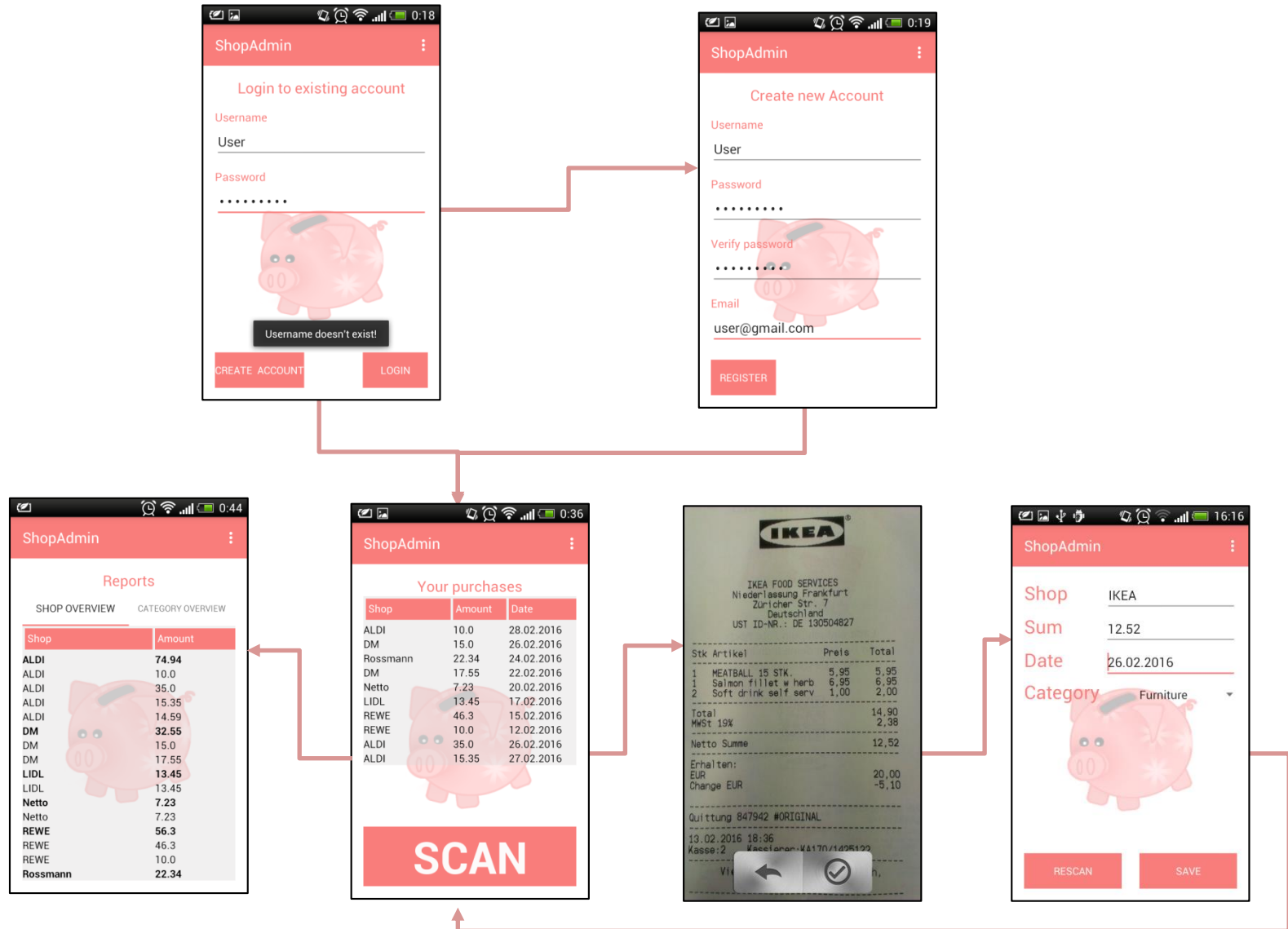
ANDROID DETAILS

CORPORATE GUIDELINE

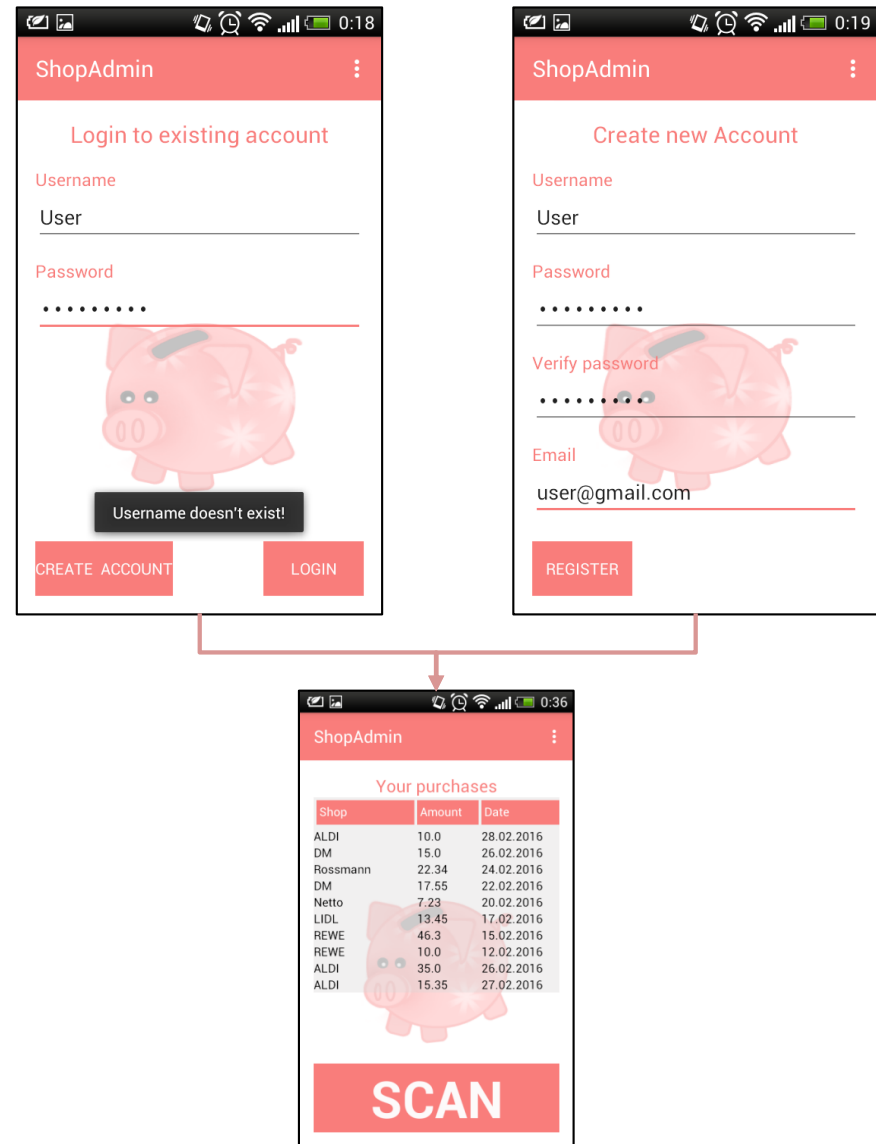
ACTIVITIES

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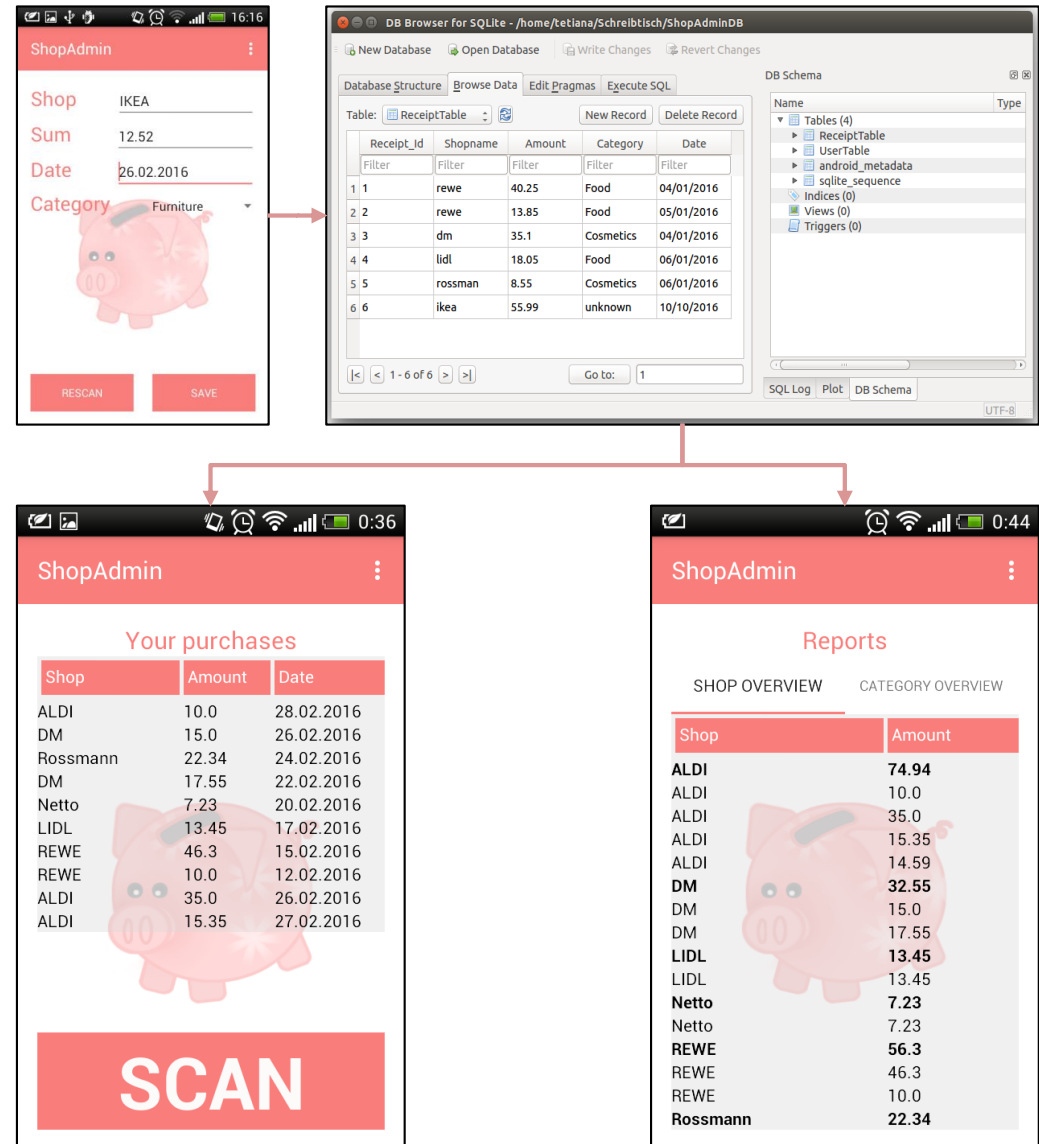
CONCLUSION



- 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



- Functionality in Edit View
 - Manipulate extracted data
 - Save information to database
- Functionality in Main view
 - get 20 latest receipts from database
- Functionality in Report view
 - get all receipts grouped by name and category
 - expand and collapse feature



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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IMPLEMENTATION

TEST

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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



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 EUR 39283 INDISCHE
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 44558 SAUCE FRUCHT S-
 ESSIG 2,59 A 39283 INDISCHE
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- 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

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TESTS & STATISTICS : HOW TO MAKE THE PHOTO

good lighting	
flashlight	without flashlight
60 %	70 %

bad lighting	
flashlight	without flashlight
70 %	0 %

folded receipt	
no	yes
70 %	30 %

TESTS & STATISTICS : HOW TO MAKE THE PHOTO

text style	
normal	bold
70 %	10 %



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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
- Scanner 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