ShopAdmin

Control your expenses with receipt scanner

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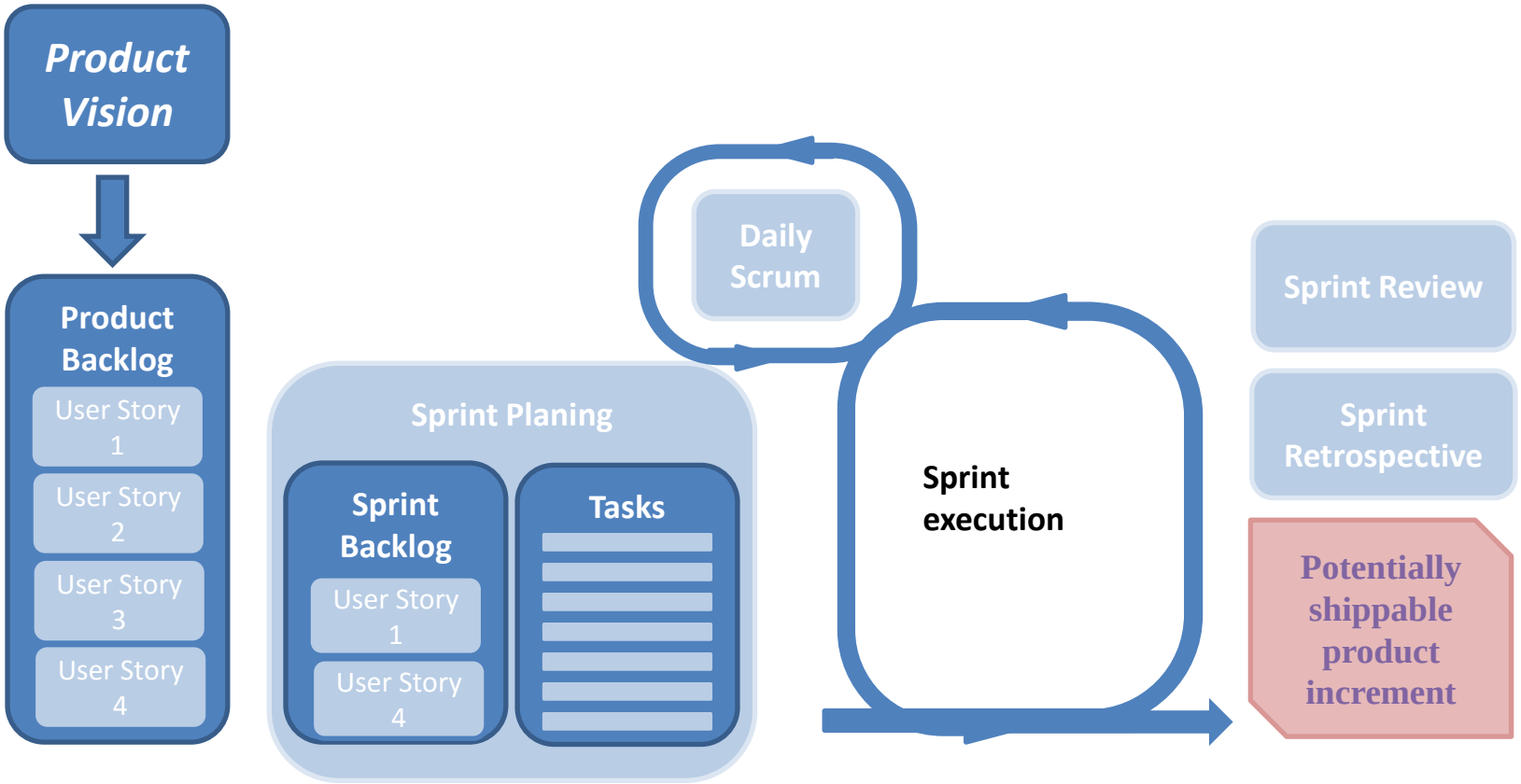
For the realization of ShopAdmin it was decided to use SCRUM



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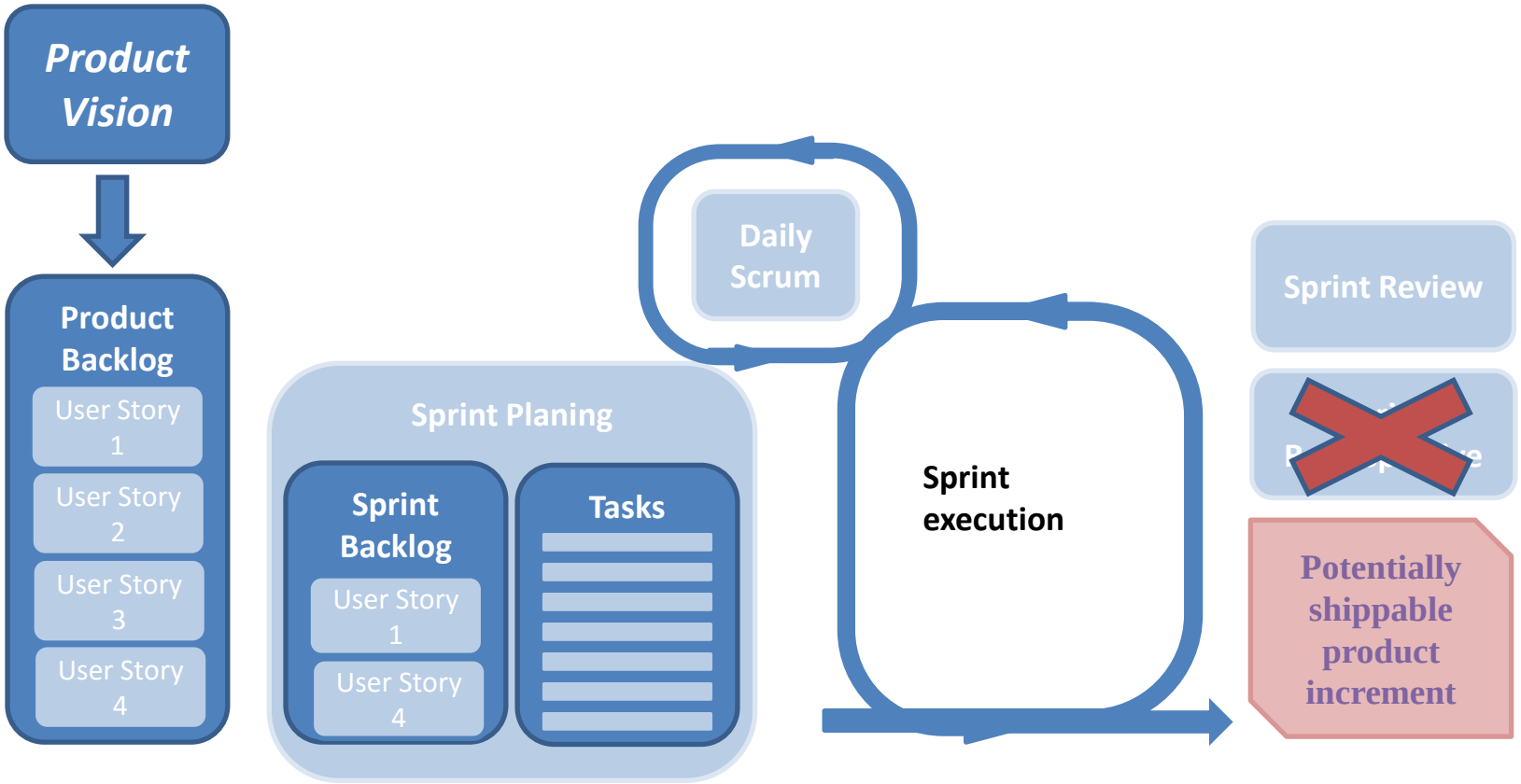
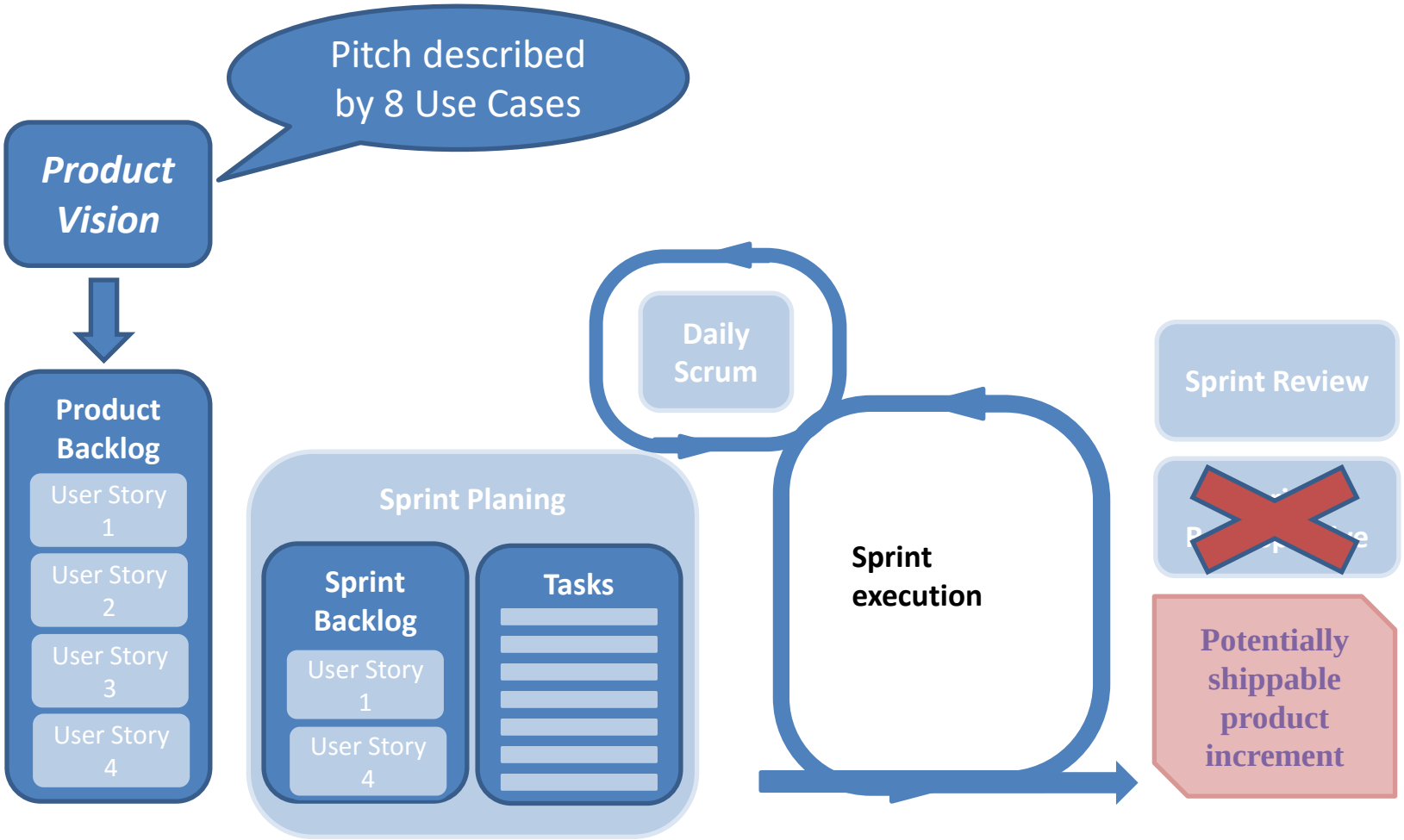
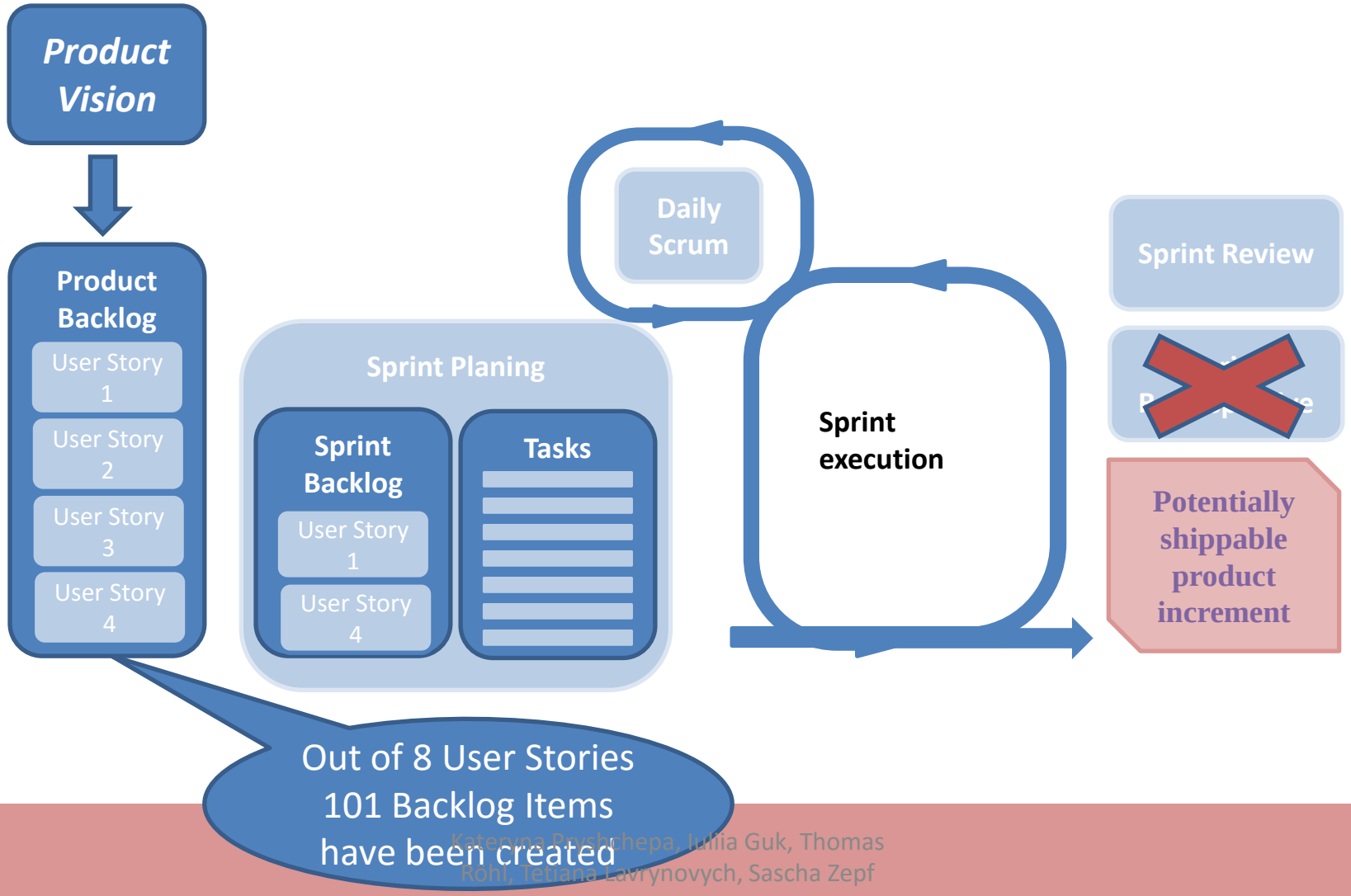



Pitch described by 8 Use Cases
Product Vision
Product Backlog
User Story 1
User Story 2
User Story 3
User Story 4
Sprint Planing
Sprint Backlog
User Story 1
User Story 4
Tasks
Daily Scrum
Sprint execution
Sprint Review
Potentially shippable product increment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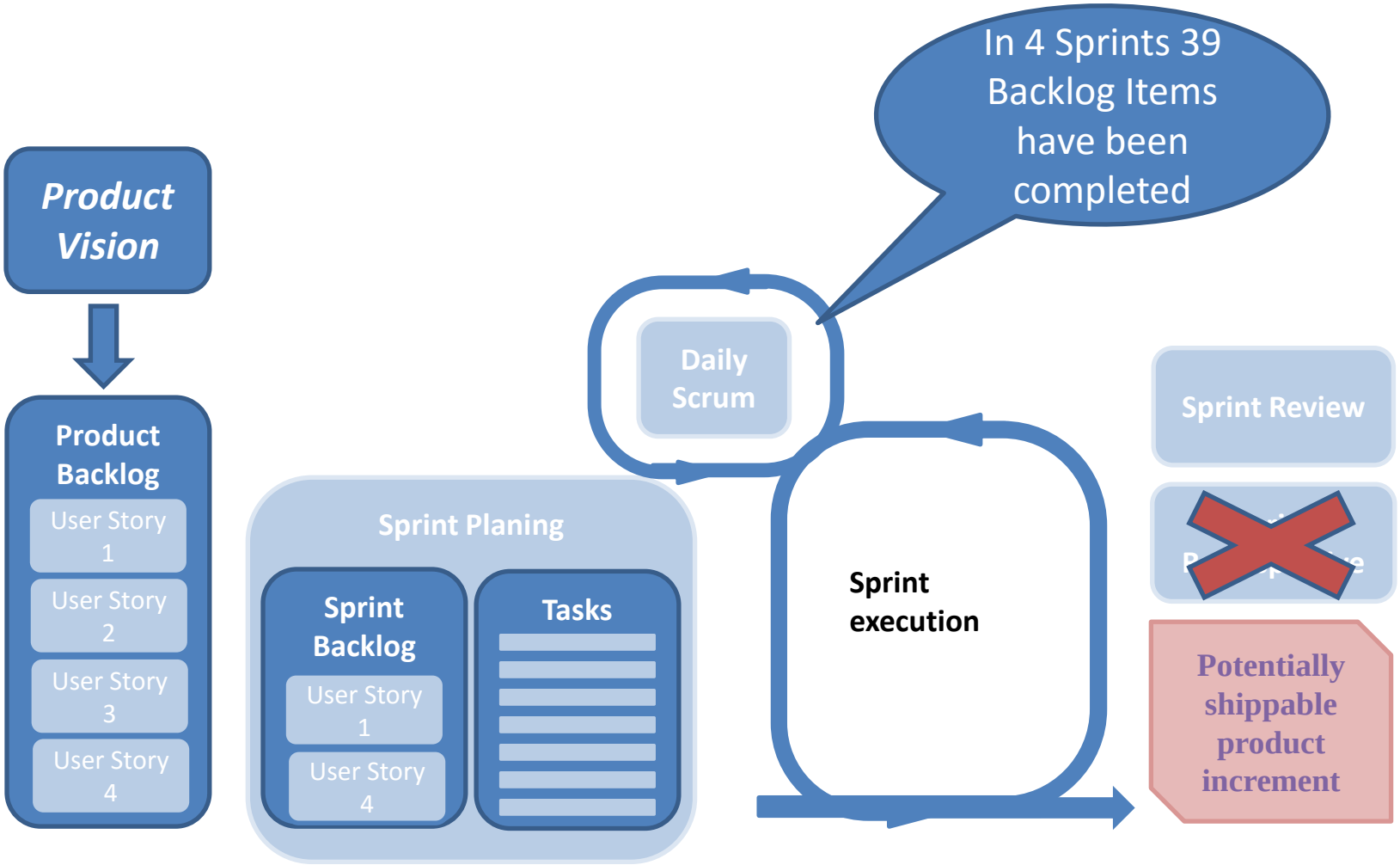
Out of 8 User Stories
101 Backlog Items
have been created


In 4 Sprints 39 Backlog Items have been completed
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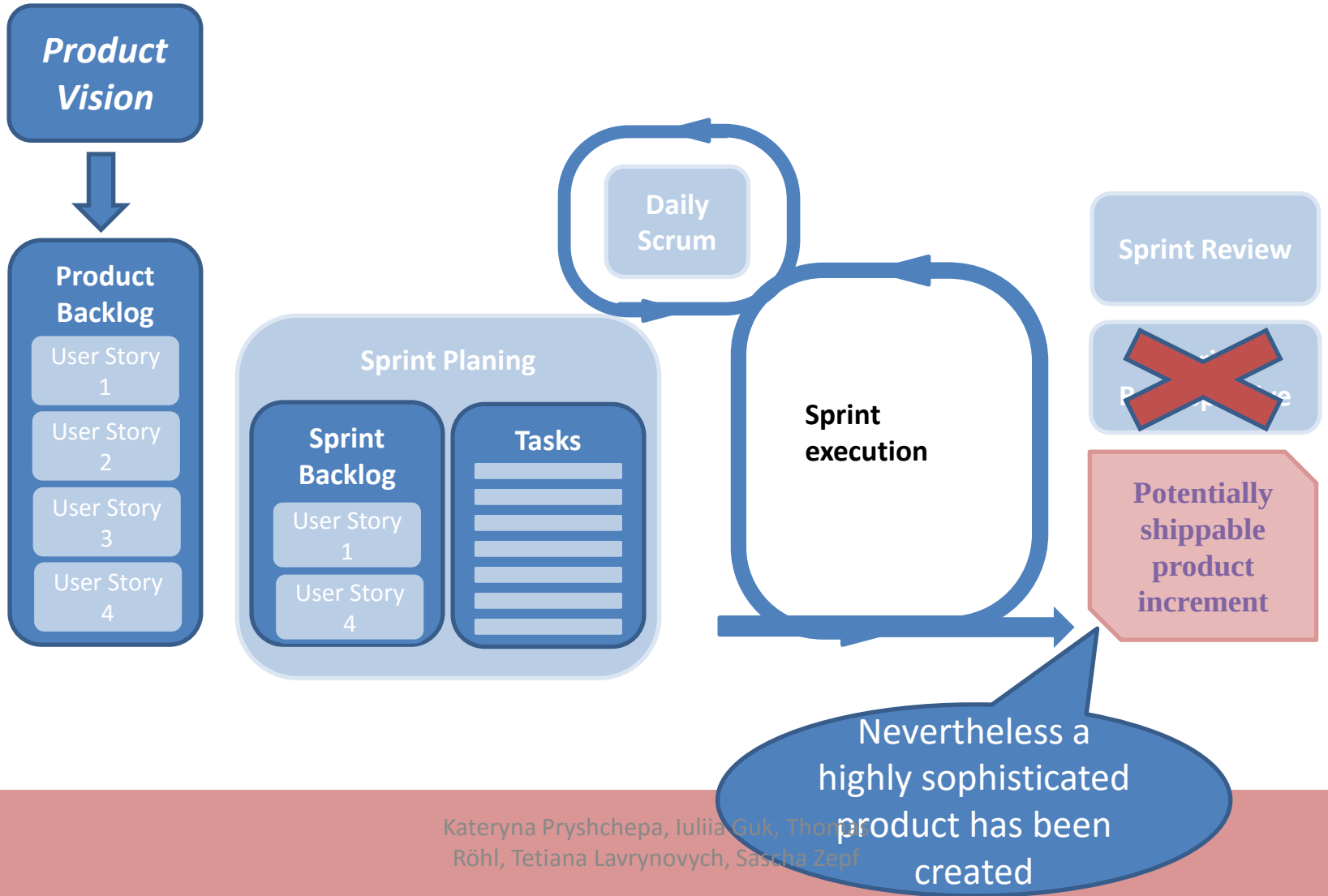
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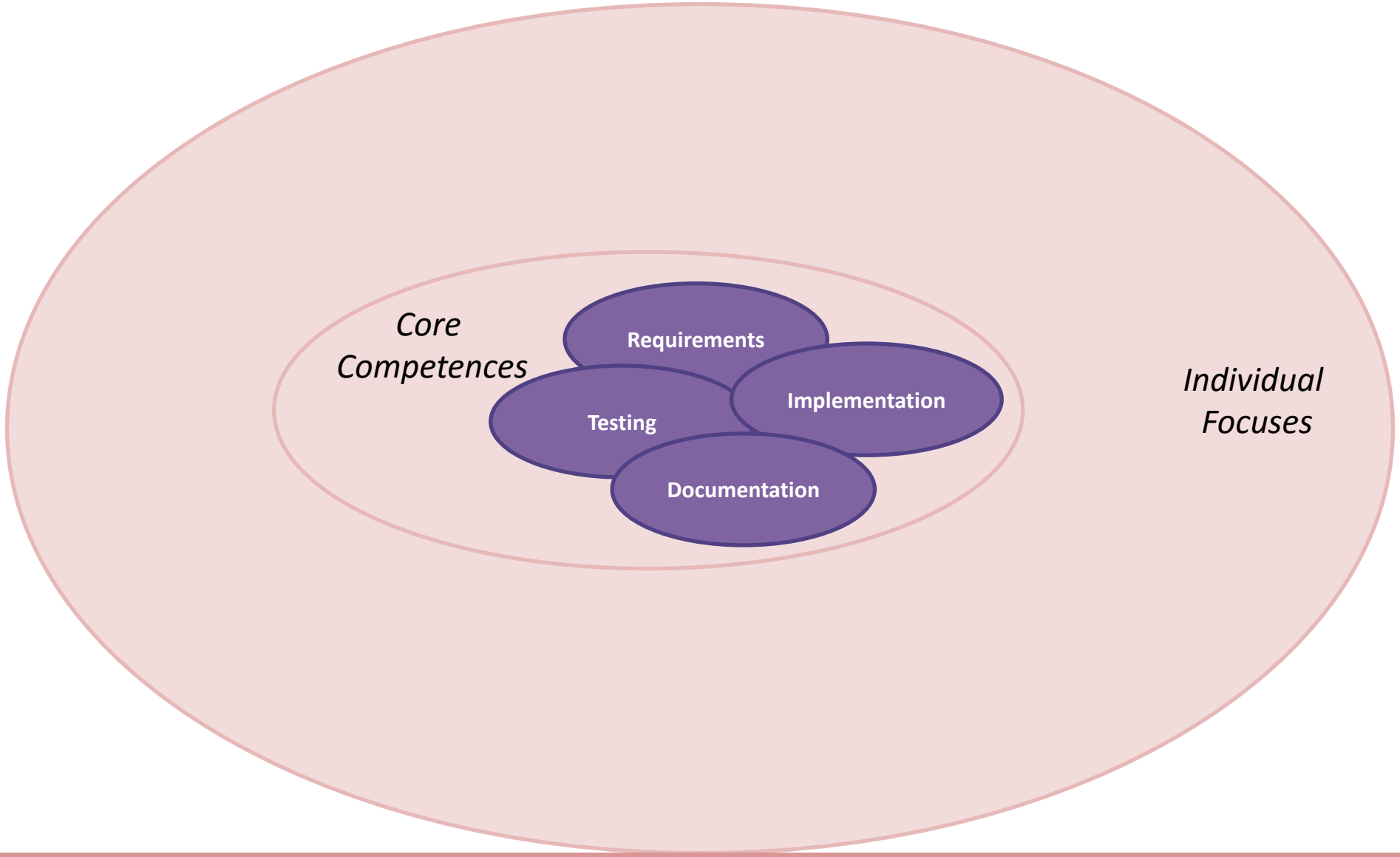
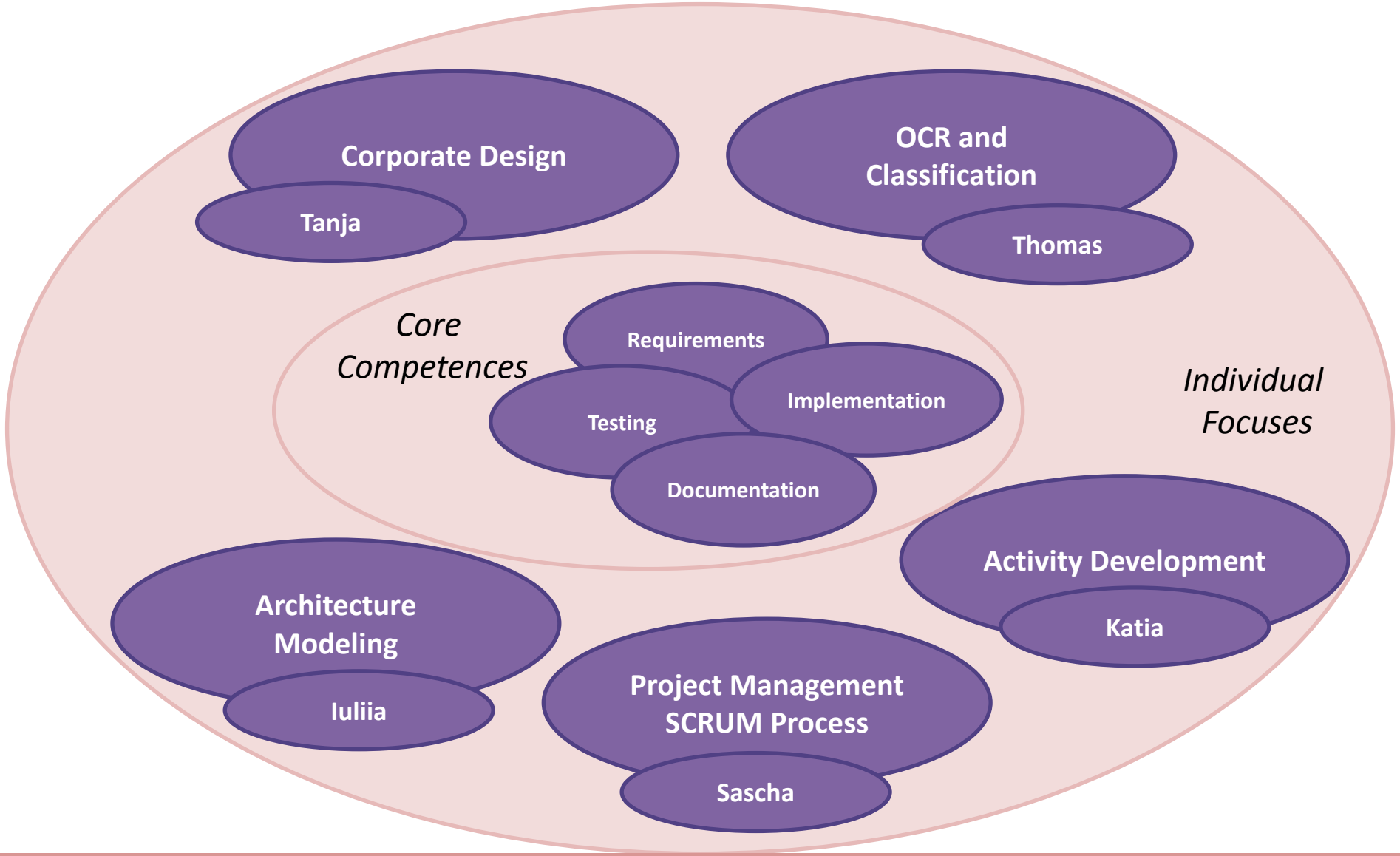
Potentially shippable product increment
Nevertheless a highly sophisticated product has been created

Responsibilities



Responsibilities



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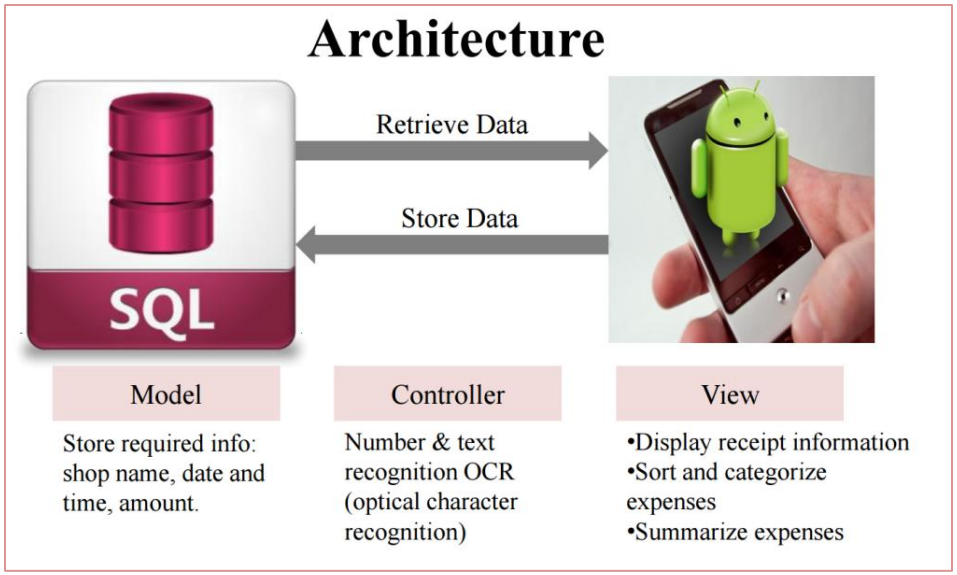
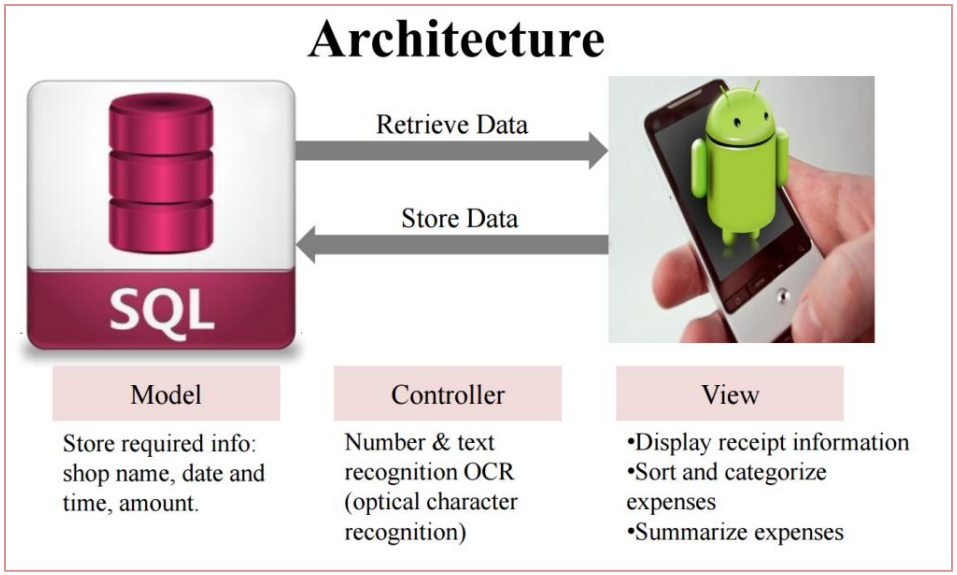


How it all began…



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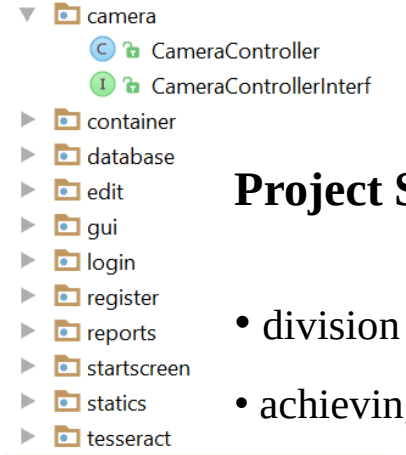
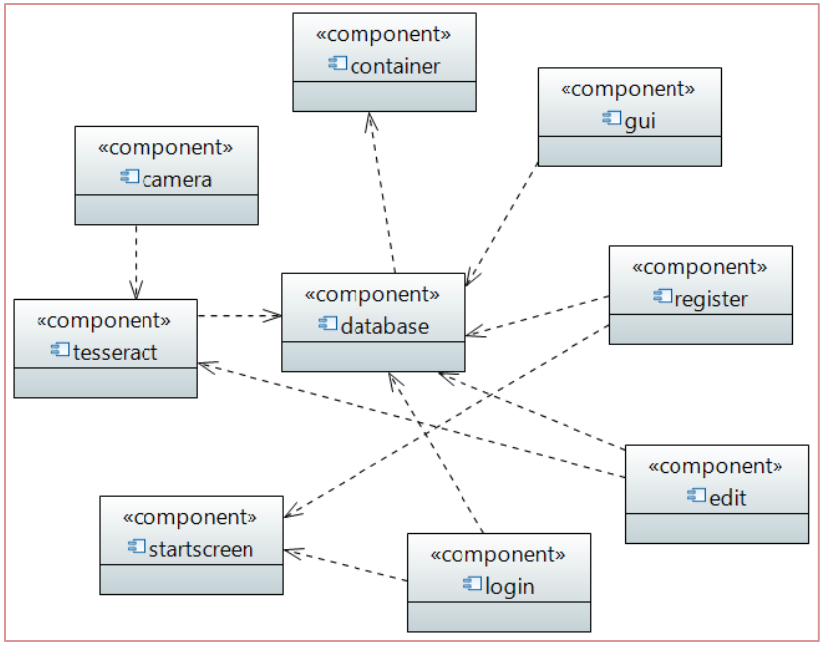


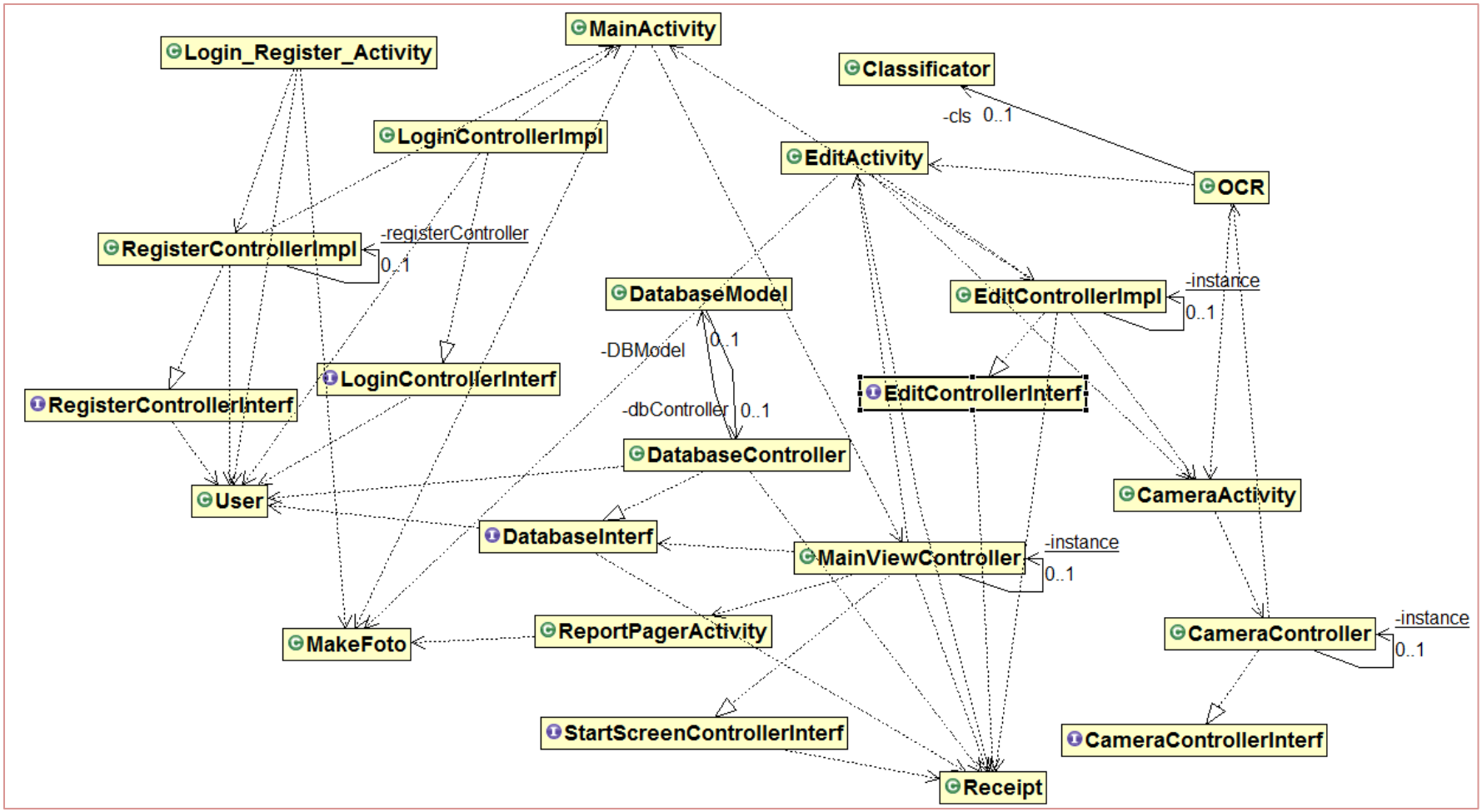
Project Structure:

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



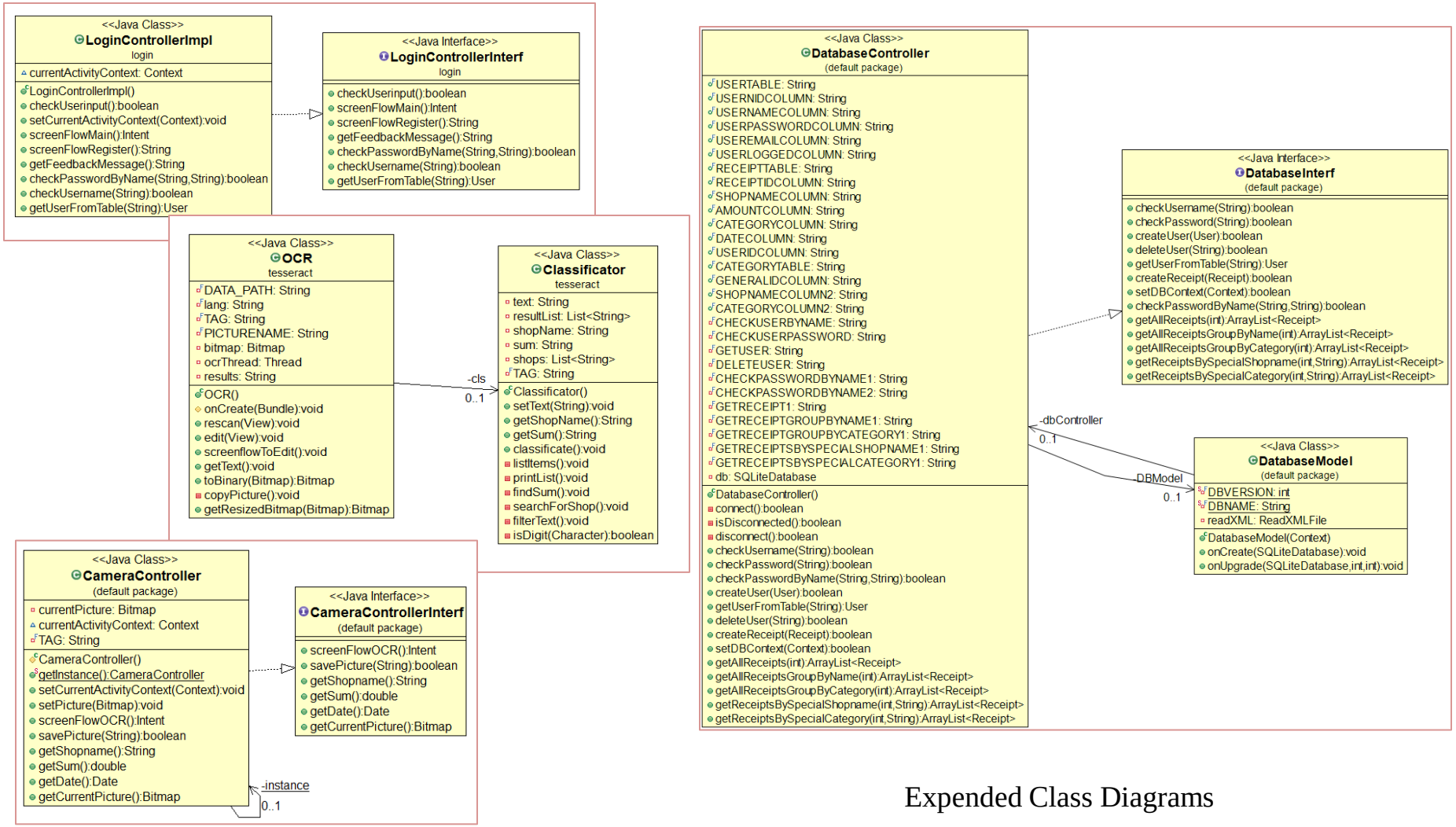
Component Diagram

Project structure became more and more complicated…



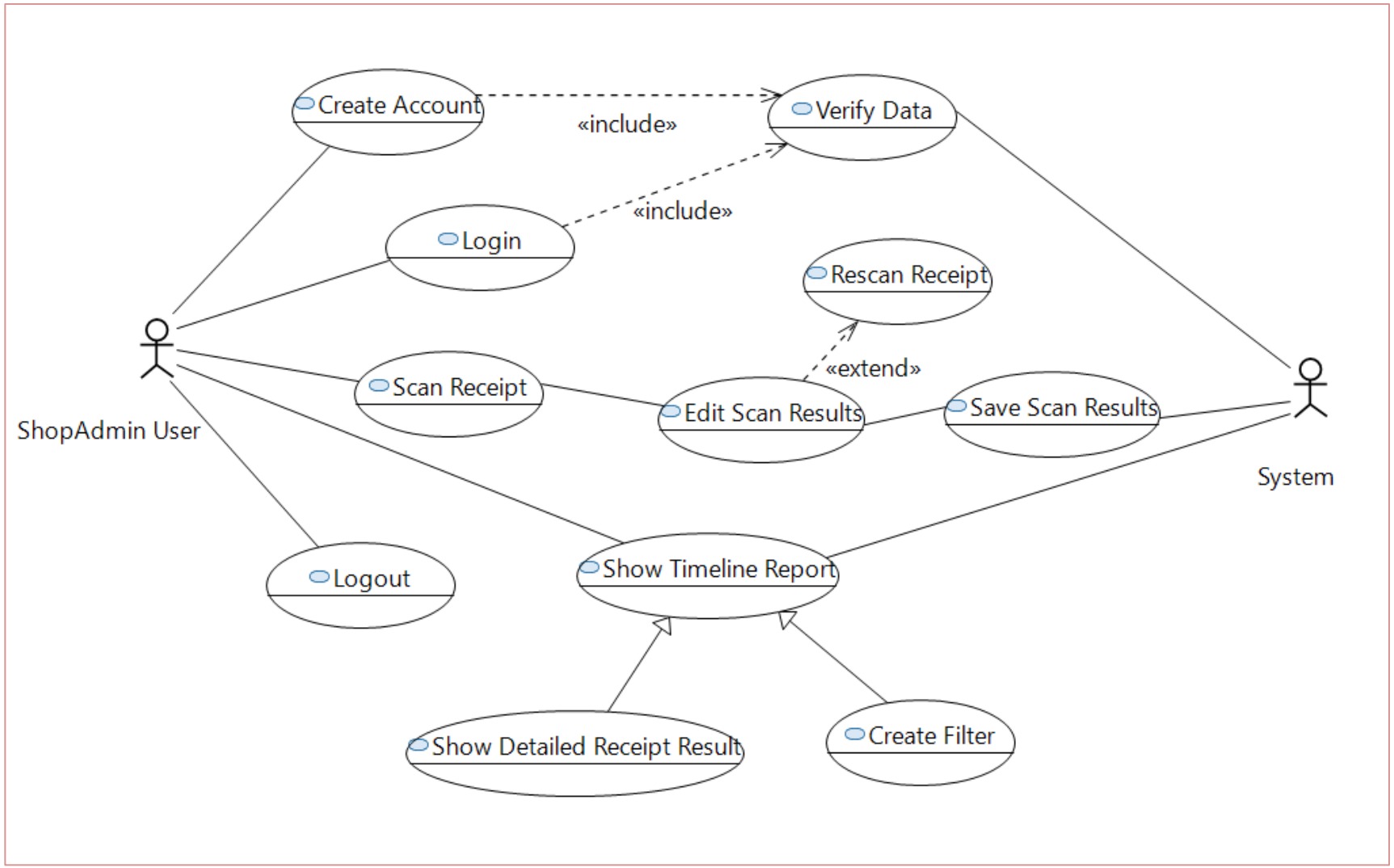
General Class Diagram

Project structure became more and more complicated…



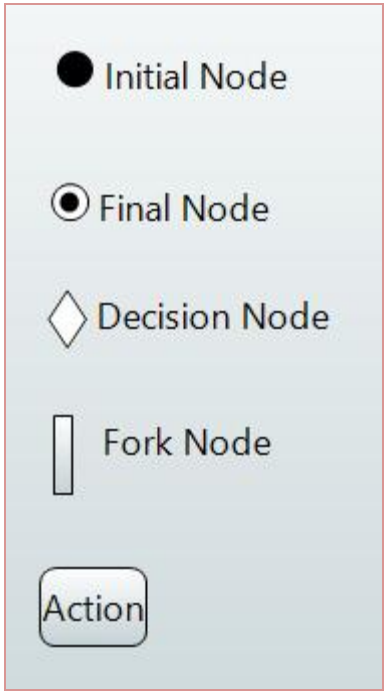
Expended Class Diagrams

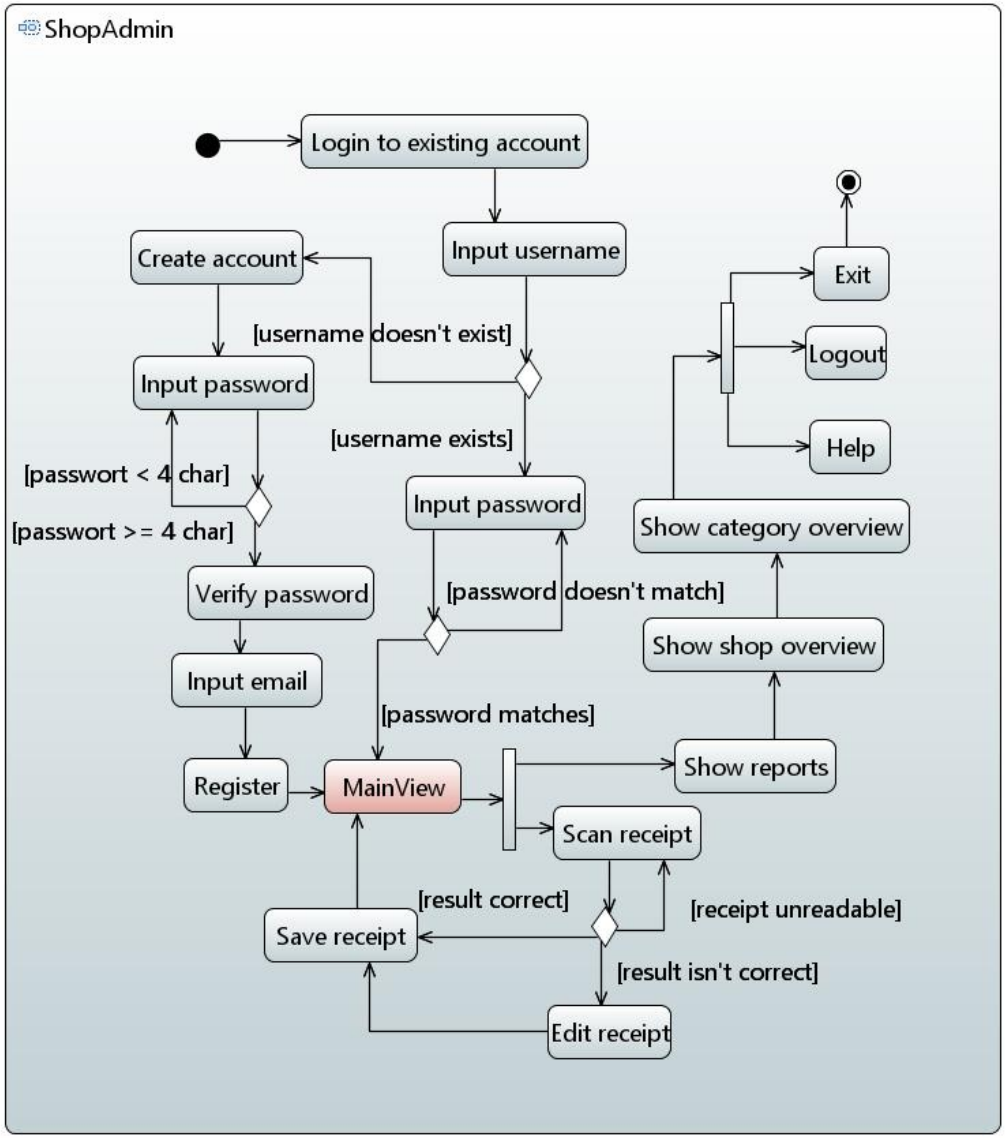
Usecase Diagram



Activity Diagram

Notation Overview:





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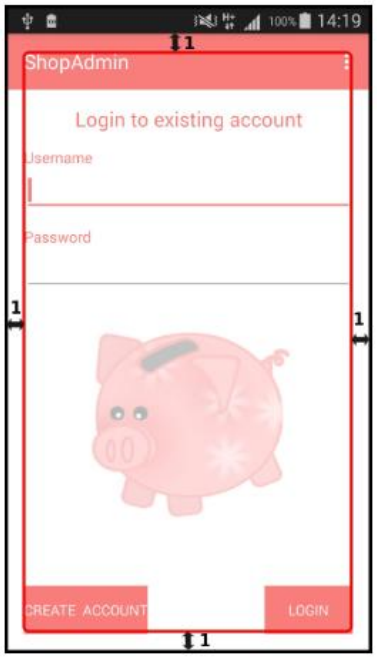
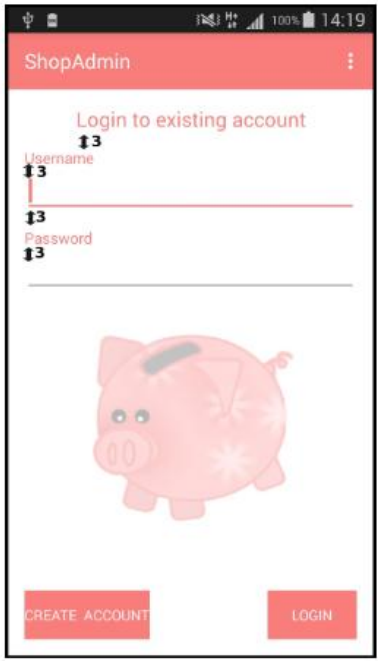
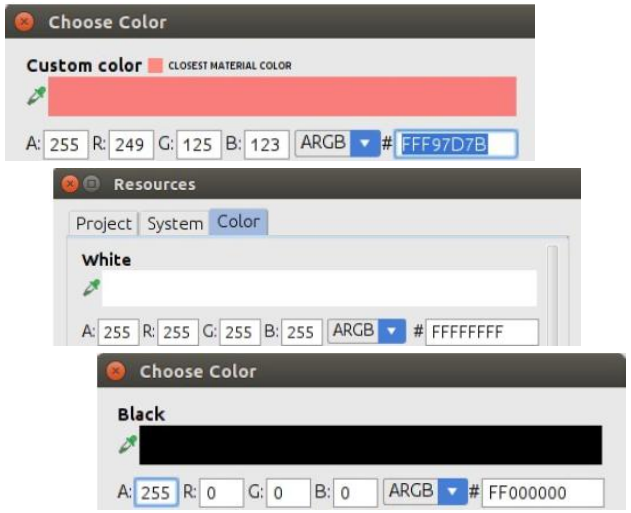
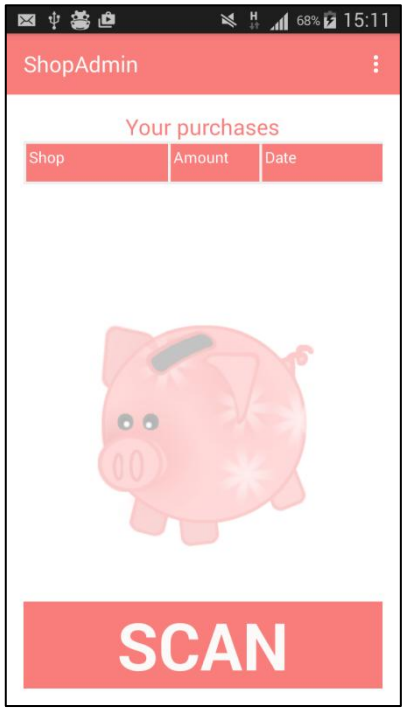
- Colors
- Logo: piggybank (background in the app)
- Pictures for Menu Help

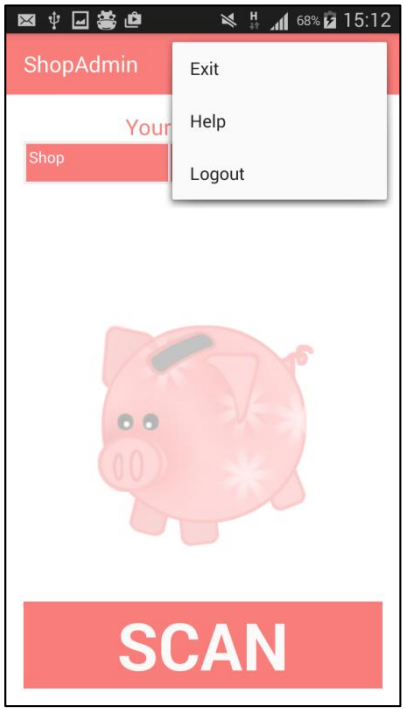




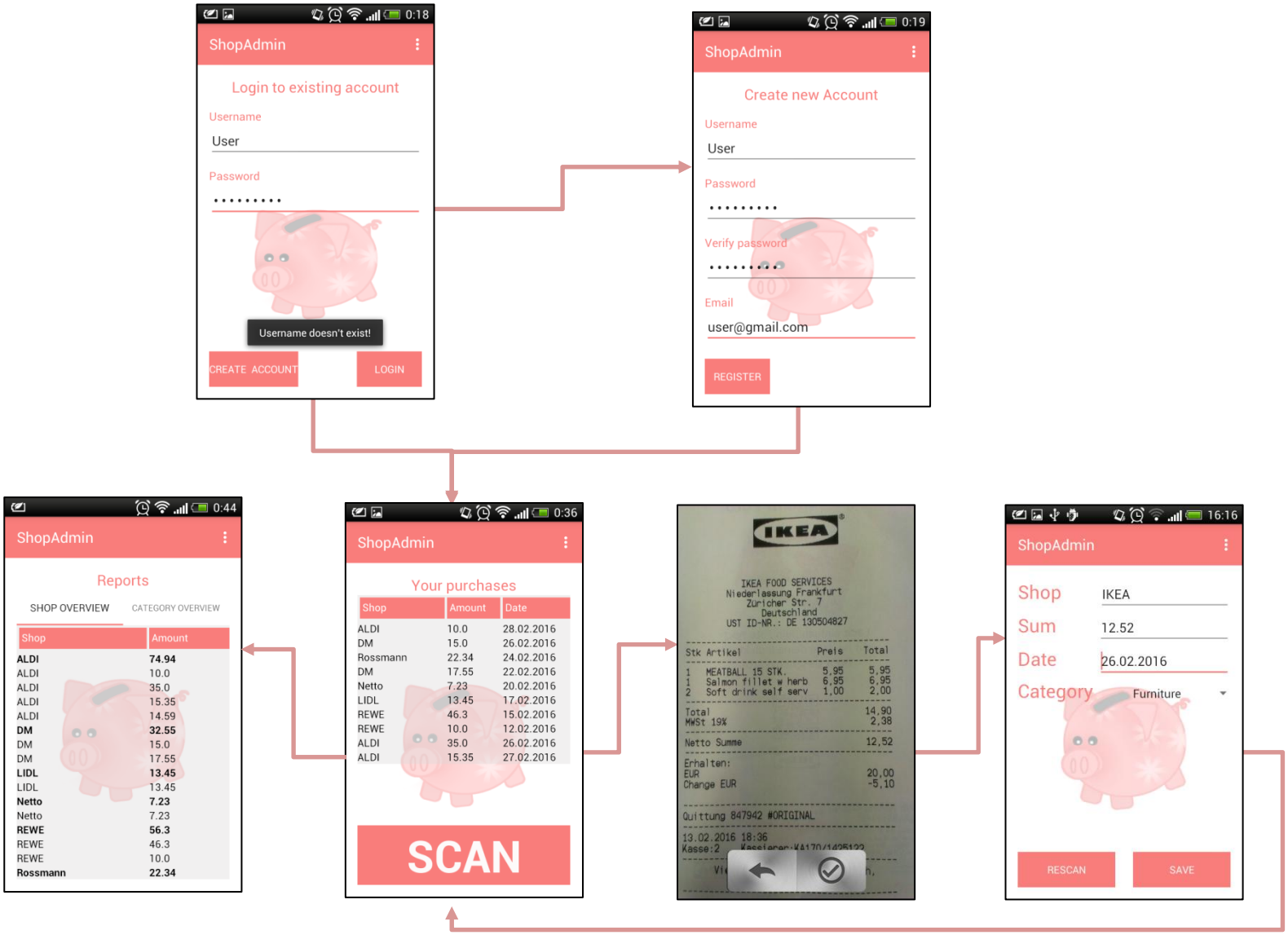


- Functionality:
  - Exit
  - Help

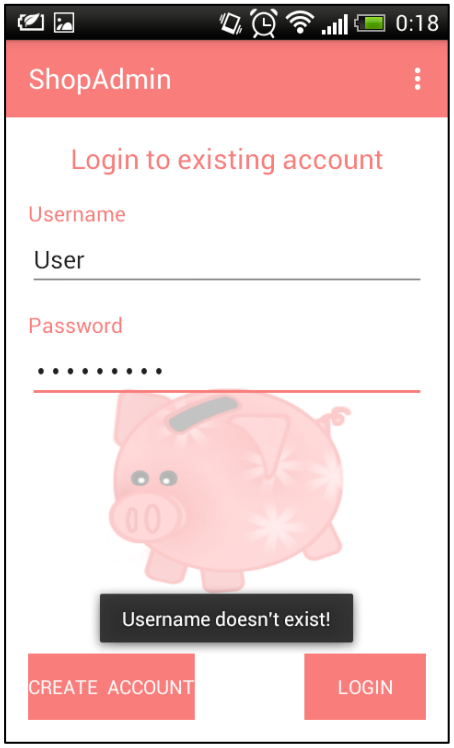


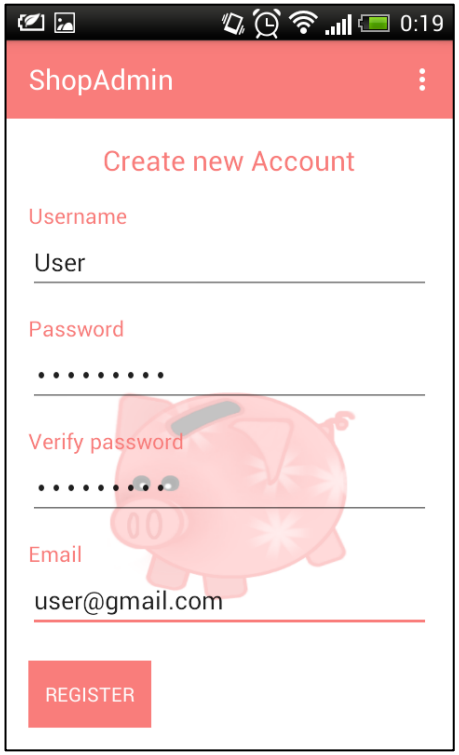


Scheme of Screens

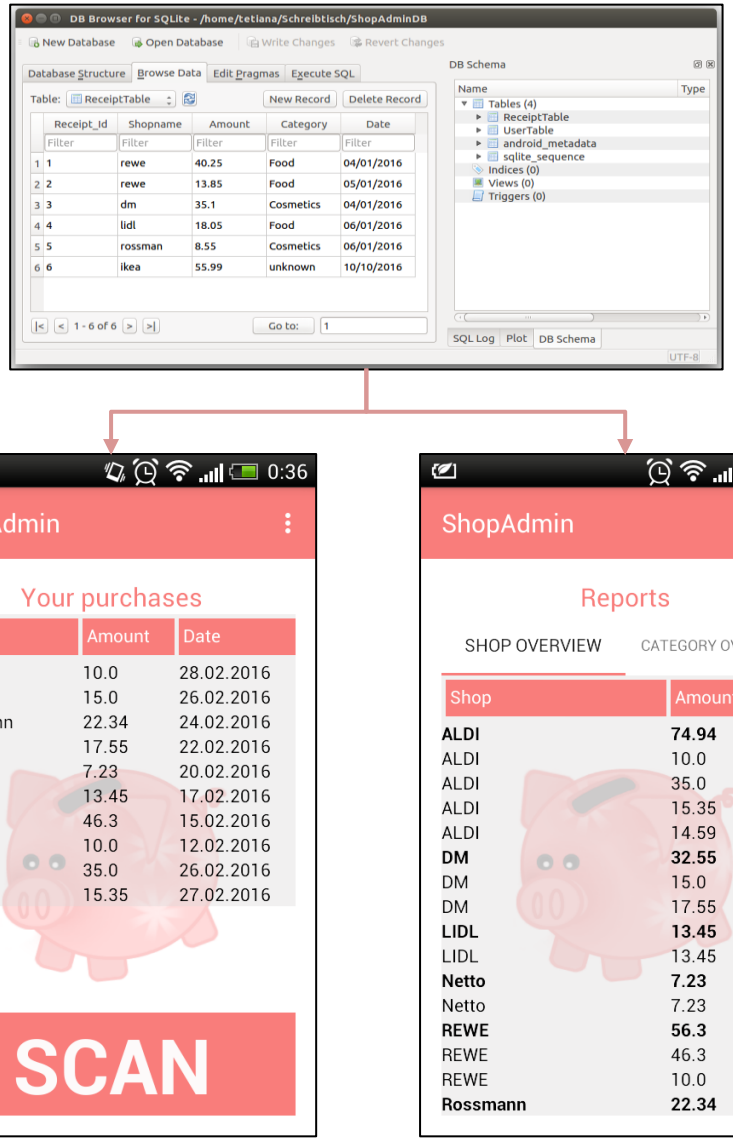


- Creation of Register and Login View
- Functionality in Register and Login view:
  - verifications
    - user name, password, email, complete input
  - visualize user feedback
  - save user data in database
  - hide and show fields in Register view
  - screen flow to Main view



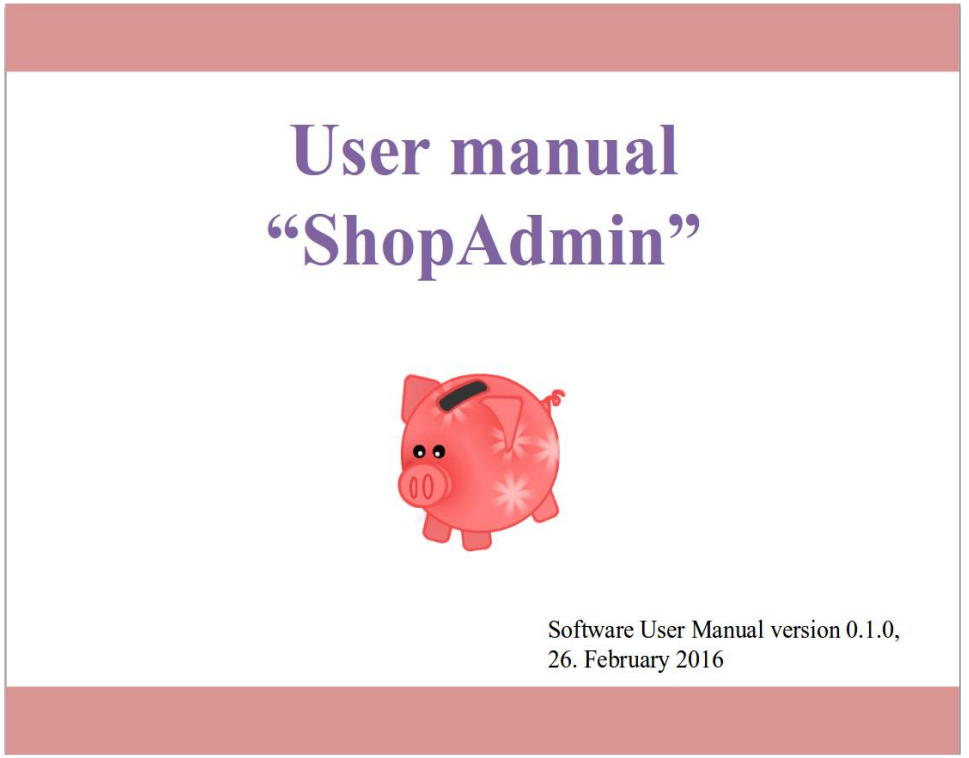


- Functionality in Main view
  - get 20 latest receipts from database
- Functionality in Report view
  - get all receipts grouped by name
  - get all receipts grouped by category
  - expand receipts grouped by selected shop name
  - expand all receipts grouped by selected category



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



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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

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
- 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