ShopAdmin

Control your expenses with receipt scanner

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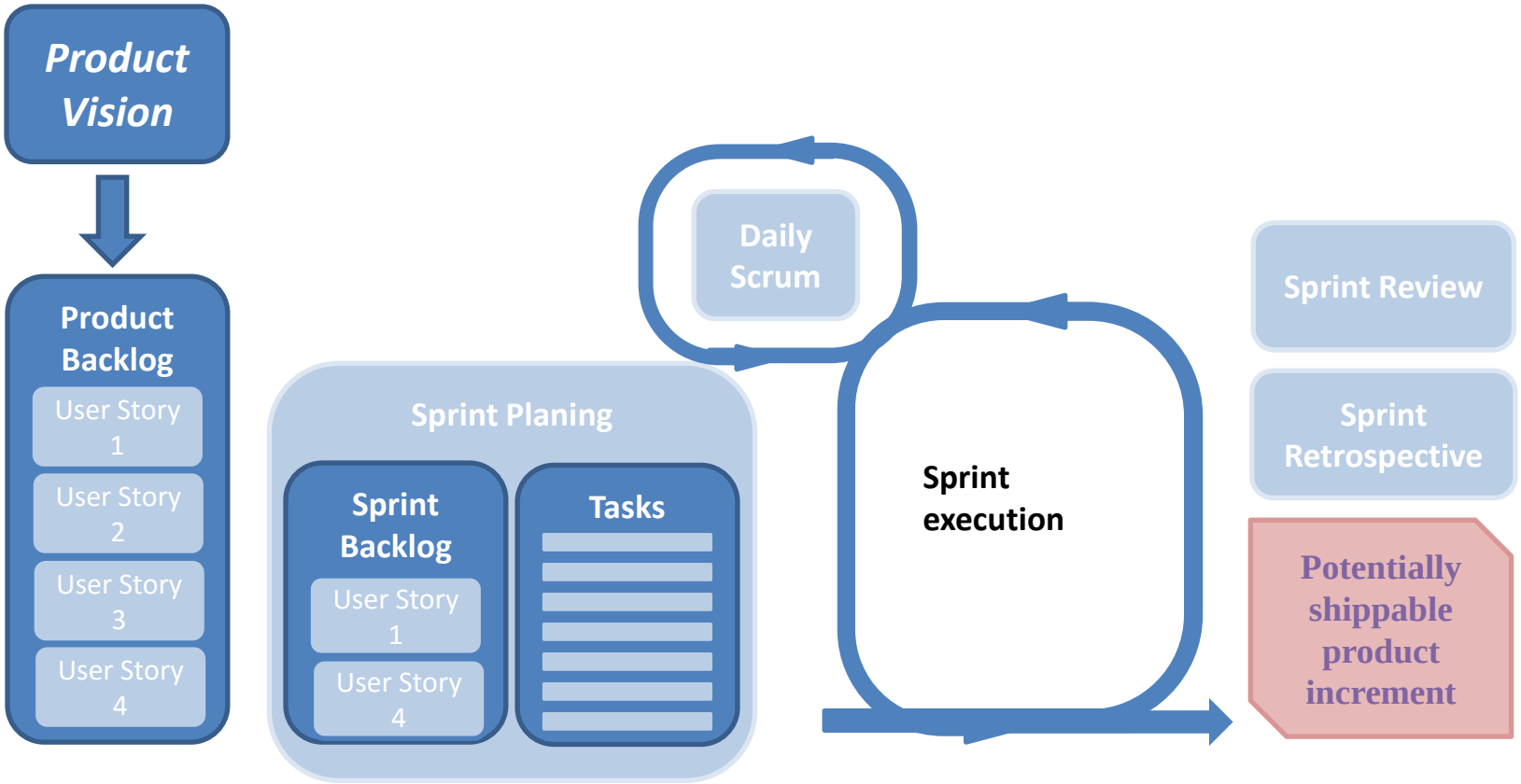
For the realization of ShopAdmin it was decided to use SCRUM



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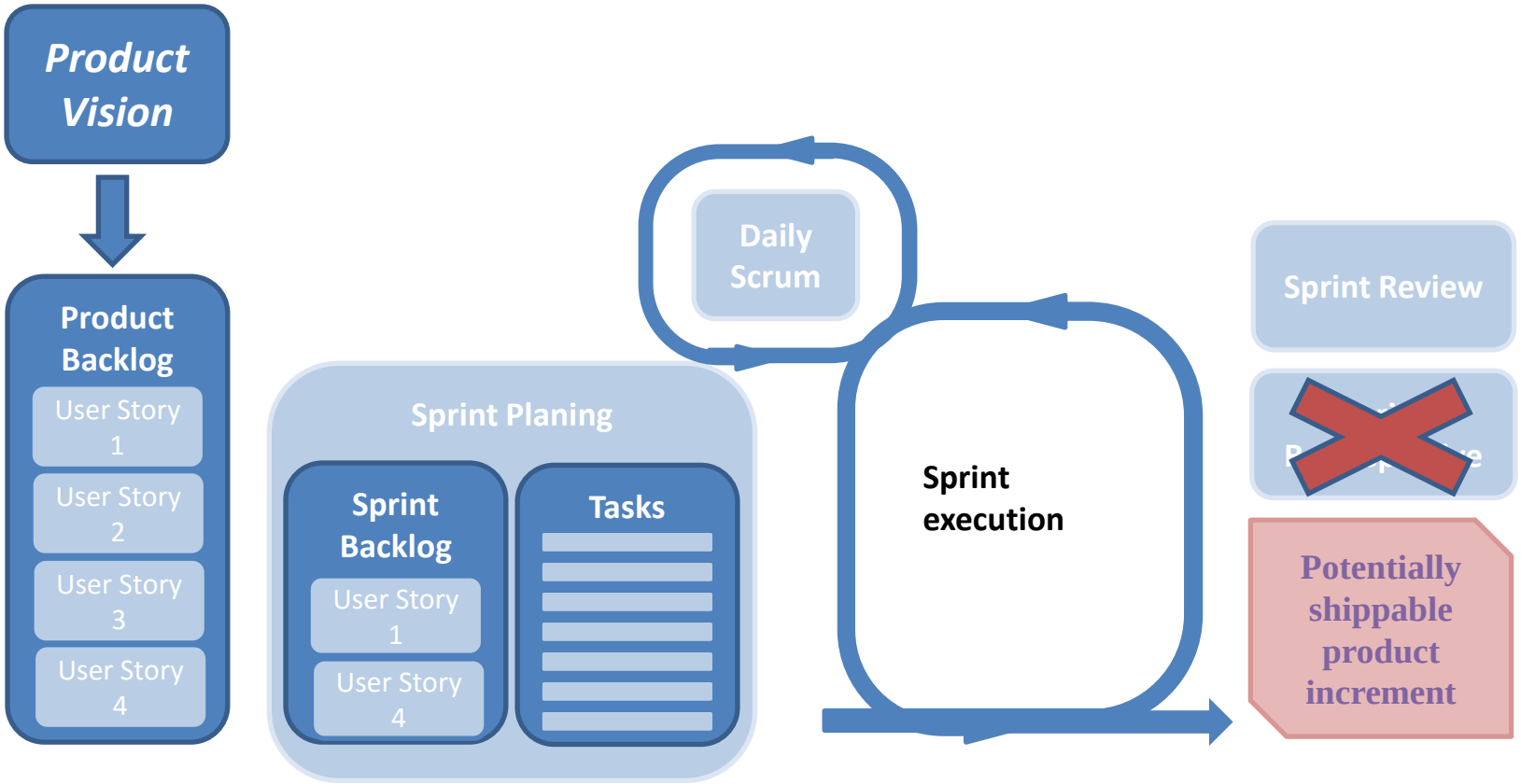
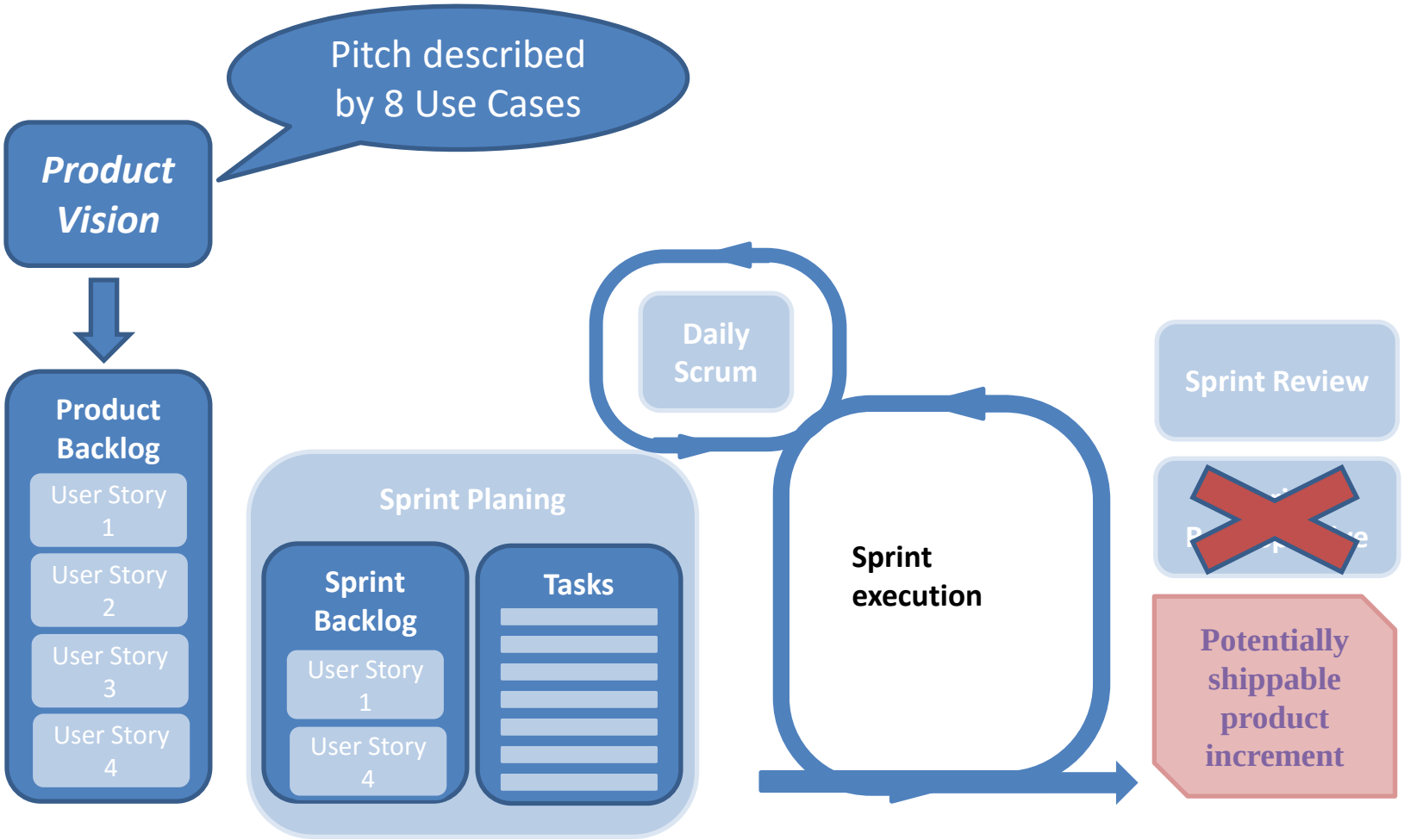
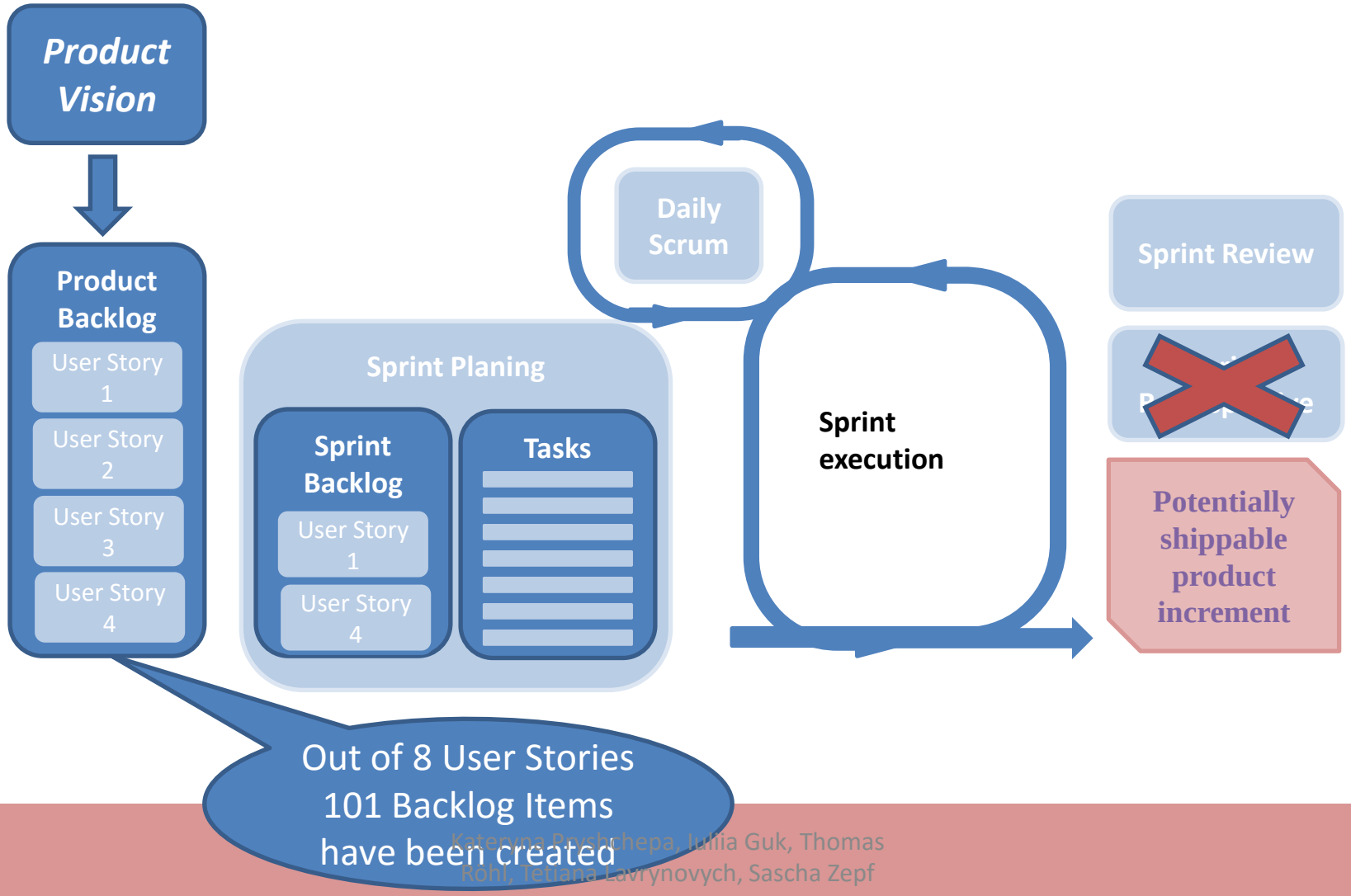



Pitch described by 8 Use Cases
Product Vision
Product Backlog
User Story 1
User Story 2
User Story 3
User Story 4
Sprint Planing
Sprint Backlog
User Story 1
User Story 4
Tasks
Daily Scrum
Sprint execution
Sprint Review
Potentially shippable product increment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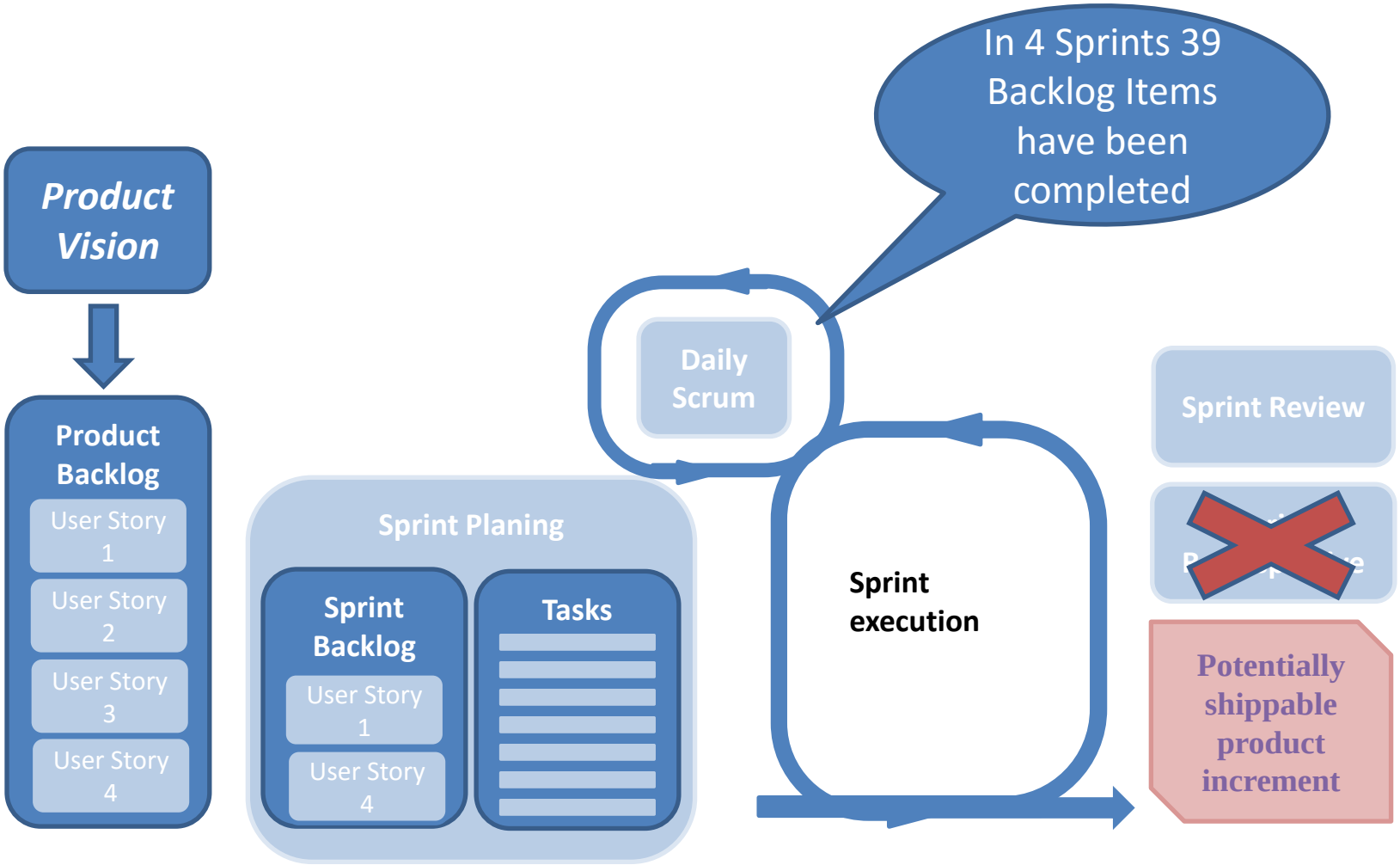
Out of 8 User Stories
101 Backlog Items
have been created


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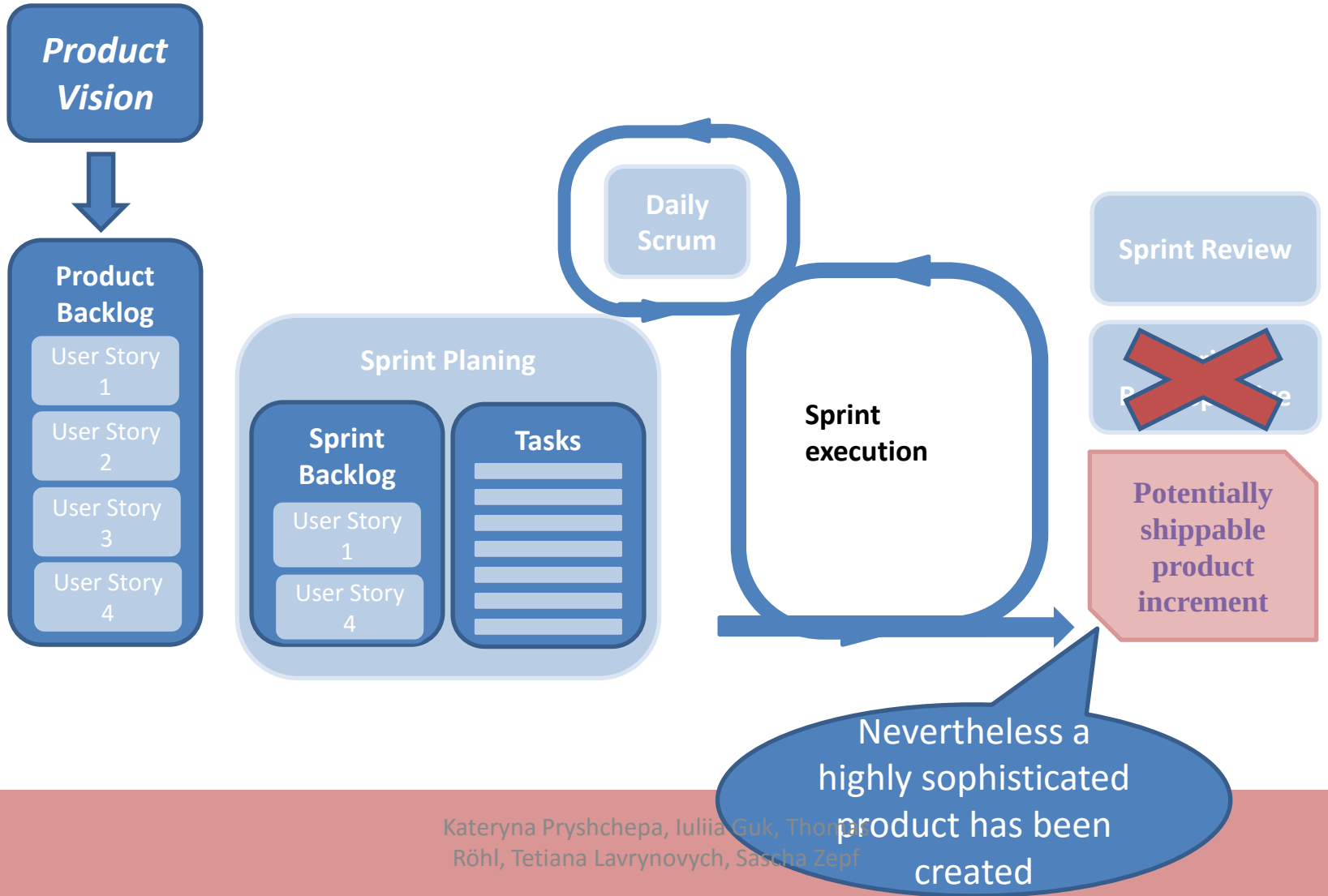
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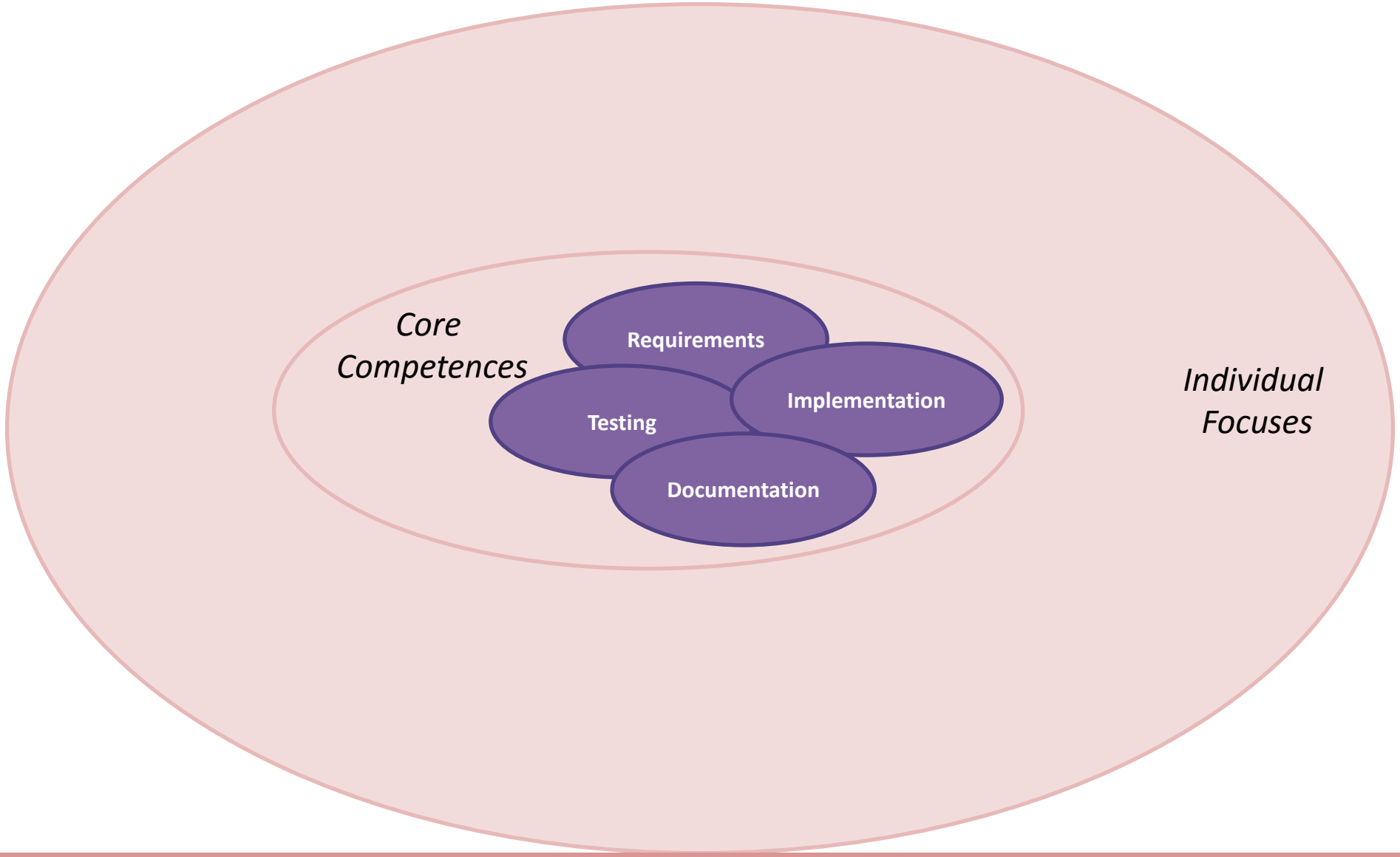
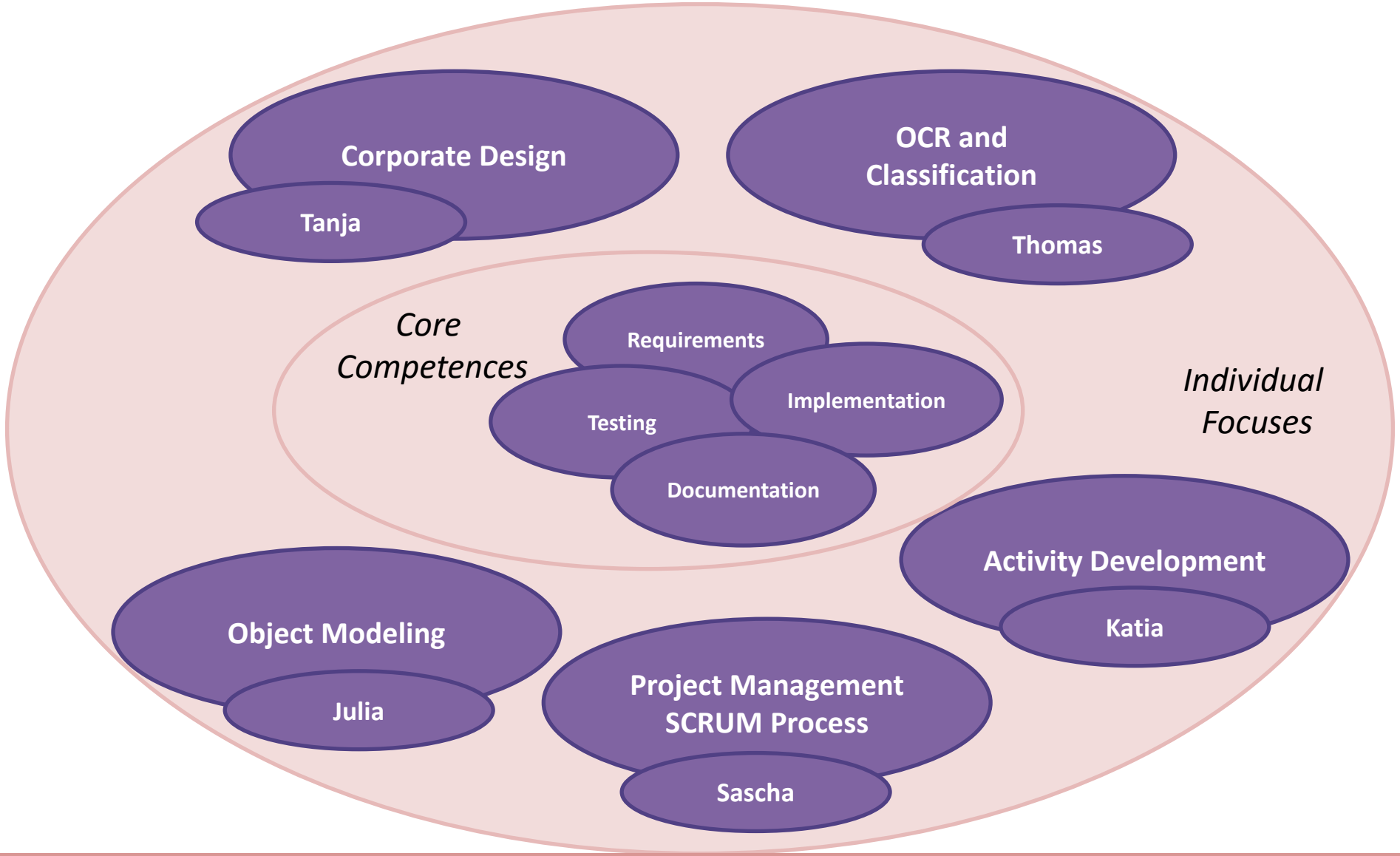
Potentially shippable product increment
Nevertheless a highly sophisticated product has been created

Responsibilities



Responsibilities



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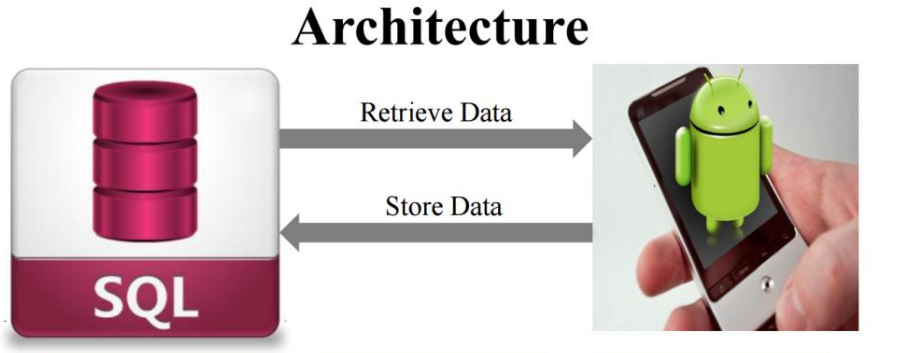
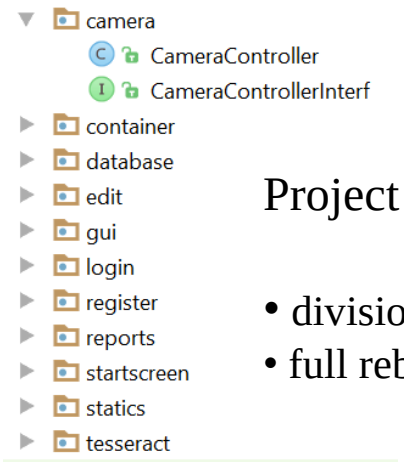
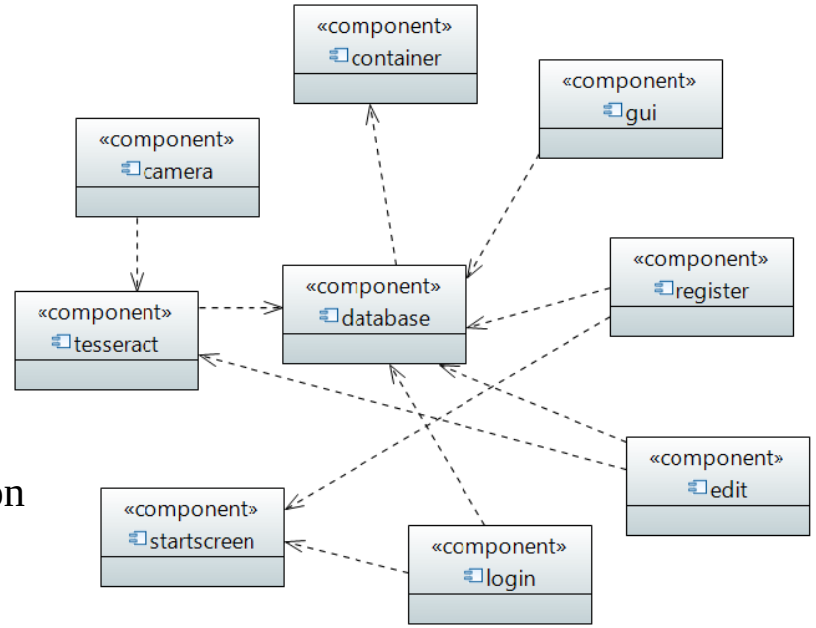


How it all began…

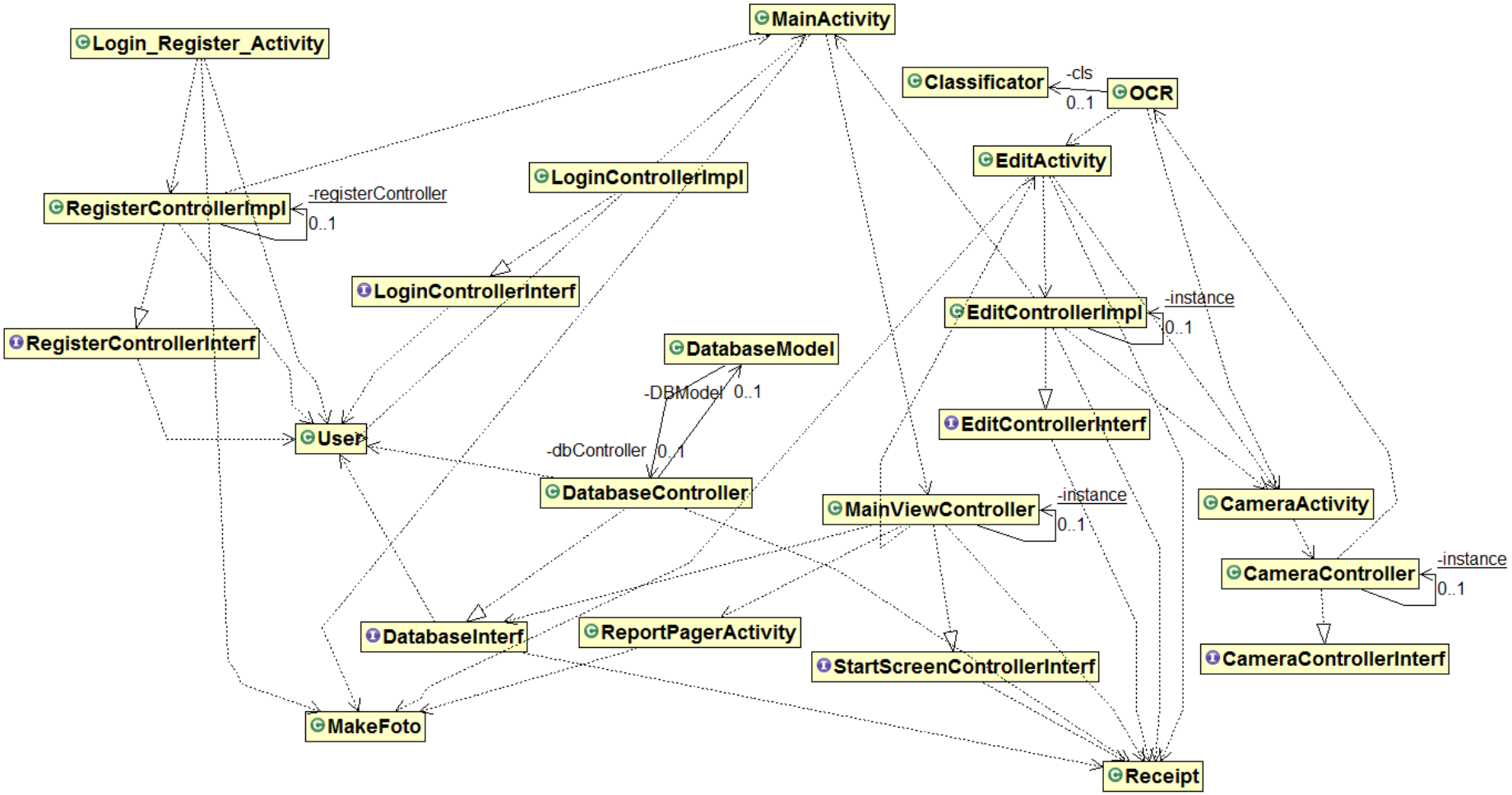


Project Structure:

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



It became more and more complicated…



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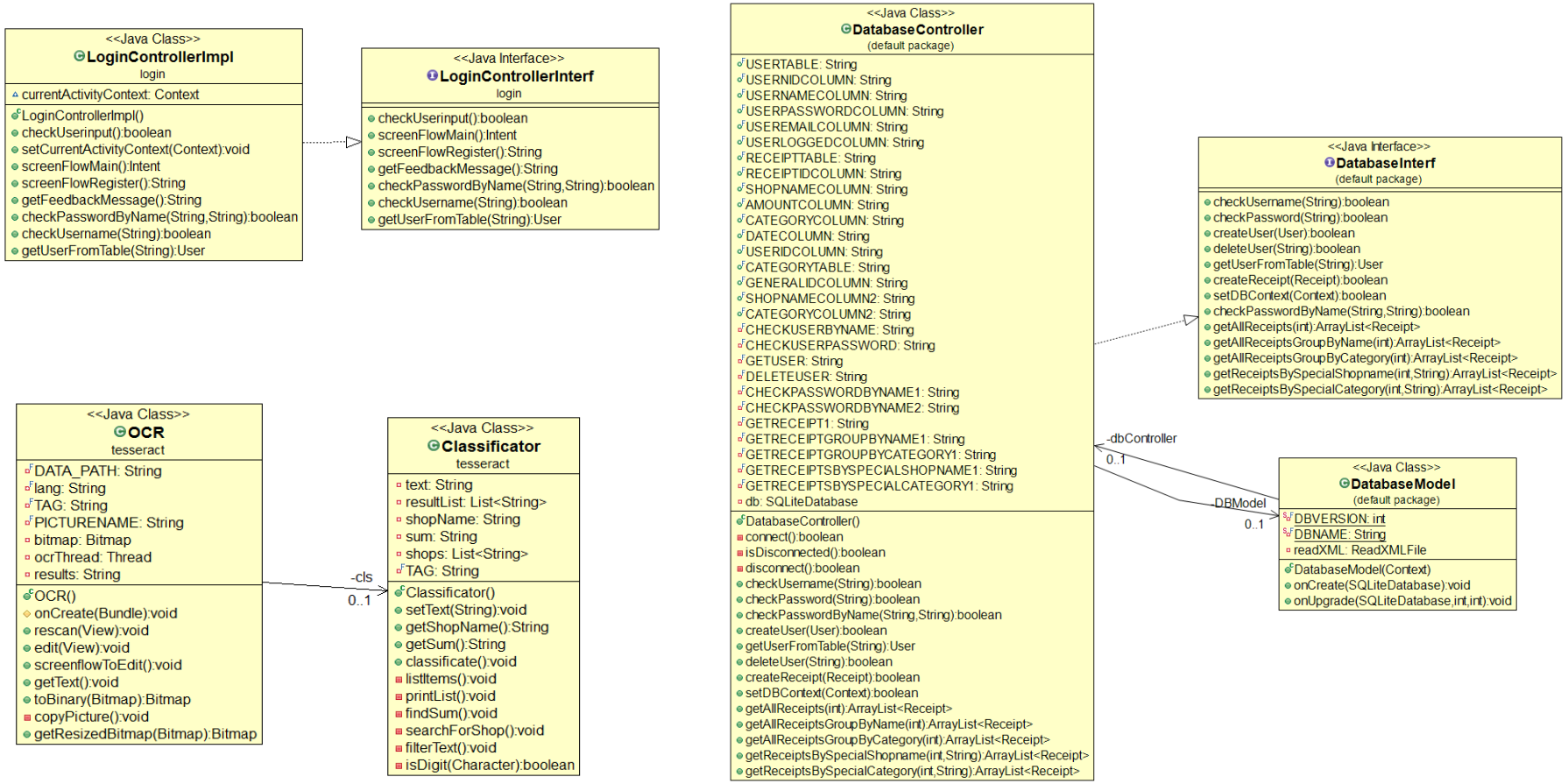
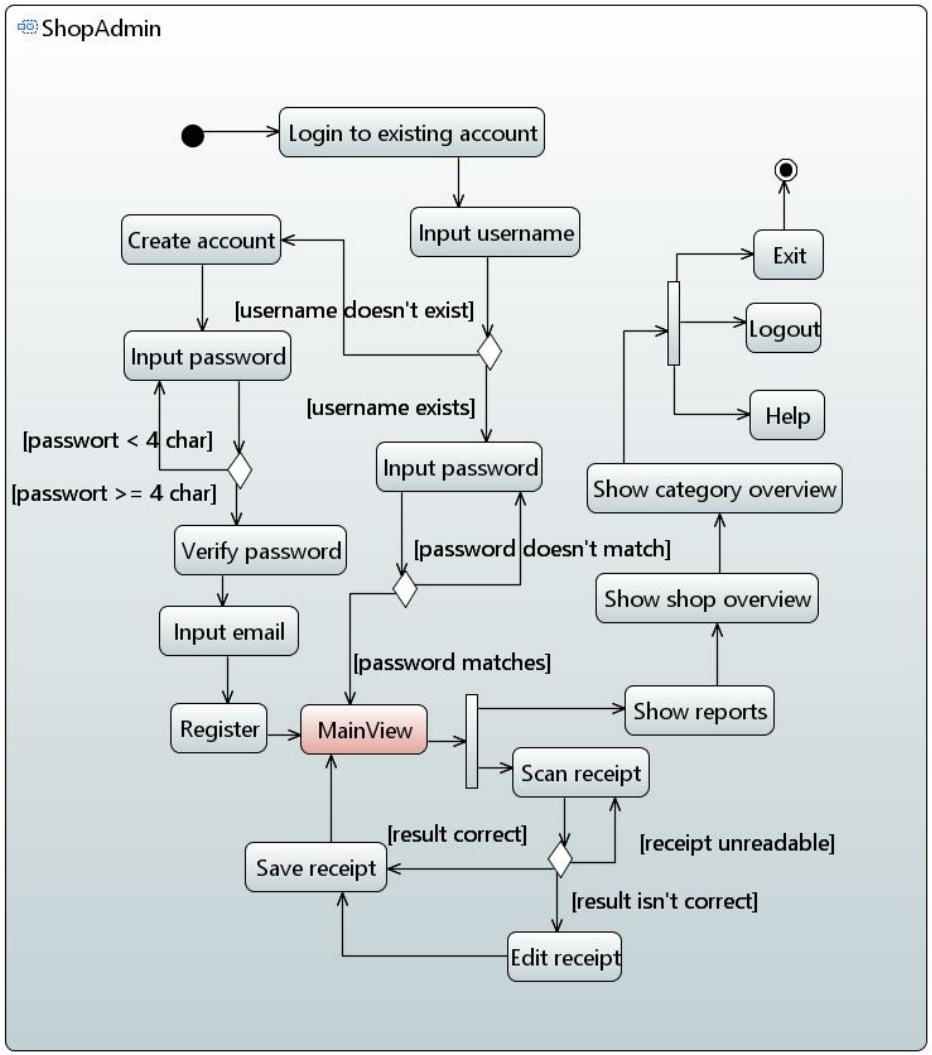
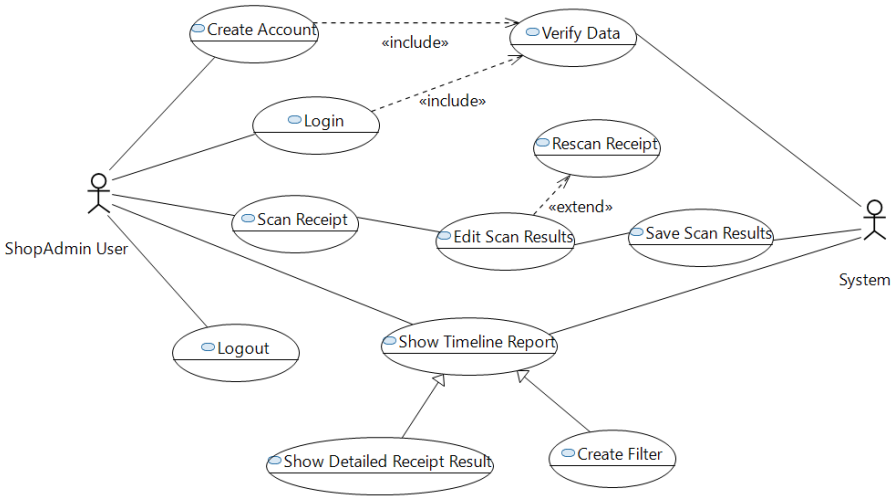



ShopAdmin
Login to existing account
Input username
Create account
[username doesn't exist]
Input password
[username exists]
[passwort < 4 char]
[passwort >= 4 char]
Input password
Verify password
[password doesn't match]
Input email
[password matches]
Register
MainView
Show reports
Scan receipt
[result correct]
[receipt unreadable]
Save receipt
[result isn't correct]
Edit receipt
Exit
Logout
Help
Show category overview
Show shop overview


Create Account
«include»
Verify Data
«include»
Login
Rescan Receipt
«extend»
ShopAdmin User
Scan Receipt
Edit Scan Results
Save Scan Results
System
Logout
Show Timeline Report
Show Detailed Receipt Result
Create Filter

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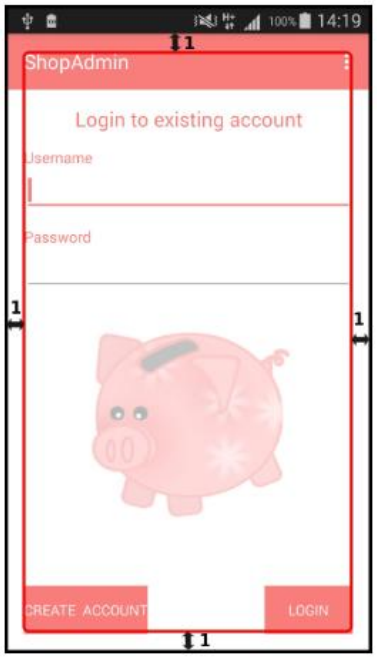
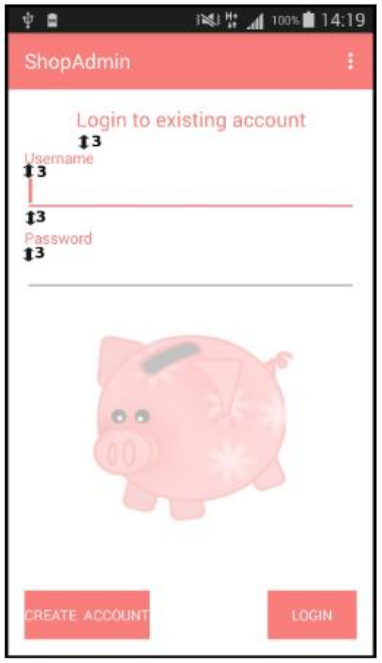
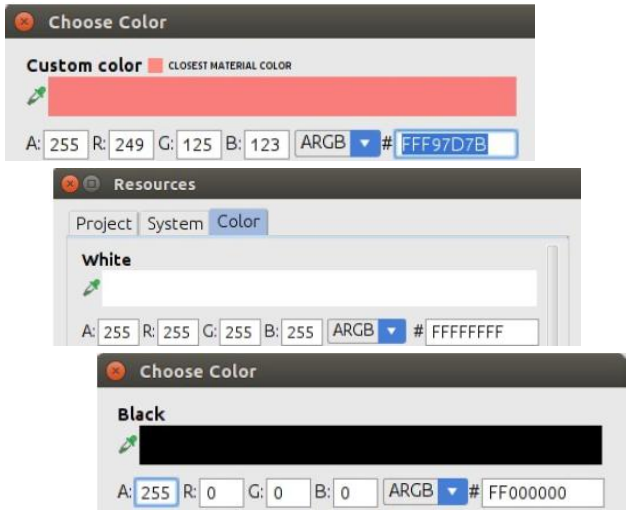
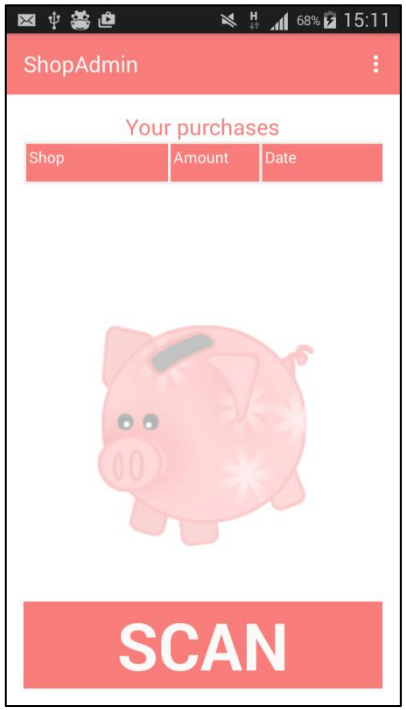
- Colors
- Logo: piggybank (background in the app)
- Pictures for Menu Help

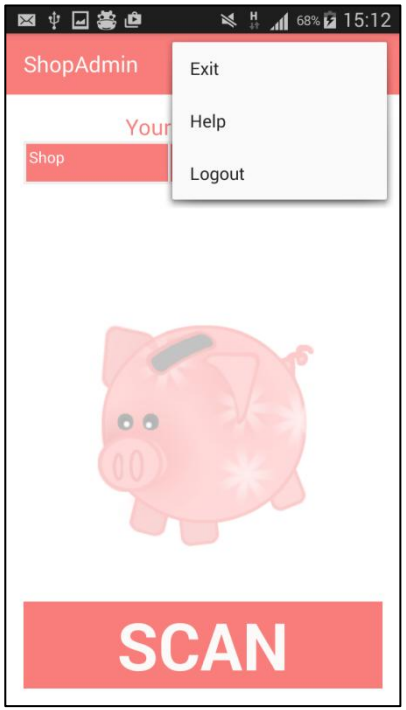




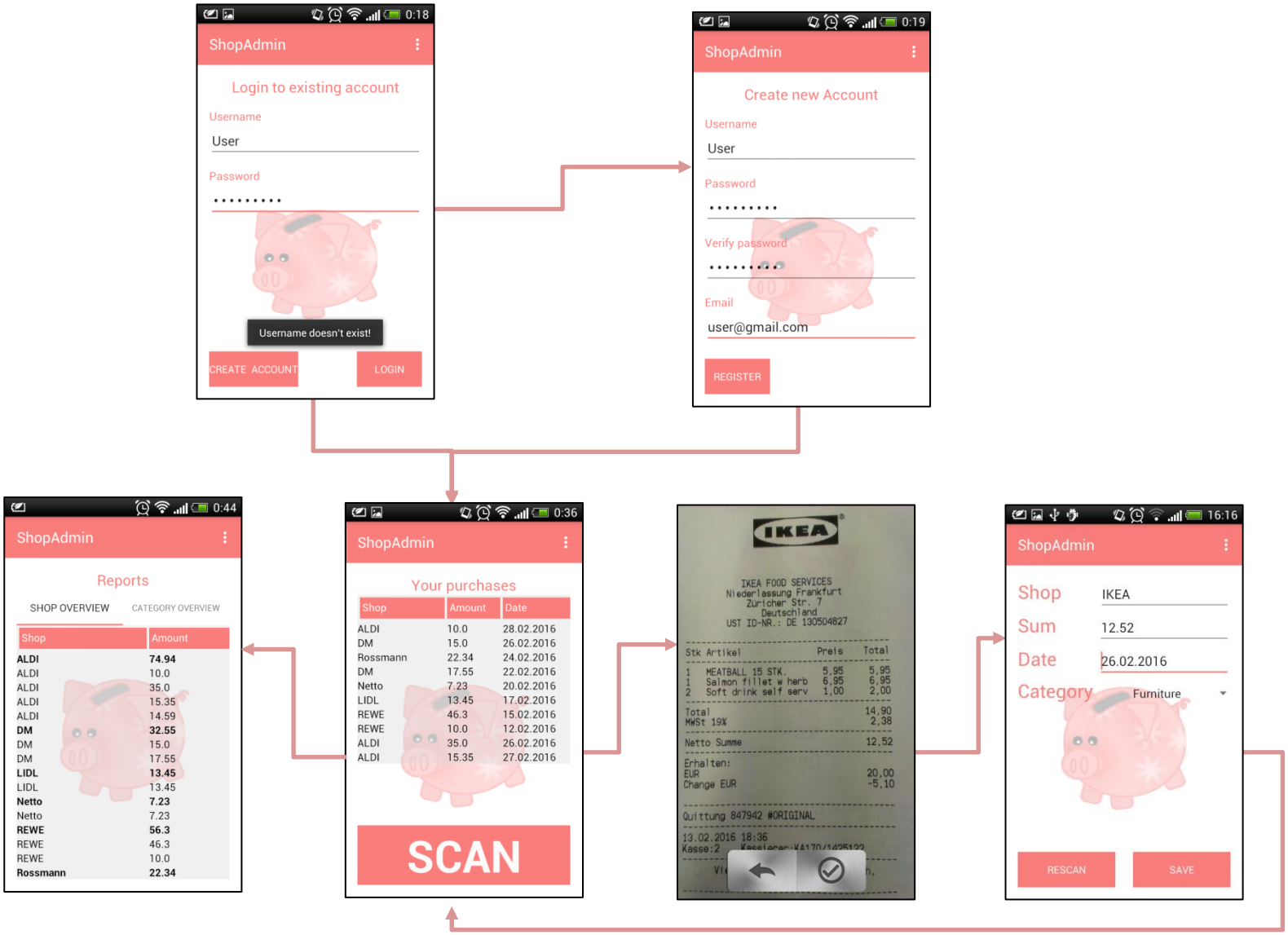


- Functionality:
  - Exit
  - Help

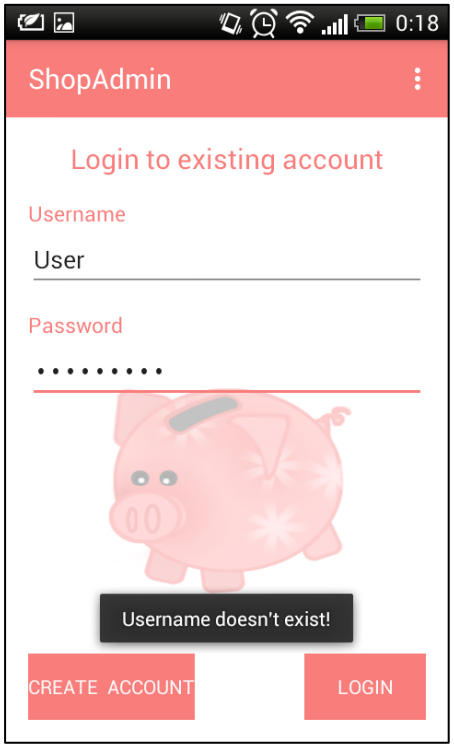


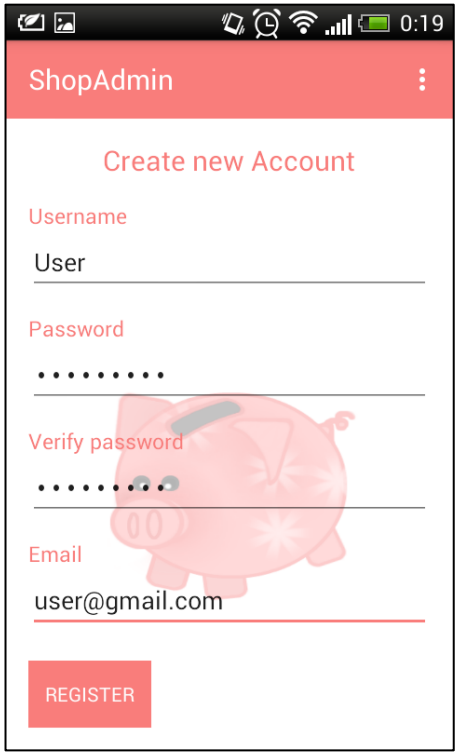


Scheme of Screens

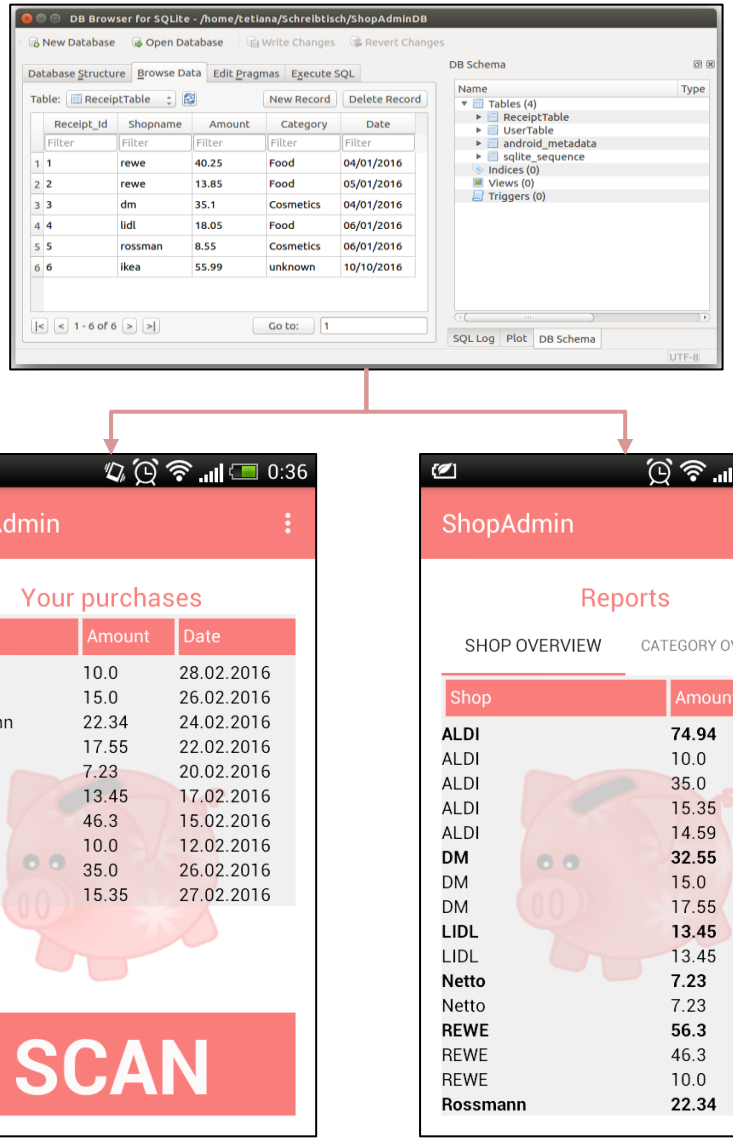


- Creation of Register and Login View
- Functionality in Register and Login view:
  - verifications
    - user name, password, email, complete input
  - visualize user feedback
  - save user data in database
  - hide and show fields in Register view
  - screen flow to Main view



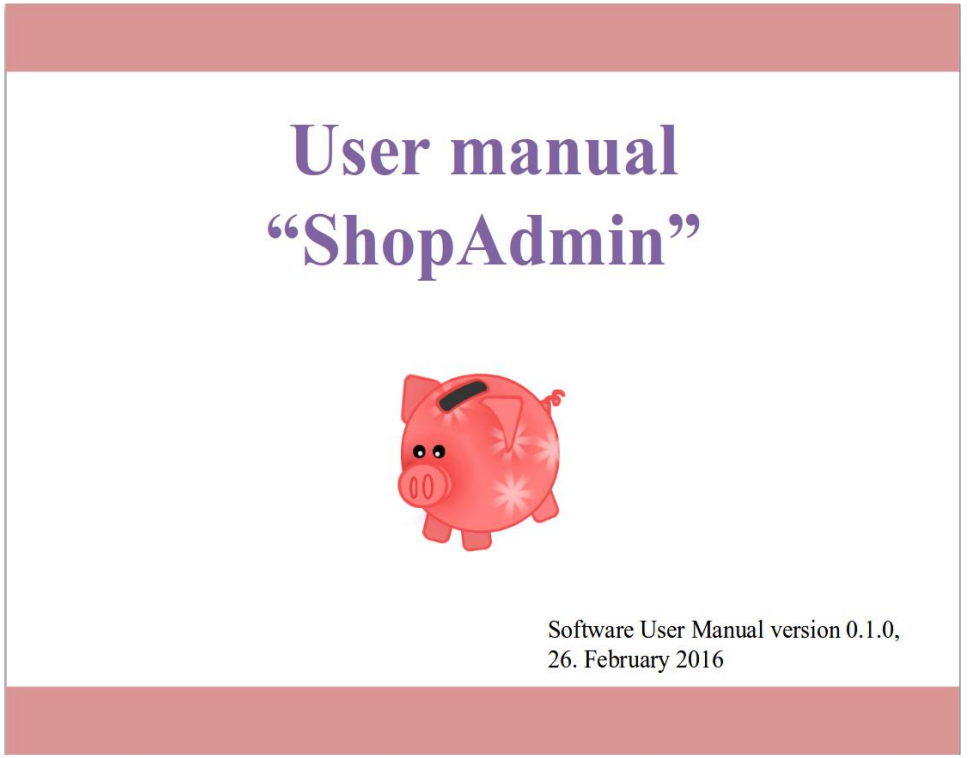


- Functionality in Main view
  - get 20 latest receipts from database
- Functionality in Report view
  - get all receipts grouped by name
  - get all receipts grouped by category
  - expand receipts grouped by selected shop name
  - expand all receipts grouped by selected category



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
- 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