listItGrocery Handout

Team: Akeshan Kunarajah, Fezaan Rehman, Wassim Hanane
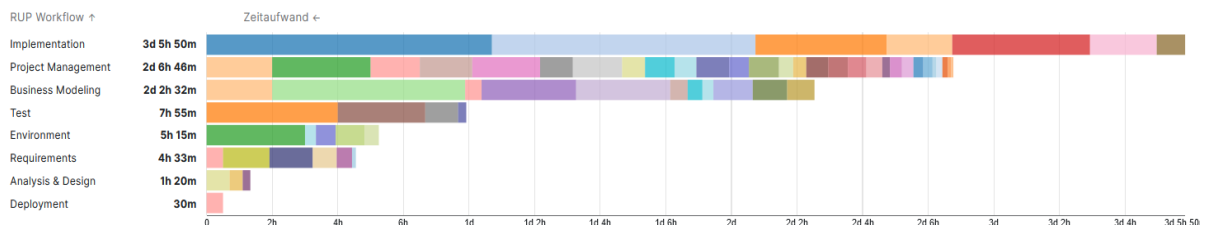
Hours per person

| projects, grouped by Work author	Time spent
Total time	**94h** 09m
Akeshan	**30h** 23m
LIG listItGrocery	30h 23m
Fezaan Rehman	**28h** 02m
LIG listItGrocery	28h 02m
Wassim Hanane	**26h** 19m
LIG listItGrocery	26h 19m
adrian	**9h** 25m
LIG listItGrocery	9h 25m

Major contributions

- Fezaan: Backend, Datastorage
- Akeshan: frontend, testing, project management
- Wassim: frontend, testing, designing

## Hours per workflow

Hours per phase
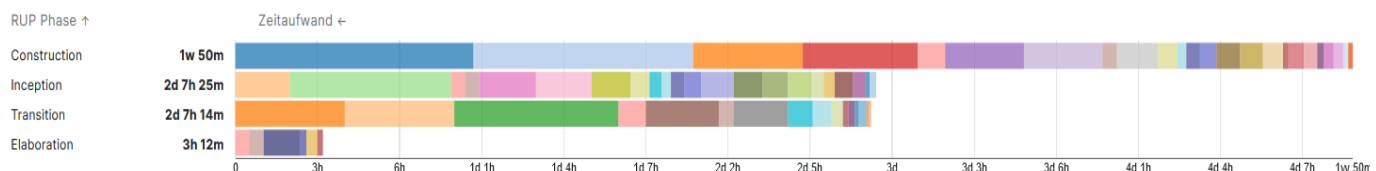
Workflows per person

		Akeshan	Wassim Hanane	Fezaan Rehman	adrian	Unassigned
Total	**116**	**35**	**29**	**24**	**15**	**13**
Project Management	57	17	19	13	7	1
Business Modeling	18	9	2	3		4
Implementation	15	3	2	7	1	2
Requirements	11	2	3		3	3
Analysis & Design	5	1	1		2	1
Environment	5	1	1	1	2	
Test	4	2	1			1
Deployment	1					1

Highlights of the demo:

- data storage
- offline function
- passwort reset
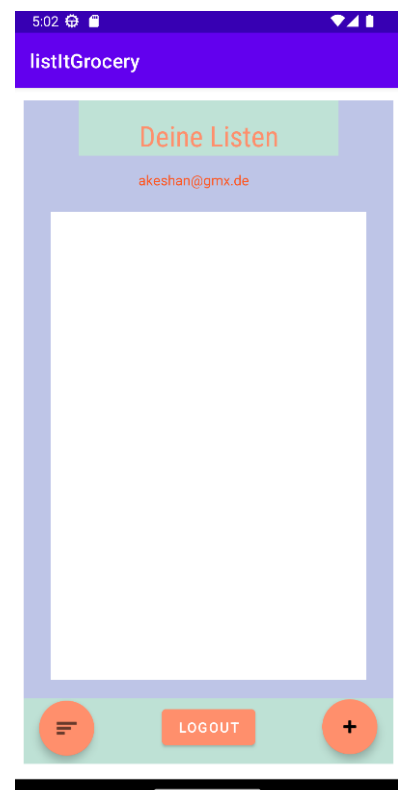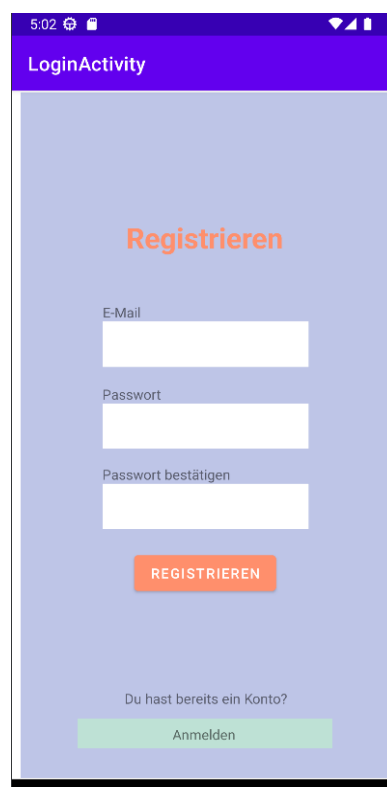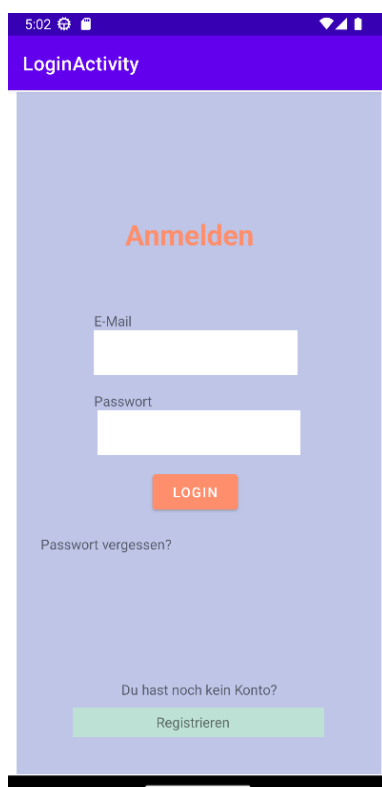
Architecture Decisions and Design Patterns (Usability)

Architectural Style:
- Architectural Pattern -> MVVM (Model-View-ViewModel)
  - Simplified separation between: logic, user interface and data management.

Development environment:
- developed with Android Studio and Java programming language.
  - powerful development environment and designed for android platforms

Performance Tests:
- Apptim help us:
  - identify any performance problems
  - optimization for smooth user experiences

UI Tests
- Espresso help us:
  - ensuring the proper functioning of the UI

Data Management:
- Firebase:
  - for data storage and synchronization
  - for authentication
  - cloud storage

Mockup and UI Implementation:
- Figma:
  - Design mockup

The UI implementation was then carried out in Android Studio using XML files.

These architectural decisions provide a solid foundation for developing a functional and user-friendly shopping list app. They promote a clear separation of responsibilities, efficient data management, and testing to ensure optimal performance and user experience

GUI Design

Advantages of placing important functions at the bottom of the screen:

- Easier accessibility with one hand

- Improved usability and simplified interaction

- Scroll down without adjusting grip or hand position

- Using the bottom screen area for easier navigation

- Ensuring constant visibility of important functions through placement at the bottom of the screen
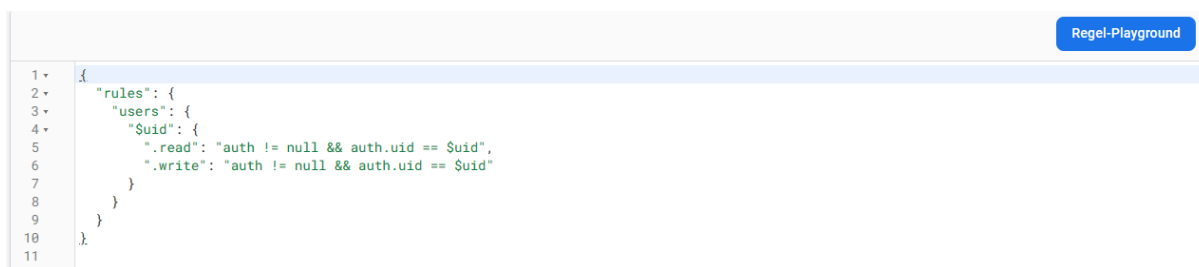
Password confirmation:

- Password confirmation minimizes typing errors during entry
- Reduces the risk of login issues
- Encourages the use of strong and reliable passwords

Tech stack

- GitHub for version control
- YouTrack for issue-tracking and project management
- AndroidStudio as an IDE
- Java - programming language (integrated in IDE)
- XML - UI for App (integrated in IDE)
- Firebase for backend development(Authentification, Data Storage)

Database design

Our database is the Realtime Database from Firebase (Google Application). It is a NoSQL DB which allows a flexible storage of data. Firebase offers a great overview for a backend developer and you can also implement rules for the DB in the Firebase Console.

```
{
  "rules": {
    "users": {
      "$uid": {
        ".read": "auth != null && auth.uid == $uid",
        ".write": "auth != null && auth.uid == $uid"
      }
    }
  }
}
```
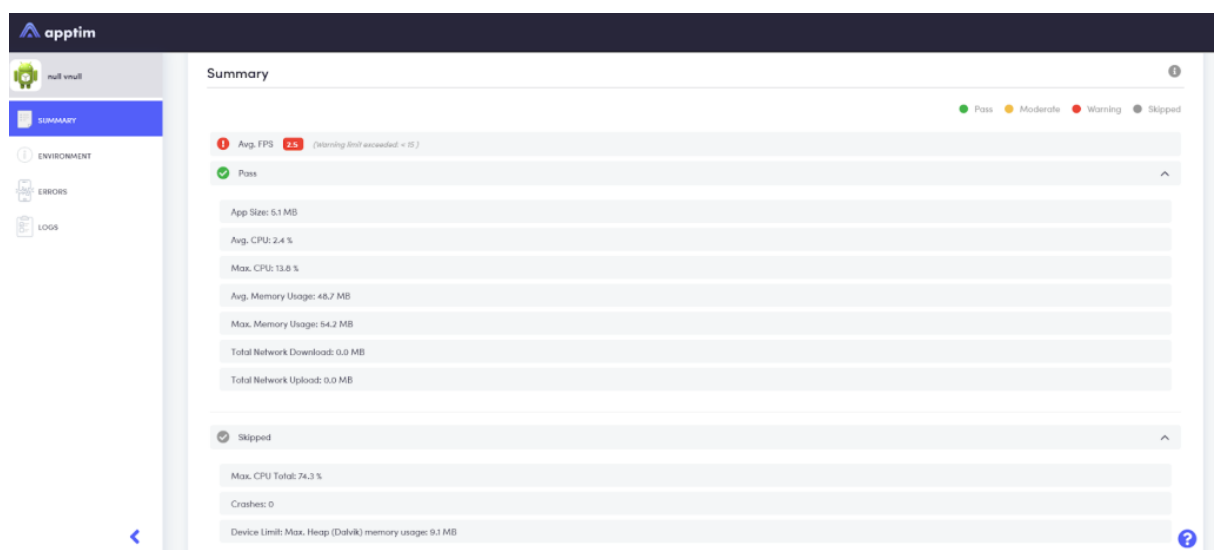
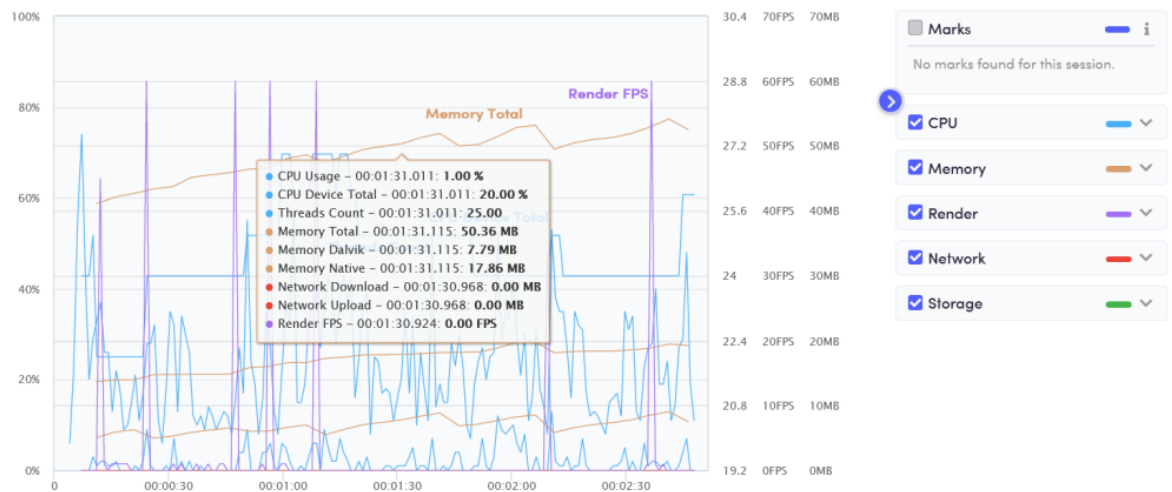Furthermore there is a option in Firebase, where you can see statistics:
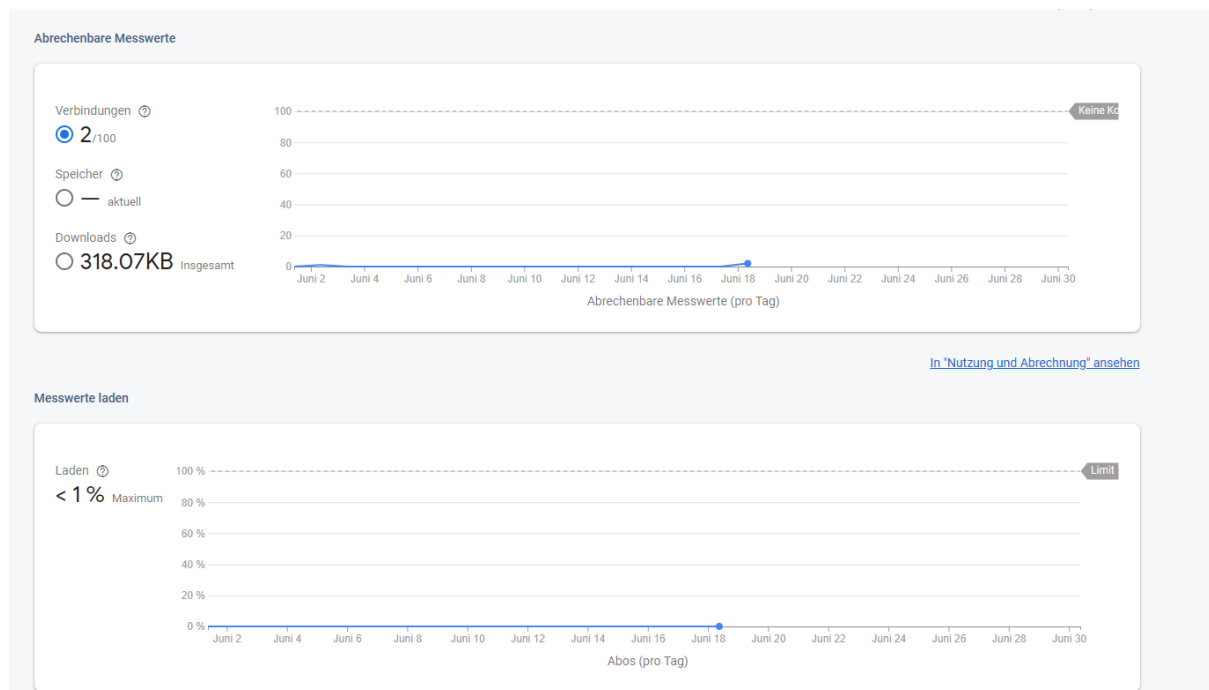
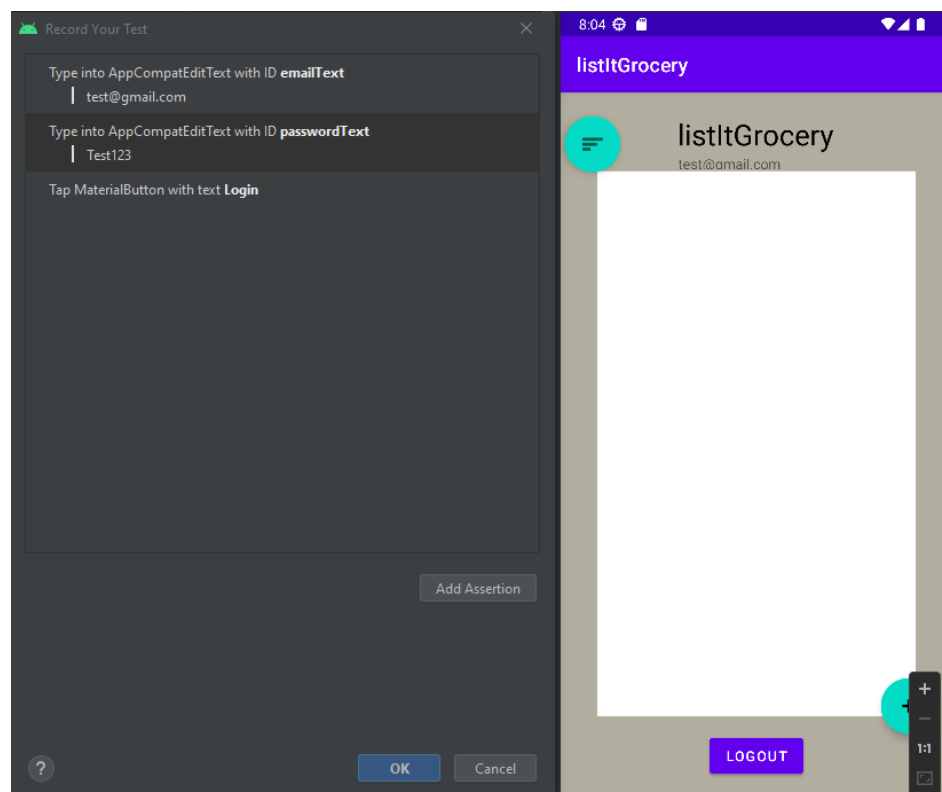## Testing

Perfomance test with Apptim:

- ensure optimal performance
- monitoring and analyzing app
- identify potential issues

UI test with Espresso:

- verifying user-friendliness

- test the user interface

- one issue was a not working hamburger-menu function

CI/CD

- Version Control: Github

- Automated Testing: Espresso, Github Actions

- Plan: YouTrack