

Requirements and Analysis document for AWME bokbytarapp

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1 Introduction

The buying and selling of course literature between students at Chalmers University is today mainly done through different facebook groups. This android application is designed to be a better alternative to this. Since the product is free and non company affiliated, the stakeholders have been regarded as the end user. The application allows sellers to post their books for free and buyers to search for their desired books and contact sellers if they find something desirable. It also mediates contact between potential buyers and sellers through a messaging service in the app. All the messages are encrypted with a self made RSA cryptography.

1.1 Definitions, acronyms, and abbreviations

Listing: Refers to all the items that are being sold in the app.

RSA cryptography: Rivest–Shamir–Adleman cryptography.

2 Requirements

2.1 User Stories

User story - Done

Story Identifier: G001

Story Name: Buyer Search

Priority: High

Description

As a buyer, **I want to** be able to search for books by title **so that** I can find the books I am looking for.

Acceptance criteria

- Functional:
 - Can I search by title?
 - Can I interact with the search result?
 - Am I informed if my search returns no results?
- Non-functional:
 - Availability:
 - Can I search anytime of the day?

User story - Done

Story Identifier: G002

Story Name: Seller Post

Priority: High

Description

As a seller, I want to post a listing for my book **so that** other users can buy it

Acceptance criteria

- Functional:
 - Can I post my book?
 - Can I edit my listing after the fact?
 - Can I remove my listing?
 - Can I add a topic to my post?
 - Non-functional:
 - Security:
 - Are unauthorised persons prevented from editing my listings?
-

User story - Done

Story Identifier: G003

Story Name: See Listings

Priority: High

Description

As a user, I want to be able to see an infinity list with listings, be able to scroll through it and click a card of interest to see more **so that** the app is easy to get started with

Acceptance criteria

- Functional:
 - Can I see a list?
 - Can I scroll the list?
 - Can I click a card in the list to see more about it?

User story - Done

Story identifier: G004

Story name: Login

Priority: Low

Description

As a user, I want to be able to log in to my account **so that** I can use the app securely

Acceptance criteria

- Functional:
 - Can I log in?
 - Can I log out

User story - Done

Story Identifier: Y001

Story Name: Buyer-Seller Contact

Priority: Low

Description

As a buyer, I want to be able to contact sellers **so that** I can buy the book

Acceptance criteria

- Functional:
 - Can I message the seller?
 - Non-functional:
 - Availability:
 - Will my message reach a seller once they log in if they are not currently logged in?
 - Security: Will messages only be seen by me and the person I'm messaging?
-

User story - Done

Story Identifier: Y002

Story Name: Sort

Priority: Low

Description

As a user, **I want to** be able to sort books by subject/course **so that** I can find relevant listings

Acceptance criteria

- Functional:
 - Can I sort by price?
 - Can I sort by topic?
 - Can I sort by course?
 - Can I sort by date?
-

User story - Done

Story Identifier: Y003

Story Name: Selling List

Priority: Low

Description

As a seller, **I want to** be able to access a list of books that I'm selling **so that** I have an easy way to view all my listings

Acceptance criteria

- Functional:
 - Can I browse all of my listings?
-

User story - Unfinished

Story Identifier: Y004

Story Name: Selling notebooks

Priority: Low

Description

As a seller, I want to be able to post my notebooks from previous courses in the app **so that** I can sell them

Acceptance criteria

- Functional:
 - Can I post a notebook listing?
 - Can I specify which course the notebook was written for?
-

User story - Done

Story Identifier: O001

Story Name: Saved-list

Priority: Low

Description

As a buyer, I want to be able to save books **so that** they're easier to find in the future.

Acceptance criteria

- Functional:
 - Can I add a listing to my saved-list?
 - Can I access my saved-list easily?
 - Can I delete listings from my saved-list?
-

User story - Unfinished

Story identifier: R001

Story name: Seller Review

Priority: Low

Description

As a user, I want to be able to read reviews of a seller **so that** I know which seller to choose.

Acceptance criteria

- Functional:
 - Can I access a seller's reviews?
 - Can I review the seller?
-

User story - Done

Story Identifier: R002

Story Name: Extended Buyer Search

Priority: Low

Description

As a buyer, **I want to** be able to search for books by things other than titles, such as ISBN **so that** I can find the books I am searching for.

Acceptance criteria

- Functional:
 - Can I search by ISBN?
 - Can I interact with the search result?
 - Am I informed if my search returns no results?
 - Non-functional:
 - Availability:
 - Can I search anytime of the day?
-

User story - Unfinished

Story identifier: R003

Story name: Google-Login

Priority: Low

Description

As a user, **I want to** be able to log in to my account with Google **so that** I don't have to use several password and use the app quickly

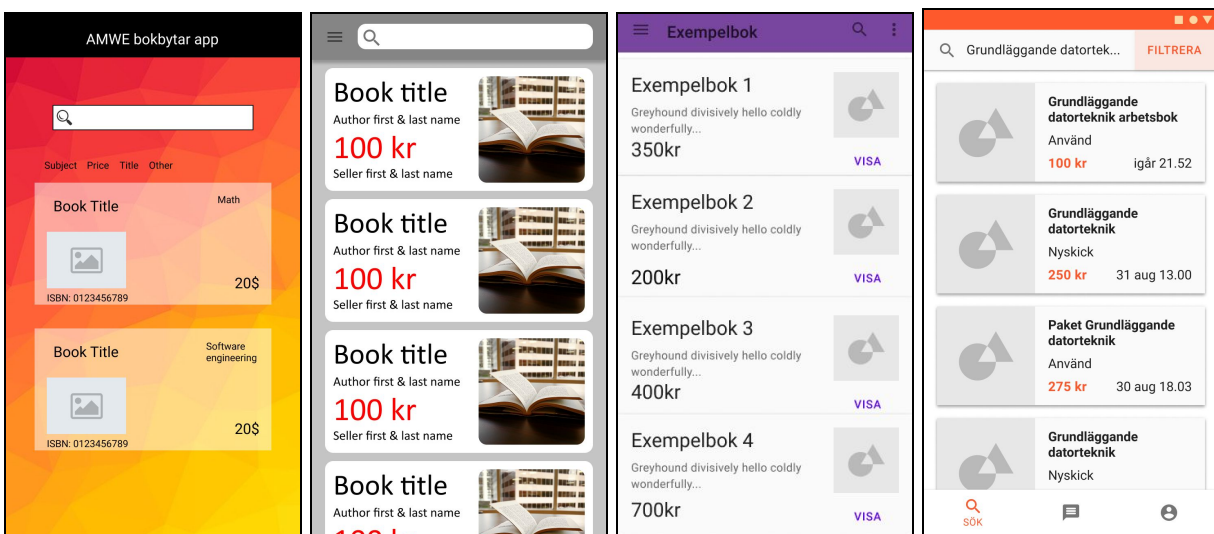
Acceptance criteria

- Functional:
 - Is the login handled by google?
 - Can I avoid using Google to sign in?

2.2 Definition of Done

All user stories need to be Tested, under Version Control, reviewed and all criteria of the user story met.

2.3 User interface



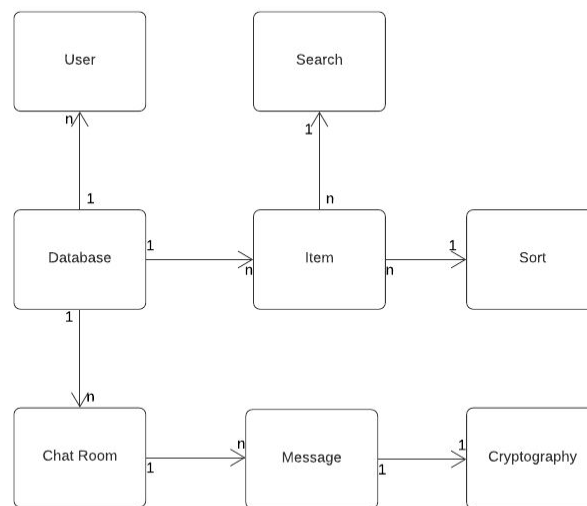
Some early sketches of the user interface.

The user interface is inspired by existing marketplace applications which would make it easy for new users to adapt to it. The whole user interface wasn't designed in advance but we had an overall goal that it should be as clean, easy and aesthetically appealing as possible. This was mainly achieved by following industry standard design patterns. Further Android's own Material design guidelines were also taken into account when the user interface was designed. All this has in conclusion given us a user interface that meets all requirements fully.

When the user starts the program they are met with a login screen. From there the user can either register or login if they have an account. When logged in the user is met with all the

listings that are being sold in the program. If they click on one of them they will be taken to a page with information about the listing and also be given the opportunity to contact the seller and add it as a favourite. If the user chooses to contact the seller, the program will initialize a chat room where the potential buyer can write the seller a message. The user can also navigate by the bottom navigation bar to see all their different chat rooms and also their account page. On the account page the user can add their own listing, see their favorites and got to settings where they can change profile picture, password, email etc.

3 Domain model



Domain Model

3.1 Class responsibilities

Cryptography is a collection of classes used for encryption and decryption according to RSA cryptography.

Database handles all communication with the Firebase database and has various methods for adding new content and observing existing.

Item is an abstract class that all listings in the database inherits from.

Message is a class that represents the message stored in the database. It also has some behaviour to simplify encryption and interactions with the database.

Search handles a query in the form of a CharSequence from the user to match that sequence with the title of the Item in the database and then returns a List of items that match the query.

Sort is a common interface for all strategies used for sorting.

User is a conceptual class which is realised in the database rather than in our code.

Chat Room Is a conceptual class represented in the database as the collection of messages between two users.

3 References

List all references to external tools, platforms, libraries, papers, etc.

- [Android Studio](#)
- [Android Documentation](#)
- [Firebase](#)
- [Firebase Realtime Database](#)
- [Firebase Authentication](#)