Time Swap

Group 11

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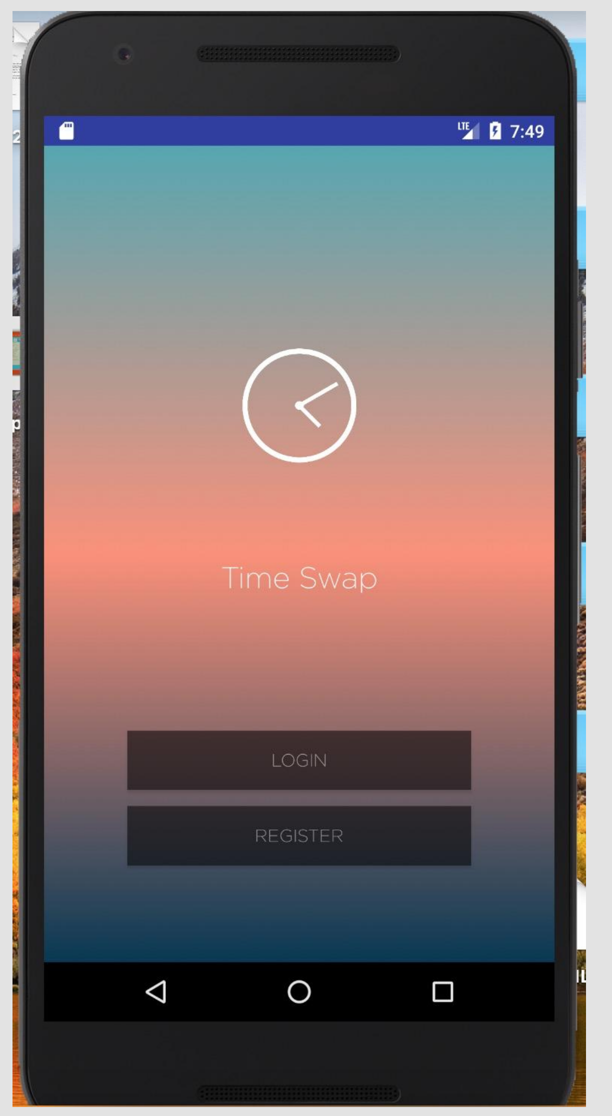


Engineering & Computer Science
Syracuse University

Time Swap

Produced by Hao Zhou, Christopher McLaughlin, Congcong Xie, Eric Liu, Xiang Ding

Objective

This is a mobile based application where people on this platform can trade hours as local currency. This system provides a means for people to request different services and also provide diverse services to people on this platform. When a user is in need of a request, the request is posted which is broadcasted and made available to all users of the application. The request posted includes how much time the requester is willing to trade for the service.

For example, a request might post a request like “I need my car tire changed and will pay 30 mins to someone who helps with this”. When one has time to provide a service, he goes through the list of all broadcasted requests and selects the one desired preferred. The system provides an approximate distance to each service's location. The service provided for is paid using time. After each service is provided, the system updates both the number of services and the hours for the requester and the responder. The requester of a service gets the chance to rate the service a responder provided.

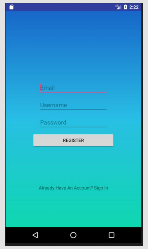
How did we realize it?

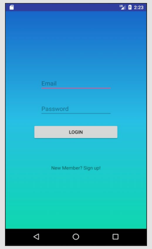
- We use android studio as our platform, start with an empty activity and add multiple Textviews to start log-in and register part
- Our group is using GitHub and Google drive to share resources, therefore each person is able to focus on one part, and we put everything together at the end of project
- We use Firebase to do database, three databases include bank, rating, task list are created in Firebase
- Use Google API to locate users and calculate distance between users
- We learned skills from YouTube

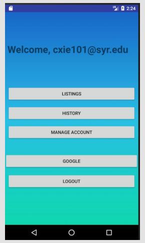
Swap

Functions:

- User register with email, username, and passwords
- User sign in with email and passwords
- User sign out
- User use Google inside the app
- Requester posts a task
- Responder browses through all available services request
- Responder choose the task and put that into to do list, at the same time, requester has the task in his/her history list
- Requester rates the service provided by a responder






Welcome, cxie101@syr.edu

Software Design

Tool: Android Studio

Frontend: XML

Backend:Java

Database: Firebase

Other: Google Map API (for distance calculation and navigation)

Software Architecture

Three subsystems:

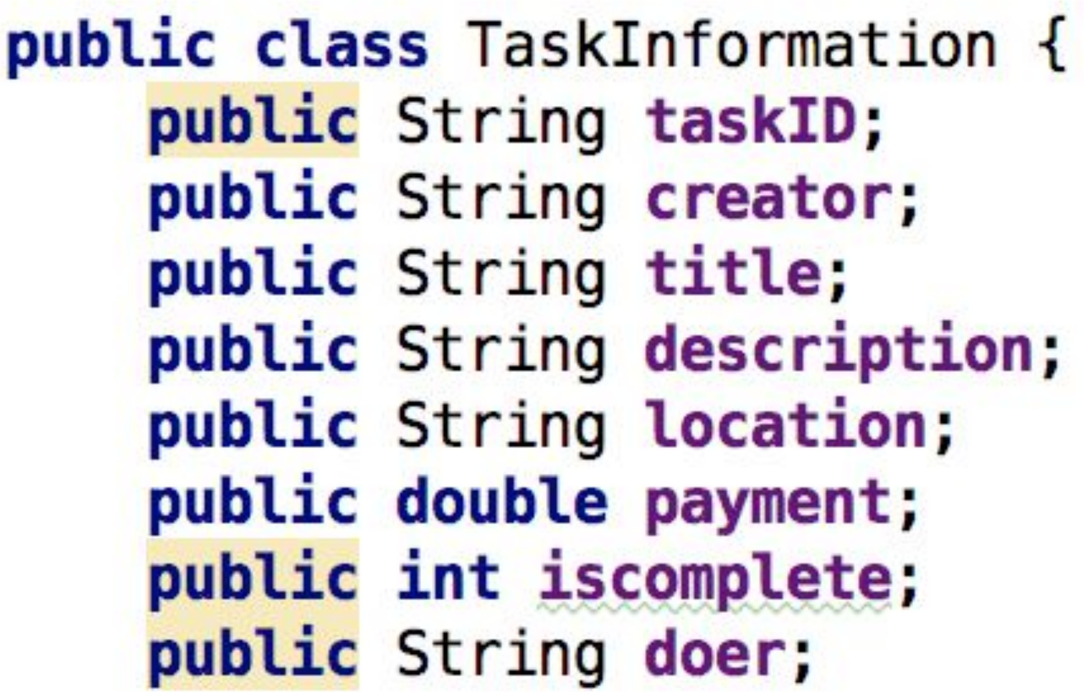
1) Task system
2) Bank account system
3) Rating system

Task System

As creator, users can create task and post it to public.

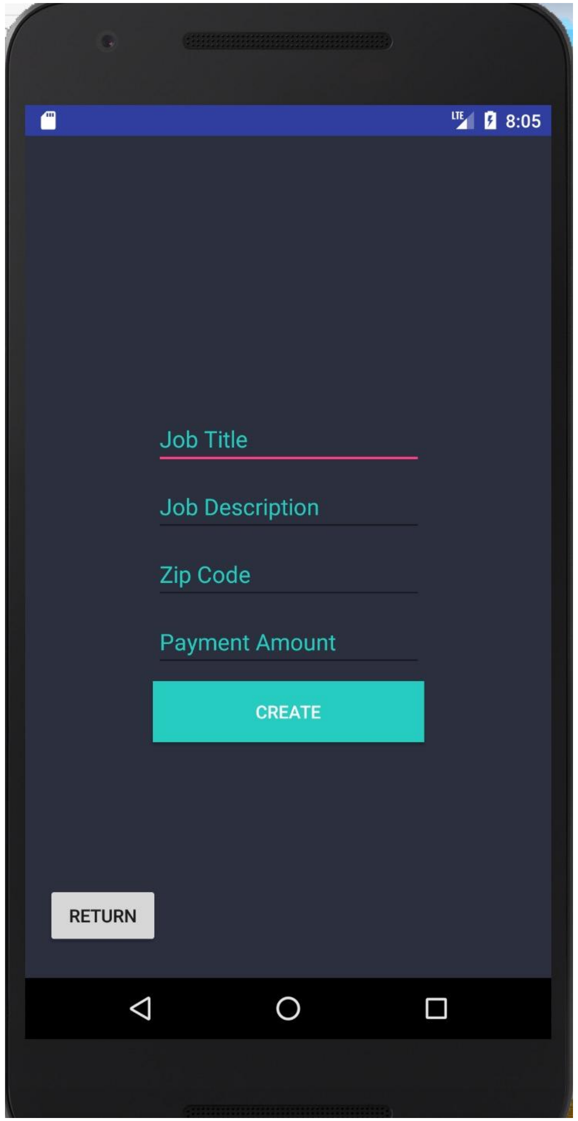
As doer, user can sign up for the task posted by others.

Object TaskInformation.java:



```
public class TaskInformation {
    public String taskID;
    public String creator;
    public String title;
    public String description;
    public String location;
    public double payment;
    public int iscomplete;
    public String doer;
```

Create Task



Job Title

Job Description

Zip Code

Payment Amount

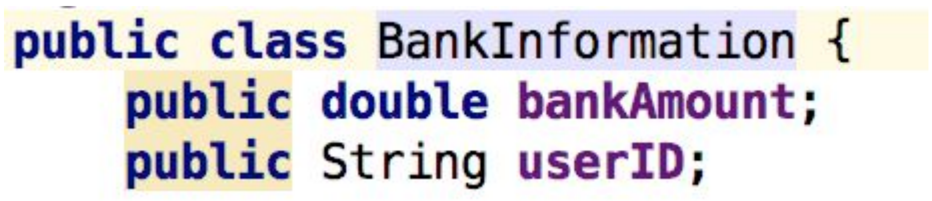
Bank Account System

Store the bank account Information for every user and manage balance changes.

When user post a new task, the payment for the task will be deducted from the account.

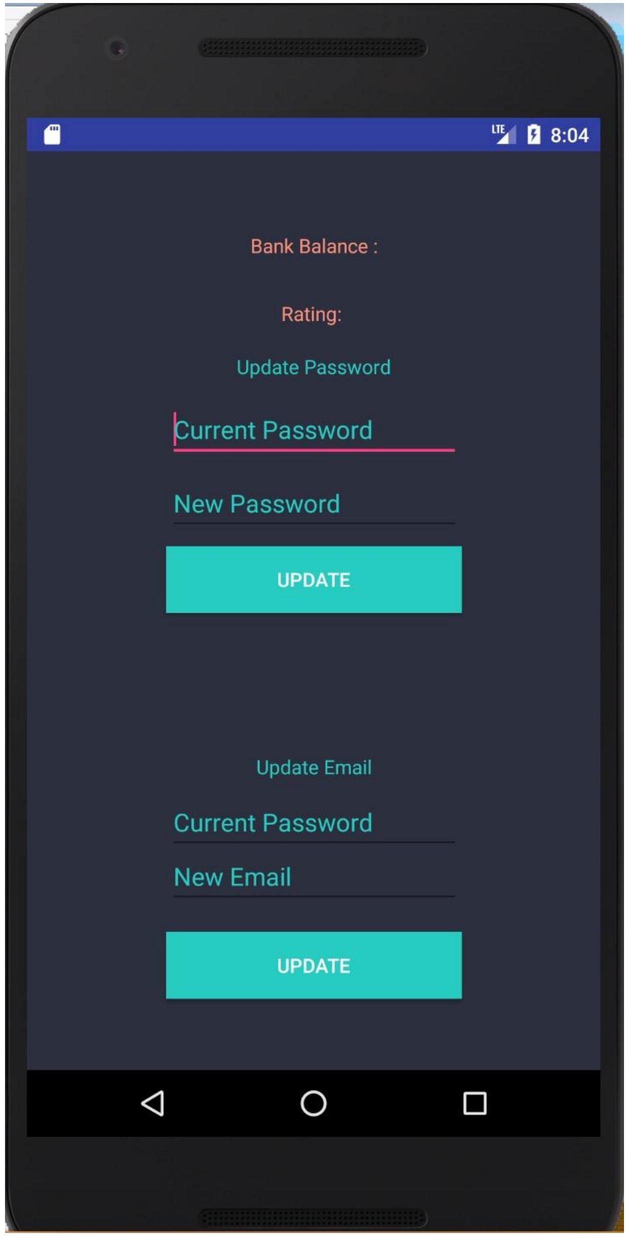
When user finished a task from others, the reward will be added to the account.

Object BankInformation.java:



```
public class BankInformation {
    public double bankAmount;
    public String userID;
```

Example of Main pages



Bank Balance :

Rating:

Update Password

Current Password

New Password

Update Email

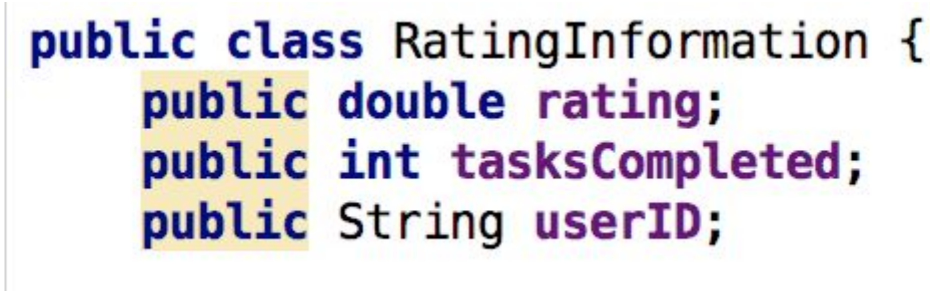
Current Password

New Email

Rating System

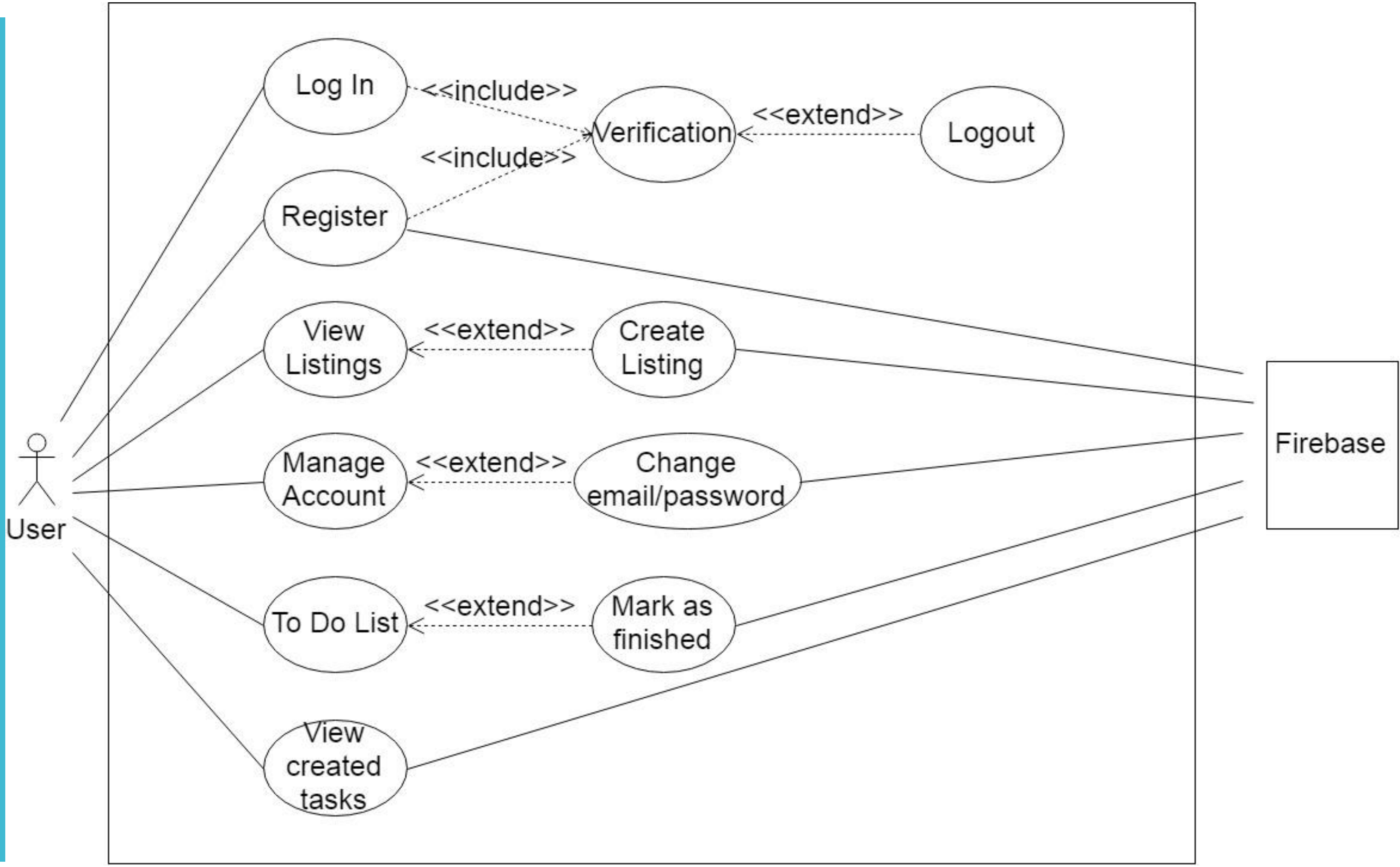
After the doer finish the task, the creator will rate for it. The overall rating of the user will be the average of every rating he or she received.

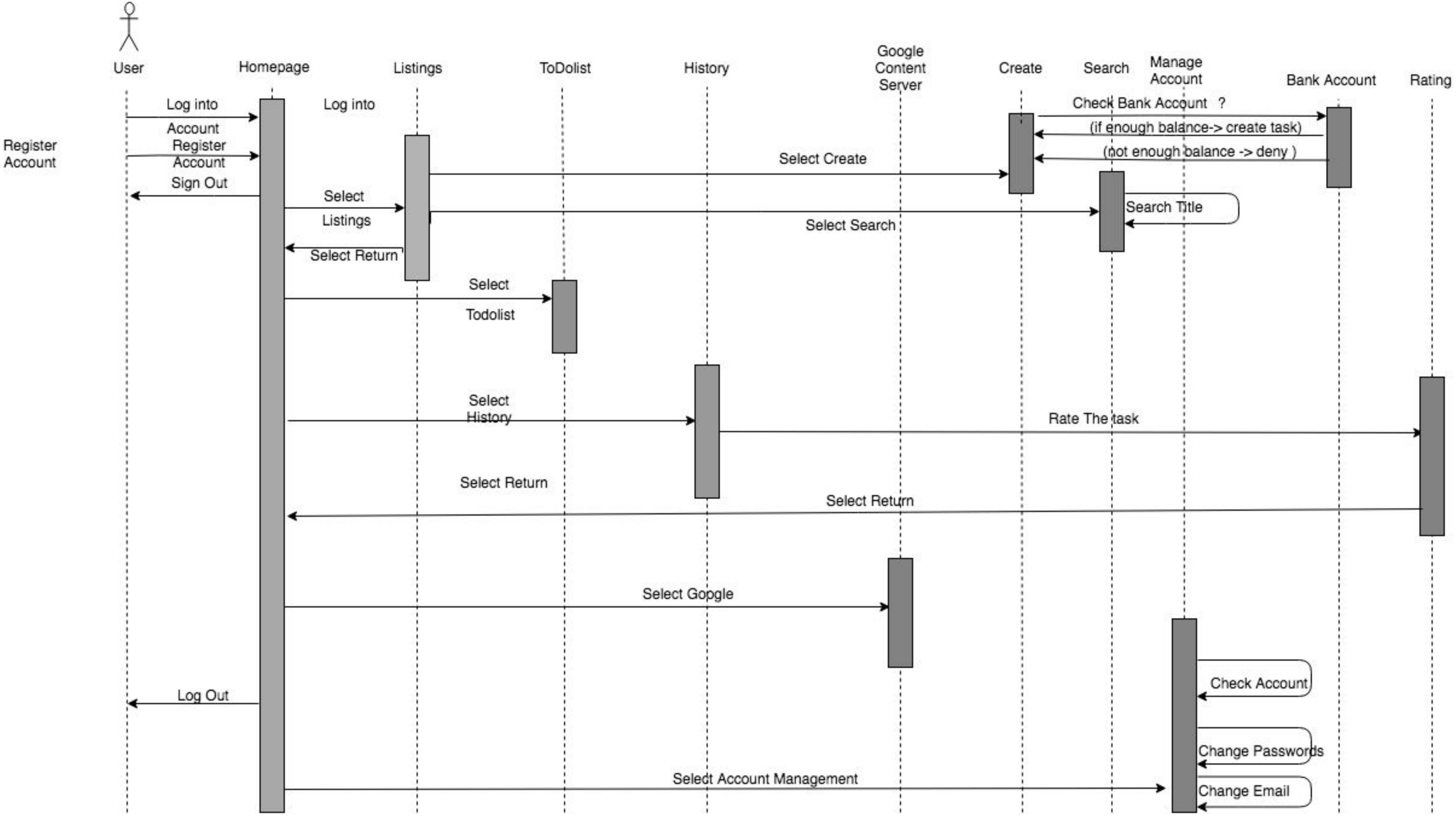
Object RatingInformation.java:



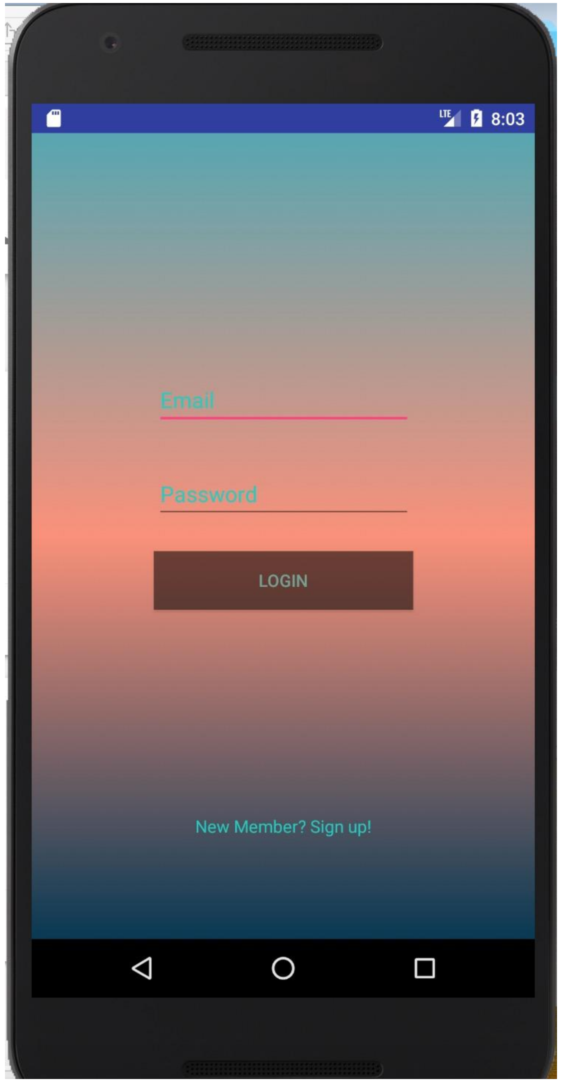
```
public class RatingInformation {
    public double rating;
    public int tasksCompleted;
    public String userID;
```

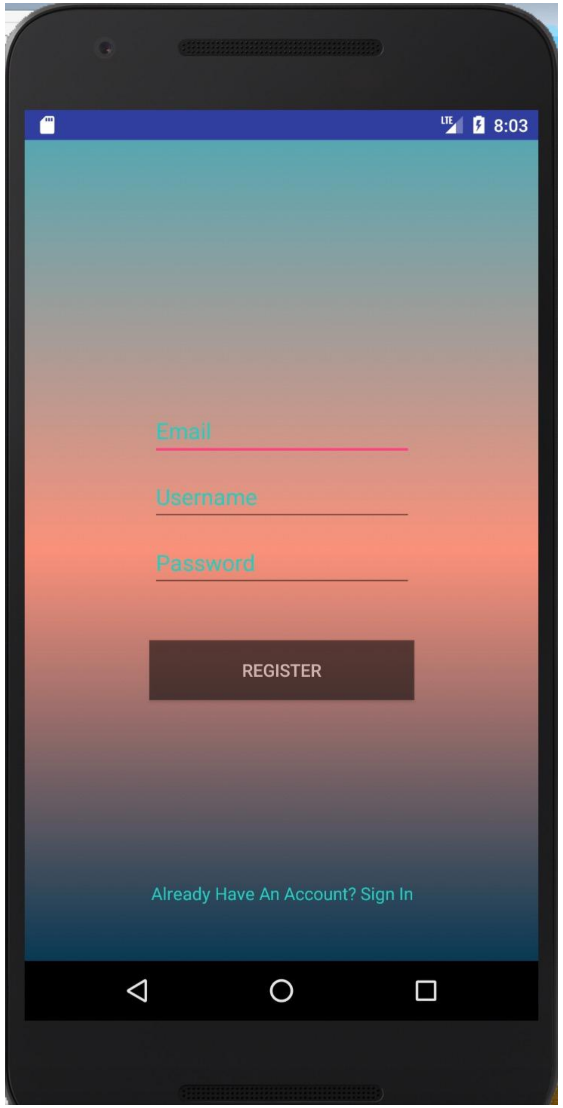
User Case Diagram



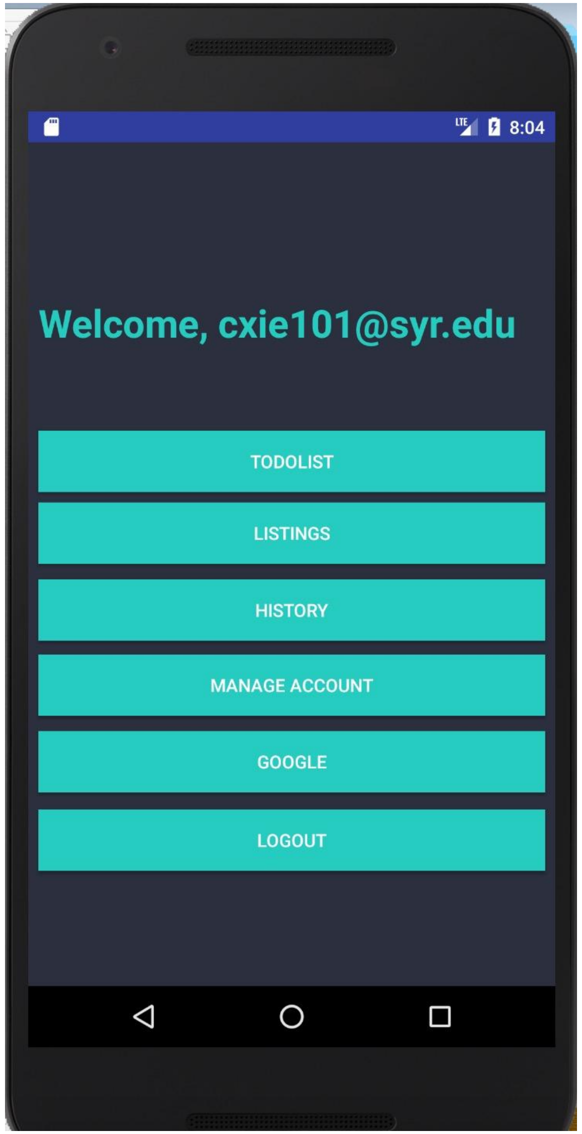

User
Homepage
Listings
ToDolist
History
Google Content Server
Create
Search
Manage Account
Bank Account
Rating
Log into Account
Log into
Check Bank Account ?
(if enough balance-> create task)
(not enough balance -> deny)
Register Account
Register Account
Select Create
Sign Out
Select Listings
Search Title
Select Search
Select Return
Select Todolist
Select History
Rate The task
Select Return
Select Return
Select Google
Check Account
Log Out
Change Passwords
Select Account Management
Change Email

Example of Sign up pages





Example of Main pages



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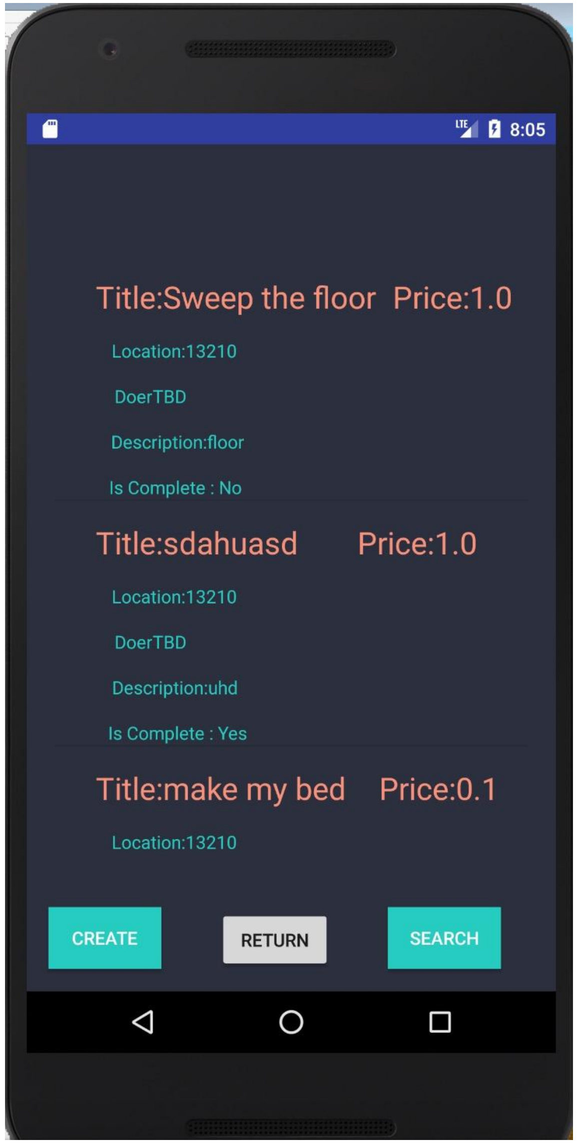
Example of List pages



Title:Sweep the floor Price:1.0

Location:13210

DoerTBD

Description:floor

Is Complete : No

Title:sdahuasd Price:1.0

Location:13210

DoerTBD

Description:uhd

Is Complete : Yes

Title:make my bed Price:0.1

Location:13210