

## **CSE 5236 Checkpoint 2: App Requirements and Design**

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Session: WeFr 2:20 - 3:40

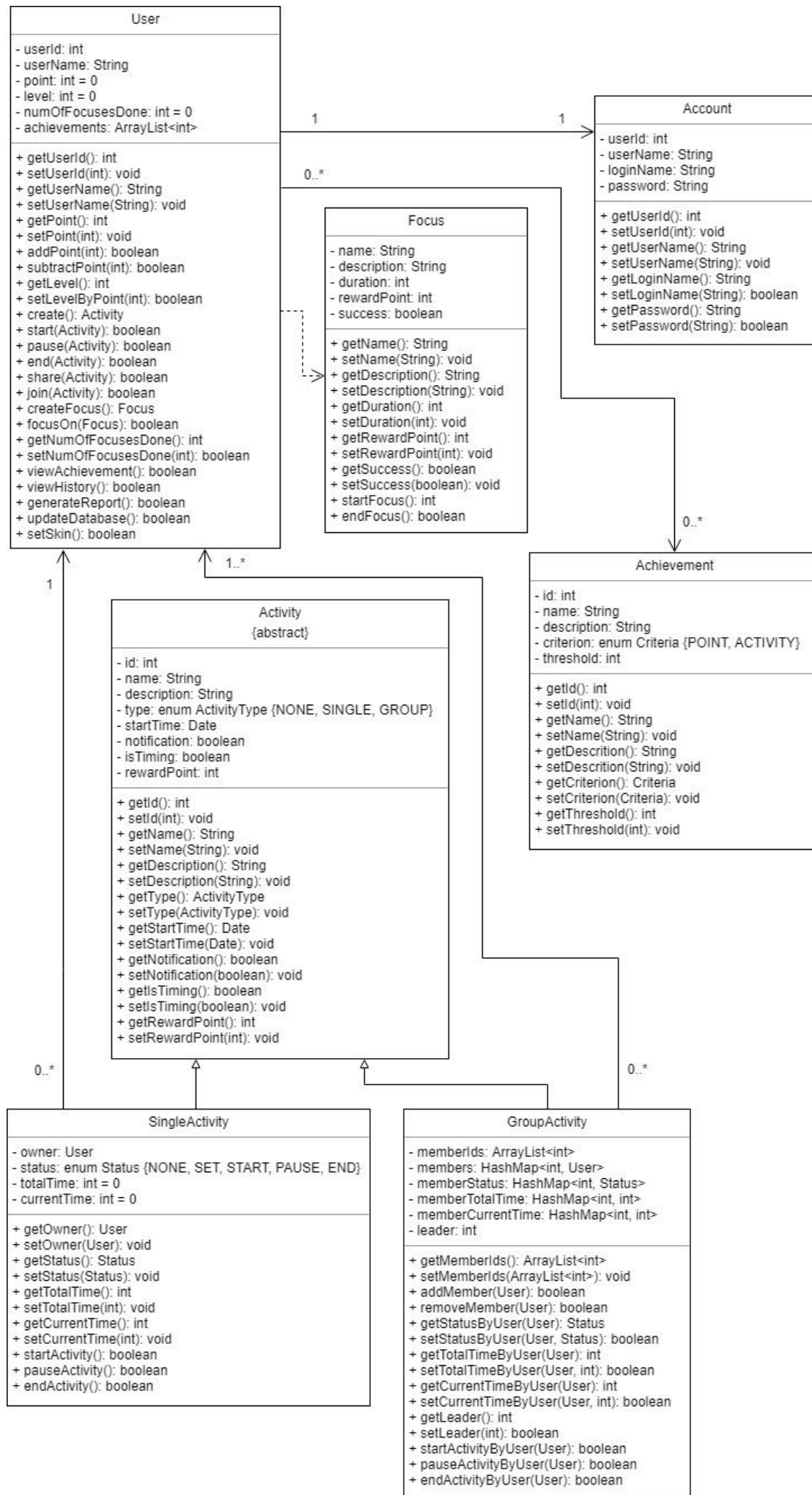
### **Part 1. Narratives**

TimeUpgrader is an Android app that helps users with time management and task management. A user can create an activity and start, pause or end the activity. Each activity has its reward points which can be set by the user. By completing activities, a user can accumulate points to reach different kinds of achievements designed by developers, and get corresponding rewards. The app provides a timer for each activity if the user wants and can generate the user's daily, weekly and monthly time report to help better track usage of time. Particularly, there is a focus mode in the app which encourages users to get away from their smartphones, which in real life always distract people from their tasks. In this mode, a user can choose the length of time to focus on tasks like studying or reading. During the focus time, if a user unlocks his/her smartphone, the reward points will be deducted according to the duration and number of times the user uses the smartphone. After every successful focus round, the user can also get some rewarding points. Users can also share their activities to social media and collaborate with friends, or create activities which need to be done by a group of multiple people. After the group activity is done, all group members can get reward points. With TimeUpgrader, users can better manage their time and complete tasks in multiple ways, under the supervision of our app and the encouragement of different kinds of achievements.

### **Part 2. UML class diagram**

In our app, there are several types of objects: users, who can manage accounts, manage single or group activities, use focus mode and request for other services; accounts, which are maintained by database services and can be managed by users; activities, which is the main feature users need in our app, specifically with two different types: single or group, indicating an activity should be done by one or multiple users; focus, which is specially designed for the focus mode, created and used by users to focus on something instead of being distracted by smartphones; achievements, which are given to users if they meet certain criteria by completing activities and focuses.

Below is the UML class diagram:



### Part 3. User cases

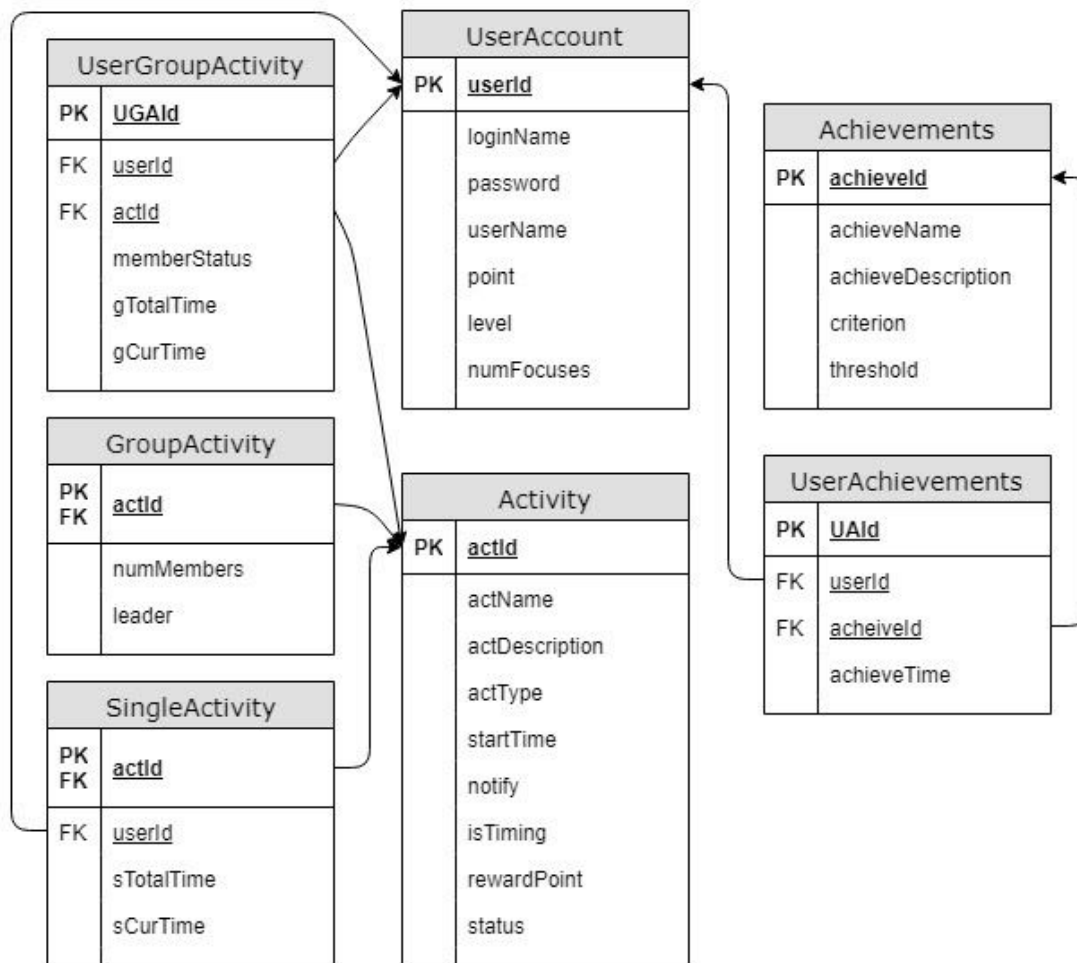
In our app, there is only one kind of actor, which is simply the users of our app, therefore we omit the actor part in the following table.

Category	Operation	Description
1. Account management	1.1. Create Account	A user creates a account with login name, username and password by clicking on the account section.
	1.2. Change password	A user changes his or her password, and the changed information is sent to the server to be saved in database.
	1.3. Change username	A user changes his or her username, and the changed information is sent to the server to be saved in database.
2. Activity management	2.1. Create activity	A user creates an activity with necessary information given by filling in a form.
	2.2. Start activity	A user starts an activity by clicking on the start button.
	2.3. End activity	A user ends an activity by clicking on the end button.
	2.4. Pause activity	A user pauses an activity by clicking on the pause button.
	2.5. Share activity	A user shares an activity on social media, to invite friends to join in the group activity.
	2.6. Join activity	After receiving and clicking the shared link, a user gets into the app directly and chooses whether agree to join the group activity or not.
	2.7. Change Type	A user sets an activity to be of type “single” or “group”, indicating that the activity is to be done by only one user or multiple users.
3. Focus mode	3.1. Create focus	A user creates a new focus with required informations.

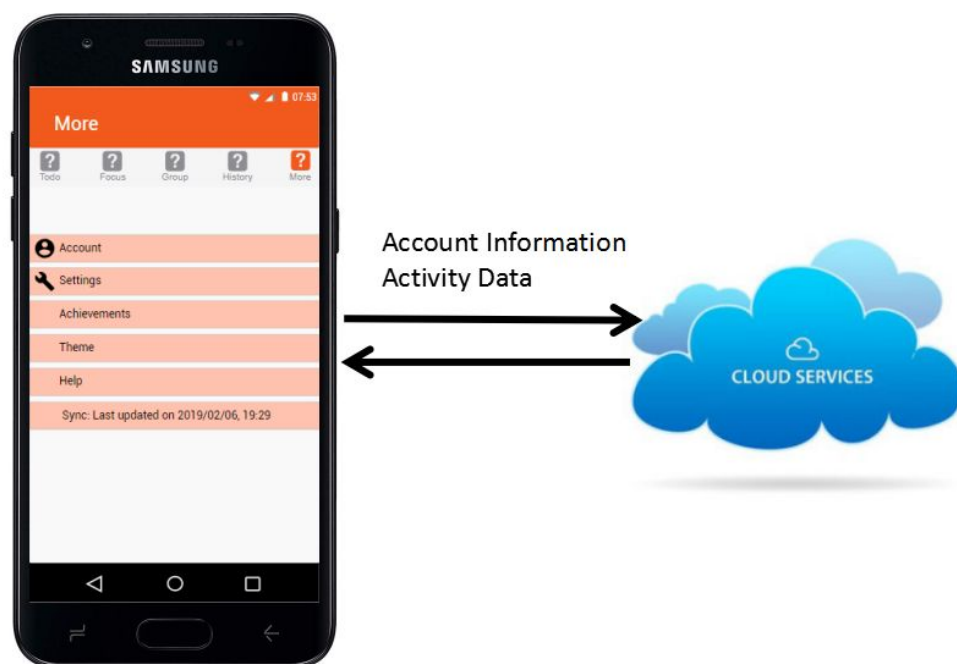
	3.2. Start focus	A user enters the focus mode during an activity or just begins a generate the report of time usage, with different options of time new focus set beforehand.
4. Group working	4.1. Create group activity	A user creates a group activity in the group section with specific time duration, activity description and bonus points, and becomes the group leader automatically.
	4.2. Manage Member	A user adds new members to the group by sharing the activity link, and the leader can delete members in the group.
	4.3. Change leader	If a user is the leader of a group, he/she can transfer the leadership to another group member.
5. Miscellaneous	5.1 View achievement	A user reads his/her achievement accomplish by finishing specific category activity in specific time.
	5.2 View history	A user reads his/her history of creating and completing activities.
	5.3 Generate report	A user requests the app to generate a report of time usage and activities which can be saved as a local file.
	5.4 Set skin	A user selects and sets the skin of the app.

#### Part 4. Relational model

The following diagram shows the relational database schema designed by us. Information that needs to be stored in the database includes: user account information, activities and their relationship with users, achievements and their relationship with users. Focus information only appears as the number of focuses done by a user, which can be used for statistics and achievements, however since it is simple with only the duration of time significant, we don't need to store all focuses created by users as persistent data.



## Part 5. Sketch



## Part 6. Screen layouts and flows

