

Shared To-Do List
CSE 5324-002
Coffee_Code - Group 6
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ShareList - Since the start of the pandemic, many workplaces have switched to working from home (working online). This can cause problems in collaboration within the teams as many places are switching to working online for the first time. There already exist many different apps which cater to only large organizations, have a steep learning curve, or are not available/accessible to everyone. We would like to create a mobile app which is intuitive to use and accessible by everyone. An app where a user can create a group of tasks, and decide which users will work on it. This app can be used whether the group follows the SCRUM model, waterfall model, Agile, or no model at all.

This to-do app is designed to allow users to create, delegate, and track tasks that are shared amongst users in a group. The app needs the internet to connect with the server so all users can stay synchronized. The main purpose of the app is to allow group members in a virtual environment to have better collaboration. The app can be used by anyone wishing to create/delegate tasks with others and not just for industry use. Whether you are a group of students working on a semester project, or a family managing the chores, or an organization managing their work on the go, this app is an efficient, fast, user-friendly and smooth task-management tool for you!

Admin: Any user that has created a group is the admin of that group. The admin can add users to the group, assign who works on what tasks, promote users to admin status, and add/remove/edit tasks.

User: Anyone who is part of a group, but is not admin. Can be assigned to tasks by the admin. A user can mark a task as completed.

Task: Tasks can only be created by the admins. All tasks in a group are visible to all members within that group. Each task has users assigned to it. For tasks with multiple users assigned to it, ALL users must mark the task completed in order for it to be considered fully completed. Each task has properties such as:

- Start time- creation date/time of task.
- Completion time- when the task has been marked completed by all those assigned to it.
- Due Date - the date the admin expects the task to be done by.
- Time spent - the time from the start time to completion time.
- Title, description, users assigned

Group: "Groups" are collections of tasks that belong to the members of that group. Groups can be created by any user of ShareList. When a user creates a group, they have admin status. Members of the group include admins and users. Admins can control who is added/removed from the group. Tasks can be added by the admin only. The whole concept of groups is to have a specific goal that all tasks within that group are working towards. Think of a group as a "project" where the members of the group work towards a certain goal, accomplishing tasks along the way.

Functions -

- Login/Profile: Create/edit login credentials, manage sessions, etc.
- Add/Remove/Edit/Assign Tasks: Admins add or remove tasks from the group. Admins edit who the task is assigned to, what the task contains, due date, start date, etc.
- Search tasks/groups/users: Search by keyword.

- Mark Completed: Allows for users to mark a task as completed. All assigned users must mark a task completed for it to be fully complete.
- Create/Edit Group: Allows a user to create a group of unique users. The creator is initially set as the admin. Admin can add additional admins.
- Delete Group: Allows any admin of a group to delete the group. Deleting the group will permanently delete the group and the related records.
- Group Summary: Calculates and reports to the user a summary of the group, which includes:
 - Tasks completed - number and total time of completed tasks.
 - In-progress tasks - number of in-progress tasks.
 - Tasks not completed by due date - number/total-time/total-time-past-due.
- Update: Updates the UI, checks for changes/updates within the tasks. Syncs current tasks with the database.

Utilized Resources -

- Database: Used for storing information related to tasks, groups, users.
- Wireless: Used for syncing between each user's device and the database.

Android Experience per Team Member -

Hannan Khan - No prior experience with Android. I have implemented/developed simple apps in Java when I had started out programming. In terms of app development, I mainly focus on apps in Python, which I consider myself to be strong in. These apps consisted of both frontend and backend work.

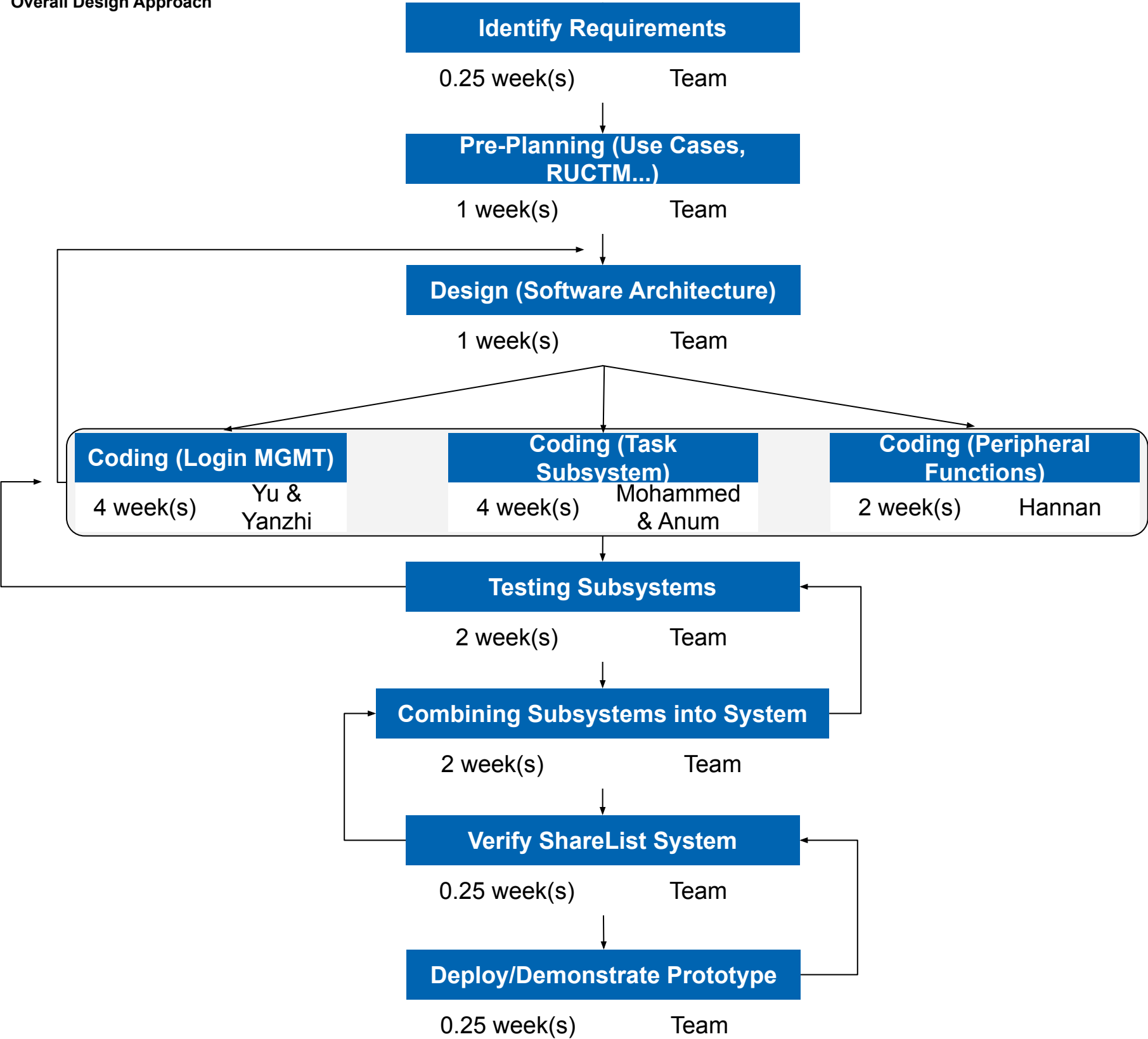
Yanzhi Wang - I do not have a lot of Android experience and I have not worked on any Android project during the previous semester. The project will take the whole semester, so we will have plenty of time to learn. I hope everyone in the team will learn something about Android, UML, and the agile process by working together on the project.

Yu Zhao - Do not have any experience with Android development. I have some small full-stack applications experience, and familiar with programming languages like Java, Python, and JavaScript. I can work on both the frontend and backend.

Mohammed Furkhan Shaikh - Does not have prior experience with Android application development. I have experience with programming languages like Java, C, Python. I'm familiar with object-oriented concepts. I can work on the backend and implement functions for the app. No experience with the formal design process.

Anum Farrukkh Khan - No prior experience with Android development. I am familiar with python, java and javascript and have developed various applications using these languages. I have developed a mobile application in react native as part of an academic project.

Overall Design Approach



Requirements

Req ID	Req Statement	Line (From Project Description)
R1	The system shall provide for authenticated login to the ShareList app.	
R1.1	Register.	40
R1.2	Login.	
R1.3	Log Off.	
R1.4	Reset password.	
R2	The system shall provide admins the ability to:	
R2.1	Add tasks.	41,42
R2.2	Remove tasks.	
R2.3	Edit tasks.	
R2.4	Assign tasks.	
R2.5	Add users to group.	46,47
R2.6	Remove users from the group.	34,35
R2.7	Add new Admins to group.	18,47
R2.8	Delete group	48,49
R2.9	Edit group.	46,47
R3	The system shall provide users/admins the ability to:	
R3.1	Mark task as completed.	44,45
R3.2	Create groups.	46,47
R4	The system shall provide the ability to search by keywords.	43
R5	The system shall provide tasks the ability to:	
R5.1	Be visible to all members in that group.	22,23
R5.2	Have users assigned to it.	41,42
R5.3	Have assigned users mark it as completed.	44,45
R6	The system shall provide tasks the following properties: start time, completion time, due date, time spent, title, description, users assigned	50
R7	The sytem shall provide users the ability to create groups, and have admin status when they do.	46,47
R8	The system shall provide a database used for storing information related to tasks, groups, users.	59
R9	The system shall provide wireless resources used for syncing between each user's device and the database.	60
R10	The system shall provide a group summary function, which will accomplish:	50
R10.1	Calculating and reporting the tasks completed.	52
R10.2	Calculating and reporting the in-progress tasks.	53
R10.3	Calculating and reporting the tasks not completed by due date.	54
R11	The system shall provide an update function which will update the UI, check for changes within the app data, and sync the current tasks with the database.	55,56

Use Case List

Use Case #	Use Case Name
UC1	Login
UC1.1	Register.
UC1.2	Login.
UC1.3	Log Off.
UC1.4	Reset password.
UC2	Manage task
UC2.1	Add tasks.
UC2.2	Remove tasks.
UC2.3	Edit tasks.
UC2.4	Assign tasks.
UC3	Manage group
UC3.1	Add users.
UC3.2	Remove users.
UC3.3	Add admins.
UC3.4	Delete groups
UC3.5	Edit groups.
UC4	Mark task as completed
UC5	Create groups.
UC6	Search by keywords.
UC7	Generate summary

High Level Use Cases

UC 1.1: Register

- TUCBW the user entering required details and clicking the register button.
- TUCEW the user being registered successfully.

UC 1.2: Login

- TUCBW the user enters the username and password.
- TUCEW the user successfully logs in and can see the home page.

UC 1.3: Log Off

- TUCBW the user clicks on the logout button.
- TUCEW the user is successfully logged out and can see the login page.

UC 1.4: Reset Password

- TUCBW the user clicks on the reset password option.
- TUCEW the password of the user is changed.

UC 2.1: Add Tasks

- TUCBW the admin clicking on the “Add Tasks” option.
- TUCEW the admin adding the task successfully and can see the added tasks.

UC 2.2: Remove Tasks

- TUCBW the admin clicking the “Remove Task” option.
- TUCEW the admin removing the task successfully.

UC 2.3: Edit Tasks

- TUCBW the admin clicking on the “Edit Task” option and making the necessary .
- TUCEW the admin being able to see the changes made to the respective tasks.

UC 2.4: Assign Tasks

- TUCBW the Admin assigning the task to particular users.
- TUCEW the users get assigned new tasks.

UC 3.1: Add users

- TUCBW the admin clicking on the add member option.
- TUCEW the user being added to the selected group.

UC 3.2: Remove users

- TUCBW the admin selecting a user to be removed from the group.
- TUCEW the user is no longer a member of the group.

UC 3.3: Add admins

- TUCBW the admin electing a member to be an admin.
- TUCEW the selected user being the admin for the group.

UC 3.4: Delete Group

- TUCBW the admin selecting the delete group option.
- TUCEW the group, related tasks and users, being removed from the records.

UC 3.5: Edit Group

- TUCBW the admin selecting the edit group option.
- TUCEW the group information is updated by the admin.

UC 4: Mark task as completed

- TUCBW the users selecting their assigned tasks to be marked complete.
- TUCEW the tasks information being updated by the users.

UC 5: Create Group

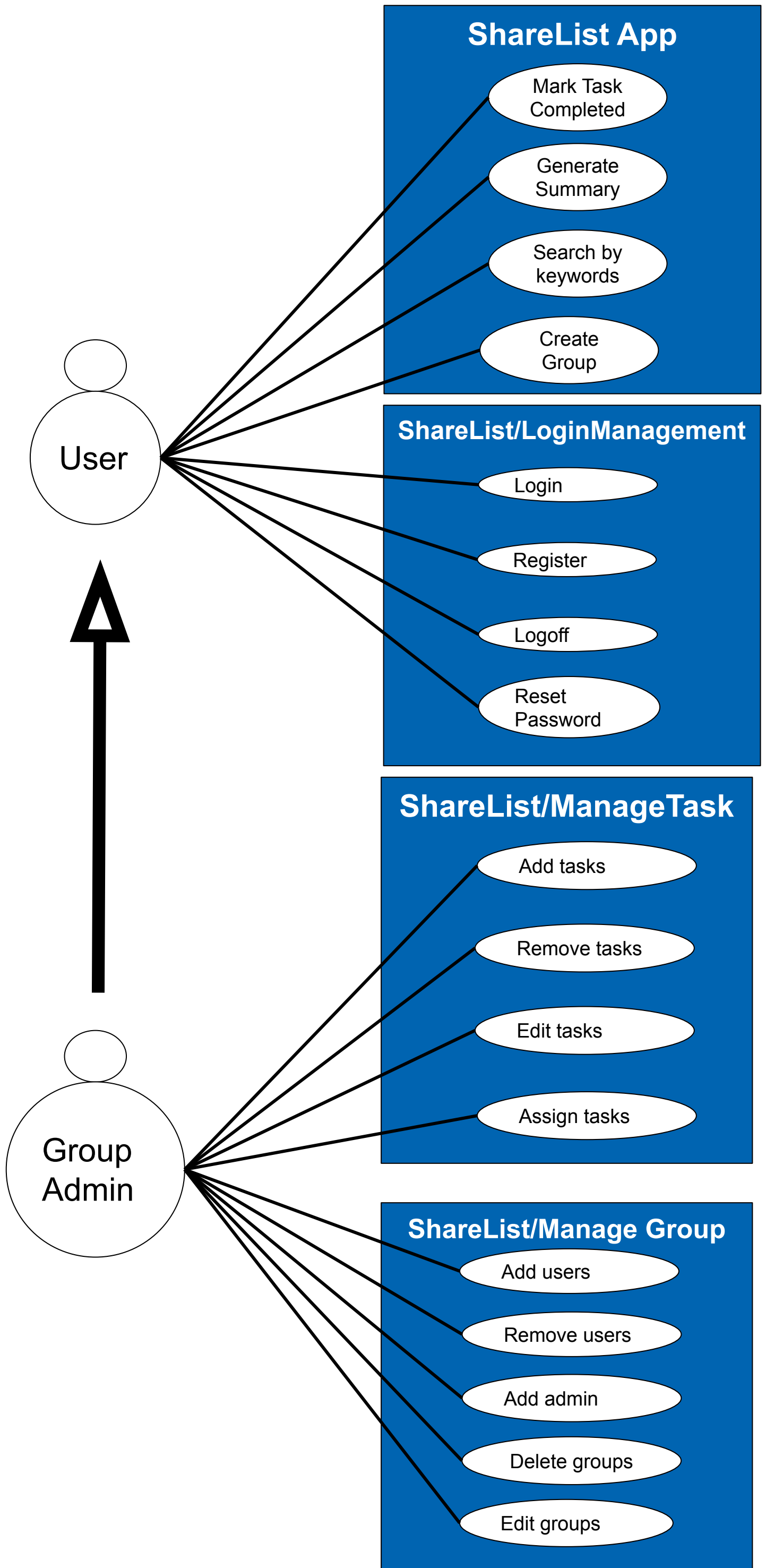
- TUCBW the user selecting the create group option.
- TUCEW new group being created with the user as the admin of the group.

UC 6: Search by keywords

- TUCBW the user clicking on the search option.
- TUCEW the search results being returned to the user.

UC 7: Generate summary

- TUCBW the user selecting the generate summary option.
- TUCEW the summary of tasks and reports being displayed to the user.



RUCTM

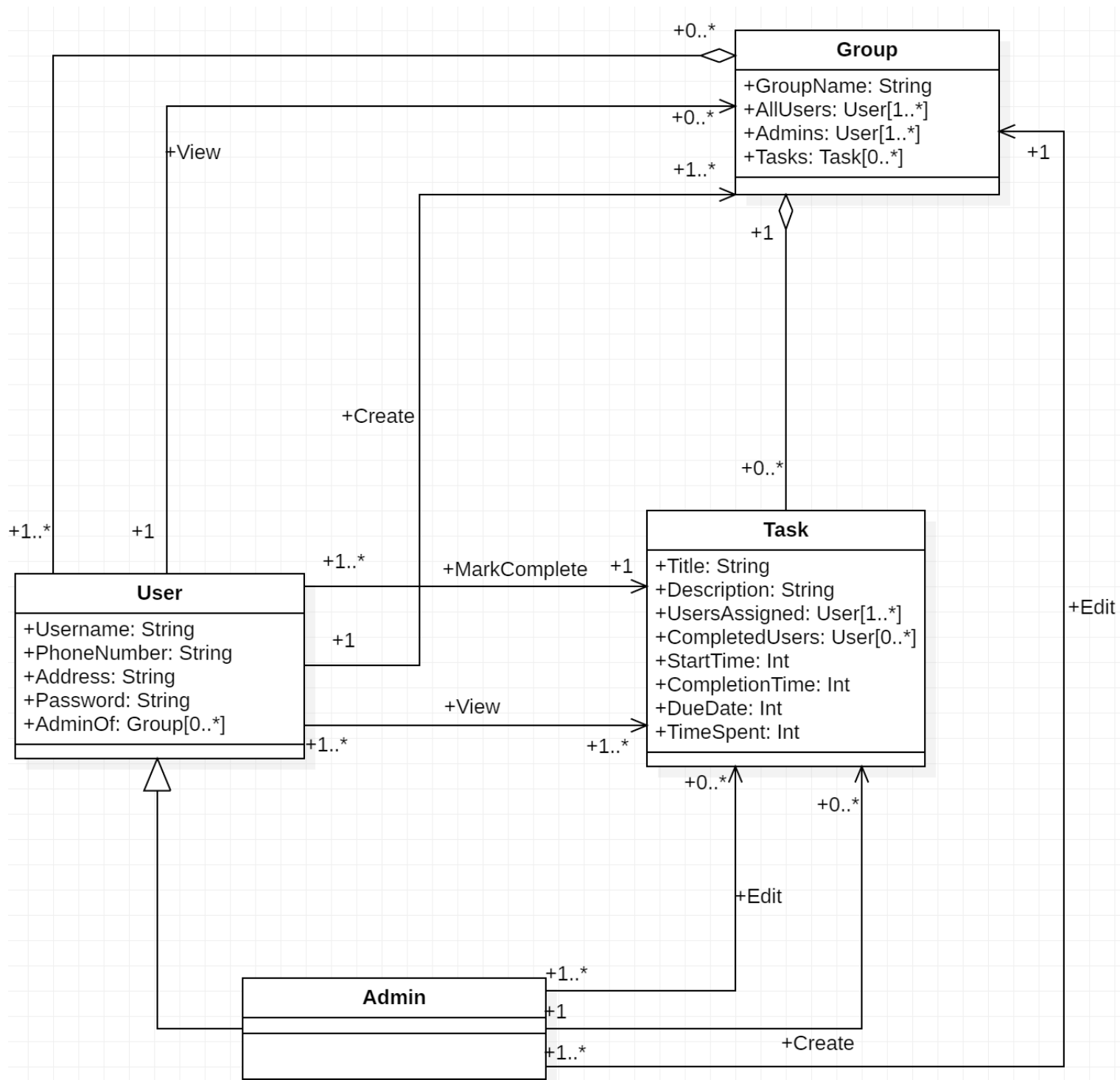
Req ID	Priority Weight	UC 1	UC 1.1	UC 1.2	UC 1.3	UC 1.4	UC 2	UC 2.1	UC 2.2	UC 2.3	UC 2.4	UC 3	UC 3.1	UC 3.2	UC 3.3	UC 3.4	UC 3.5	UC 4	UC 5	UC 6	UC 7	
R1	3	X																				
R1.1			X																			
R1.2				X																		
R1.3					X																	
R1.4						X																
R2	1						X															
R2.1								X														
R2.2									X													
R2.3										X												
R2.4											X											
R2.5													X									
R2.6														X								
R2.7																X						
R2.8																	X					
R2.9																		X				
R3																						
R3.1																			X			
R3.2																				X	X	
R4	7																			X		
R5	1						X															
R5.1								X														
R5.2									X													
R5.3										X												
R6																						
R7	1											X										
R8	2																					
R9	4																					
R10	6																				X	
R10.1																					X	
R10.2																					X	
R10.3																					X	
R11	5																					
Score		3	3	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	7	24	
Legend:	1 is highest priority. Work 1 First.																					

Increment Matrix

Use Case #	Priority	Effort (Person-weeks)	Depends on	Iteration 1 (03/12)	Iteration 2 (04/09)	Iteration 3 (05/03)
UC1	3		None			
UC1.1		6			6	
UC1.2		6			6	
UC1.3		6			6	
UC1.4		6			6	
UC2	2		None			
UC2.1		2		2		
UC2.2		2		2		
UC2.3		2			2	
UC2.4		3			3	
UC3	1		UC 1			
UC3.1		4				4
UC3.2		4				4
UC3.3		4				4
UC3.4		4				4
UC3.5		4				4
UC4	7	3	UC 2			3
UC5		4	UC 3			4
UC6	24	2	UC 2			2
UC7		1				1
Total Effort		63		4	29	30

1 PW = 5 hrs				20	145	150
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Domain Diagram



Task List

Increment	Task	Assigned to...
1	Add tasks.	Mohammed & Anum
	Remove tasks.	
2	Register.	Yanzhi & Yu
	Login.	
	Manage task.	Mohammed & Anum
	Edit tasks.	
	Mark task as completed.	Hannan
	Create groups.	
	Search by keywords.	
	Generate summary.	
3	Log Off.	Yanzhi & Yu
	Reset password.	
	Assign tasks.	Mohammed & Anum
	Manage group.	
	Add users.	
	Remove users.	
	Add admins.	
	Delete groups.	
	Edit groups.	