



MINISTRY OF EDUCATION AND TRAINING

UNIVERSITY OF ECONOMICS AND FINANCE

PROJECT REPORT

Mobile Device Programing

TOPIC

Project Management

Major: Information Technology

Minor: Software engineering

Supervisor: Lê Viết Linh

215051882:Trương Hùng Dũng

215051241:Nguyễn Hòa Hồng Đức

215051286:Nguyễn Văn Mạnh

Class: A02E

Ho Chi Minh City, 2024

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INTRODUCTION

Nowadays, Information Technology has a great influence on all aspects of social life, creating a breakthrough development. Opening up new horizons, new creative discoveries for people in all fields of finance, communication, education. Previously, information technology was not developed, not widely applied, the work related to Managing a project model... took a lot of time and wasted human resources. But when technology developed strongly and rapidly, at the same time, some subjects were introduced into teaching, the limitations were resolved promptly. Especially the subject of Mobile Device Programming. In this subject, we have learned the theory, models, methods and tools used in the process of designing and creating a mobile application. We have built this topic with the desire to help management be easy, convenient, accurate and avoid errors. Although we have tried, we certainly cannot avoid mistakes. We look forward to your support and comments. We sincerely thank you.

CHAPTER 1. PROJECT OVERVIEW

1. OBJECTIVES – SCOPE OF THE TOPIC

1.1. Objective

Based on the knowledge taught in Mobile Device Programming, this project designs a project management system that includes the following functions: Project Management, Project Task Management, Background Music Playback, Project Progress Chart, Project Search.

1.2. Topic scope

- *The project is based on the scope of the subject Mobile Device Programming.*
- *The scope of the project includes the knowledge learned about building and developing a project on the Android platform.*

1. PARTICIPATING MEMBERS

<i>Num</i>	<i>Student ID</i>	<i>Name</i>	<i>Email</i>
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CHAPTER 2. Database

1. Project Table

<i>STT</i>	<i>Attribute</i>	<i>Type</i>	<i>Binding</i>	<i>Key</i>
1	PROJECT_ID	TEXT	NOT NULL, UNIQUE	PRIMARY KEY
2	PROJECT_NAME	TEXT	NOT NULL	
3	PROJECT_DESC	TEXT	NOT NULL	
4	START_DATE	TEXT	NOT NULL	
5	END_DATE	TEXT	NOT NULL	
6	FINAL_DATE	TEXT	NOT NULL	
7	STATUS	INT	NOT NULL	
8	DEV_NAME	TEXT	NOT NULL	

Table 2.1.1 Project table

```

db.execSQL(" create table " + ProjectTable.NAME + "(" +
    "_id integer primary key autoincrement, " +
    ProjectTable.cols.PROJECT_ID+ " TEXT NOT NULL UNIQUE, " +
    ProjectTable.cols.PROJECT_NAME + " TEXT NOT NULL, " +
    ProjectTable.cols.PROJECT_DESC + " TEXT NOT NULL, " +
    ProjectTable.cols.START_DATE + " TEXT NOT NULL, " +
    ProjectTable.cols.END_DATE + " TEXT NOT NULL, " +
    ProjectTable.cols.FINAL_DATE + " TEXT, " +
    ProjectTable.cols.STATUS + " INT NOT NULL, " +
    ProjectTable.cols.DEV_NAME + " TEXT NOT NULL " +
    ")")

```

Figure 2.1.1 Code of Project Table in Project Management

2. Task Table

<i>STT</i>	<i>Attribute</i>	<i>Type</i>	<i>Binding</i>	<i>Key</i>
1	TASK_ID	TEXT	NOT NULL, UNIQUE	PRIMARY KEY
2	PROJECT_ID	TEXT	NOT NULL	FOREIGN KEY
3	TASK_NAME	TEXT	NOT NULL	
4	TASK_DEV	TEXT	NOT NULL	
5	TASK_ENDDATE	TEXT	NULL	
6	TASK_STARTDATE	TEXT	NULL	
7	TASK_ESTIMATEDAY	INT	NOT NULL	

Table 2.2.1 Task Table

```
db.execSQL(" create table " + TaskTable.NAME + "(" +
    "_id integer primary key autoincrement, " +
    TaskTable.cols.TASK_ID + " TEXT NOT NULL UNIQUE, " +
    TaskTable.cols.PROJECT_ID + " TEXT NOT NULL, " +
    TaskTable.cols.TASK_NAME + " TEXT NOT NULL, " +
    TaskTable.cols.TASK_DEV + " TEXT NOT NULL, " +
    TaskTable.cols.TASK_STARTDATE + " TEXT , " +
    TaskTable.cols.TASK_ENDDATE + " TEXT , " +
    TaskTable.cols.TASK_ESTIMATEDAY + " TEXT NOT NULL " +
    ")"
```

Figure 2.2.1 Code of Task Table in Project Management

3. Option Table

<i>STT</i>	<i>Attribute</i>	<i>Type</i>	<i>Binding</i>	<i>Key</i>
1	OPTION_ID	TEXT	NOT NULL, UNIQUE	PRIMARY KEY
2	OPTION_NAME	TEXT	NOT NULL	
3	OPTION_VALUE	INT	NOT NULL	

Table 2.3.1 Option Table

```

db.execSQL(" create table " + OptionTable.NAME + "(" +
    "_id integer primary key autoincrement, " +
    OptionTable.cols.OPTION_ID + " TEXT NOT NULL UNIQUE, " +
    OptionTable.cols.OPTION_NAME + " TEXT NOT NULL, " +
    OptionTable.cols.OPTION_VALUE + " INT NOT NULL " +
    ")";

```

Figure 2.3.1 Code of Option Table in Project Management

CHAPTER 3. FUNCTIONS

1. LAYOUTS

1.1. Home Fragment

1.1.1.Home Fragment Layout

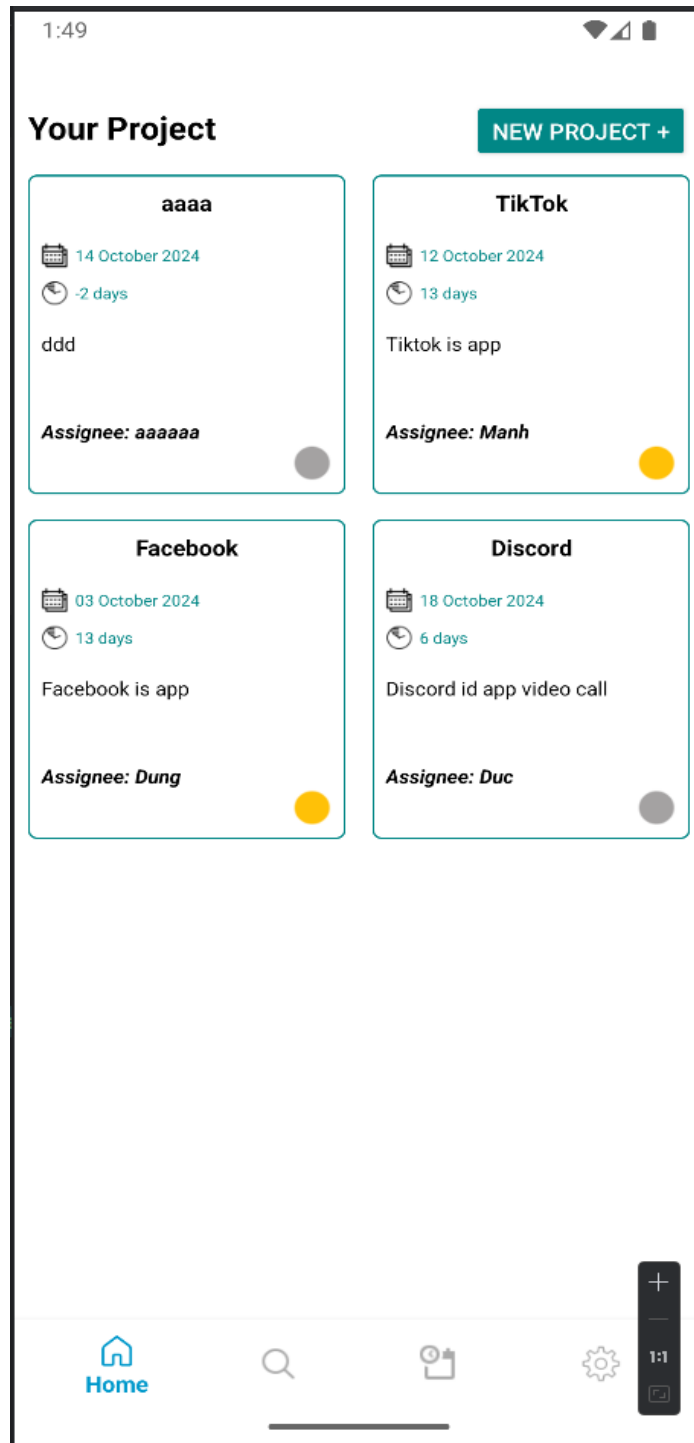


Figure 3.1.1 Home Fragment

1.1.2.Home Fragment layout description

->Layouts that show all the projects that the user has created

-> Use Recyclerview to render items (using a layout named item_project.xml). Then shoot the data from the DB into the Recyclerview Adapter to display it to the user.

-> You can Mutiple Select these items and delete them and delete the Tasks in those projects (which will be reviewed in **the Testing** section).

->Clicking on any item will show a Model bottom sheet for users to edit or view project details (will be reviewed in **the Testing** section)

1.2. Search Fragment

1.2.1.Search Fragment Layout

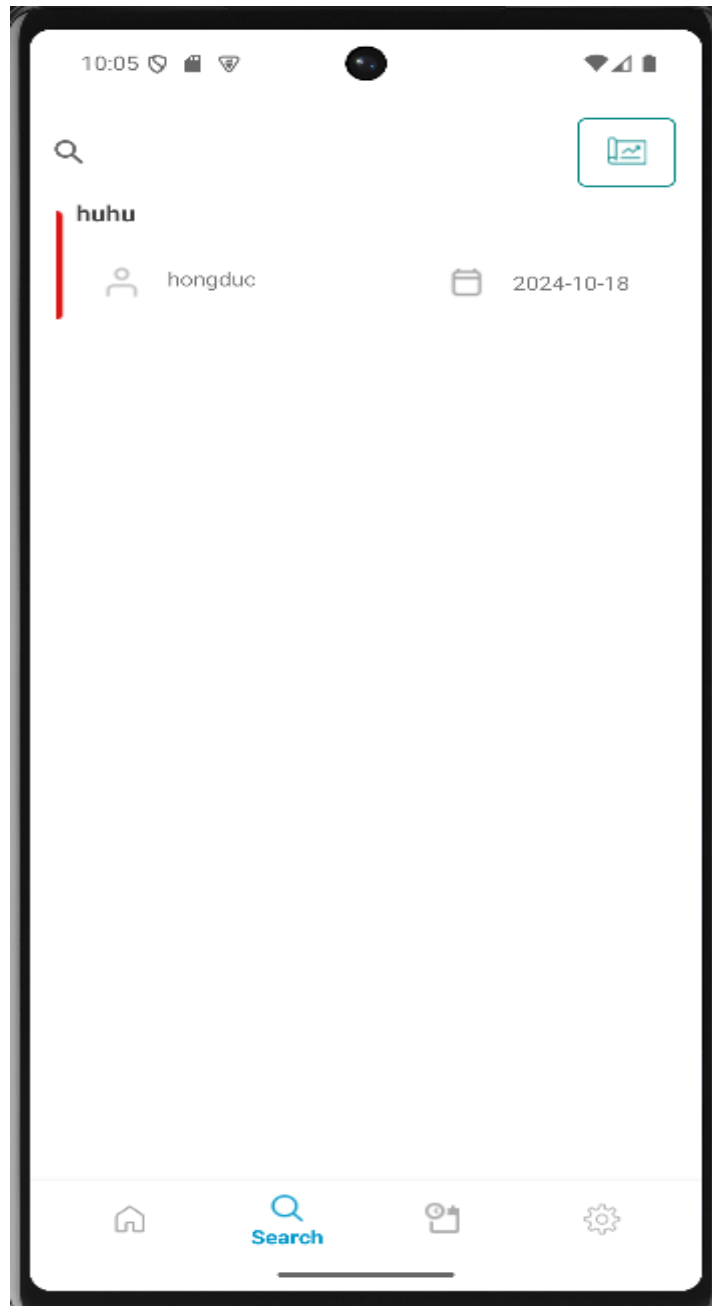


Figure 3.1.2 Search Fragment

1.2.2.Search Fragment layout description

-> is the Project list display screen based on search

-> Use Recyclerview to display items (using layout named item_search.xml) based on edittext user entered to display item

-> User can search project name or person name by clicking the button next to Edittext

Chart Fragment layout

1.3.1.Chart Fragment Layout

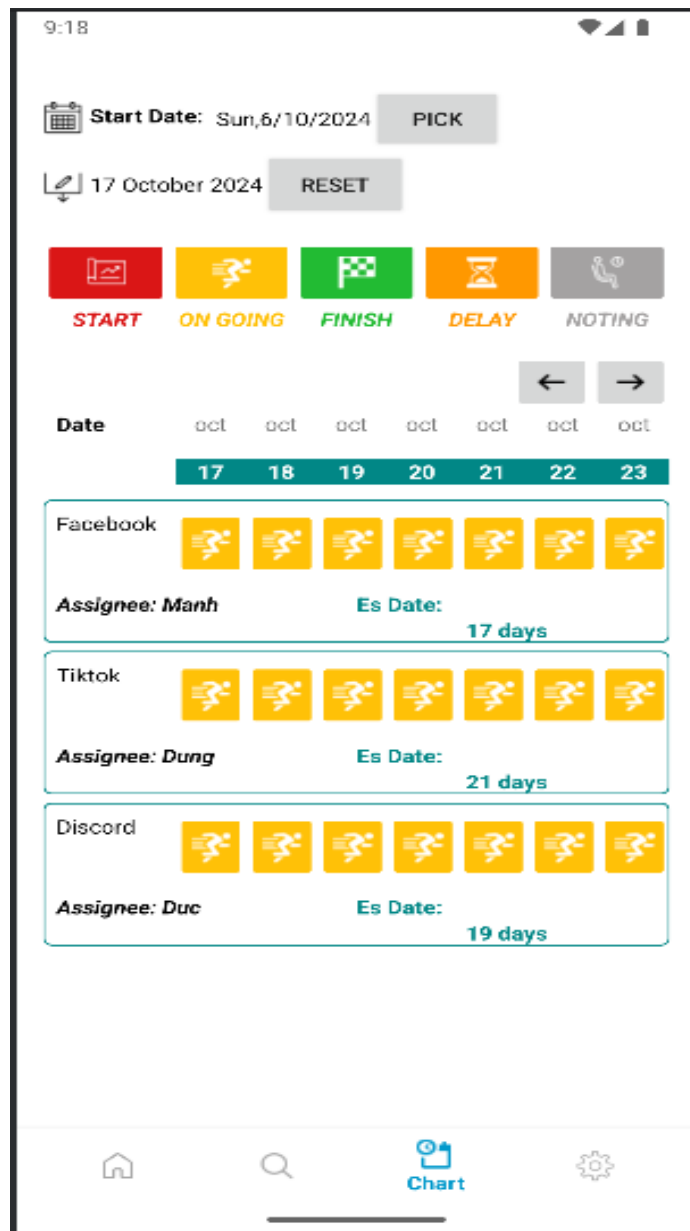


Figure 3.1.3 Chart Fragment

1.3.2.Chart Fragment layout description

- > As a roadmap display for each project
- > Users can pick a date to check which projects are in the process of running for the next 7 days
- > If you don't pick the date, the app will take the current date to the next 7 days and show up the projects that are in those 7 days
- > In the 7 days that are displayed in the user layout, it is possible to view the details of each day in these 7 days, by clicking on the date the user wants to view and a **BottomSheet Modal Date Details** will appear (which will be reviewed in **the Testing** section).

BottomSheet Modal Date Details in this screen:

- > is the modal containing the project information and the date selected by the user
- > The date gap in this Modal will be calculated from the project's Enddate - the date the user wants to view
- > Adjust project status to delay or Resume
- > Adjust the project status to Completed

1.3. Setting Fragment

1.4.1.Setting Fragment Layout

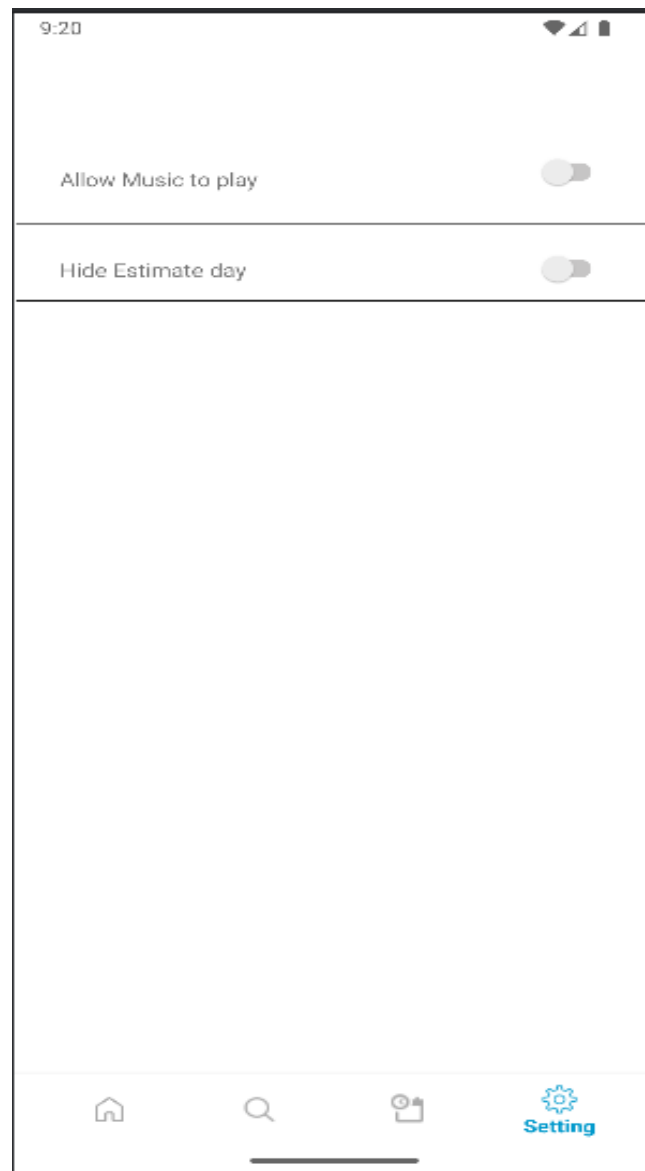


Figure 3.1.4 Setting Fragment

> It is a setting screen that allows the user to hide or display the Estimate day and turn on or turn off the music .

-> After the user clicks on the switch to turn on music, it will allow a service that is PlayMusicSevice, to launch and when turned off, it will disable the PlayMusicService.

->The user after clicking on the hidden estimatedate will update the hidden status of the estimatedate in the project detail by storing it in the databse and editing the SetVisibility. (Gone) of the TextView.

1.4.2.Setting Fragment layout description

1.4. Add Project Activity

1.5.1.Add Project Activity Layout

6:30

Create New Project

Project Name:

User Name:

Start date:

20 October 2024

End date:

Description:

CANCEL

ADD

Figure 3.1.5 Add Project Activity

1.5.2.Add Project Activity layout description

->This is a screen that allows users to create a new project and save it in the database.

->Users will enter the project name and Dev name using the phone's keyboard.

-> Enter the startdate and enddate by clicking the button with the clock icon to open the DatePicker Model and select the date.

->If the user does not enter anything or is missing a field, the application will fire a message informing the user that they need to fill in all.

-> After entering all the information and clicking the "Save" button, it will proceed to save it in the database.

1.5. Add Task Activity

1.6.1.Add task Activity Layout

The screenshot shows a mobile application interface for creating a new task. At the top, the status bar displays the time 9:34 and signal icons. The app title 'Create New Task' is centered at the top. Below the title, there are two input fields: 'Project Name:' and 'User Name:'. Further down, there are two date selection fields: 'Start date:' and 'End date:', each with a calendar icon to its right. Below these, there is an 'Estimate day:' field with a numeric input showing '0' and a 'CLEAR DATE' button to its right. At the bottom of the form, there are two buttons: a green 'ADD' button and a grey 'CANCEL' button.

Figure 3.1.6 Add Task Activity

1.6.2.Add Task Activity layout description

->This is the Add Task screen in a previously selected project from "Edit Project Activity".

->The users will enter the Task name and Dev name using the phone's keyboard.

-> Enter the startdate and enddate by clicking the button with the clock icon to open the DatePicker Model and select the date.

In the Estimate day field, users have 2 options:

+If the user selects the Start Date and End Date fields, the Estimate day field will automatically calculate the Date Range and will not be entered by the user.

+If the user does not select the Start Date and End Date, the application will force the user to enter the Task name, Dev name, and Estimate day.

1.6.

1.7.1.Edit project Layout Activity

09:54

Edit Project

Project Name:

hhh

User Name:

hongduc

Start date:

18 October 2024

Es date:

21 October 2024

Description:

lorem ipsum

Task List:

ADD TASK +

Task Name

Assignee

Estimate day

Start Date

End Date

CANCEL

SAVE

Figure 3.1.7 Edit Project Activity

1.7.2.Edit Project Activity layout description

- >This is a screen where users can edit the project's information and update the project's data in the database.
- >The user enters the information of the project to be edited in the Edittext and selects the start and end dates of the project by clicking on the clock icon to open a DatePicker Model and select the date.
- > Users can add tasks to the project. A project will be able to have one or more tasks, but this is not required.
- >Users can write a description for the project by typing characters from the keyboard into EditText .
- > Users will be able to update the project by clicking the "Save" button to save the information to the database.
- > If you press "Cancel", you will cancel the update progress and return to the previous activity.

1.8.1.Edit task Layout Activity

The screenshot displays the 'Edit Task' screen of a mobile application. At the top, the status bar shows the time 9:30 and signal icons. The title 'Edit Task' is positioned at the top left of the app's header. Below the header, the form contains the following elements:

- Task Name:** A text field containing the value 'Layout'.
- User Name:** A text field containing the value 'Manh'.
- Start date:** A date picker field showing '11 October 2024' with a calendar icon to its right.
- End date:** A date picker field showing '16 October 2024' with a calendar icon to its right.
- Estimate day:** A text field containing the value '6'.
- CLEAR DATE:** A button located to the right of the 'Estimate day' field.
- UPDATE:** A green button located below the 'Estimate day' field.
- CANCEL:** A grey button located to the right of the 'UPDATE' button.
- DELETE:** A red button located to the right of the 'CANCEL' button.

Figure 3.1.8 Edit Task Activity

1.8.2.Edit Task Activity layout description

->This is a screen where users can edit the information of the task and update that information to the database.

->The user enters the information of the task to be edited into the Edittext and selects the start and end dates of the task.

-> Users can reset the startdate, enddate, and estimate date by clicking the "CLEAR DATE" button.

-> Users will be able to update the task by clicking the "Update" button to save the information to the database.

-> If you press "Cancel", you will cancel the update progress and return to the previous Activity.

1.7. Project Detail Layout Activity

1.9.1. Project Detail Layout Activity

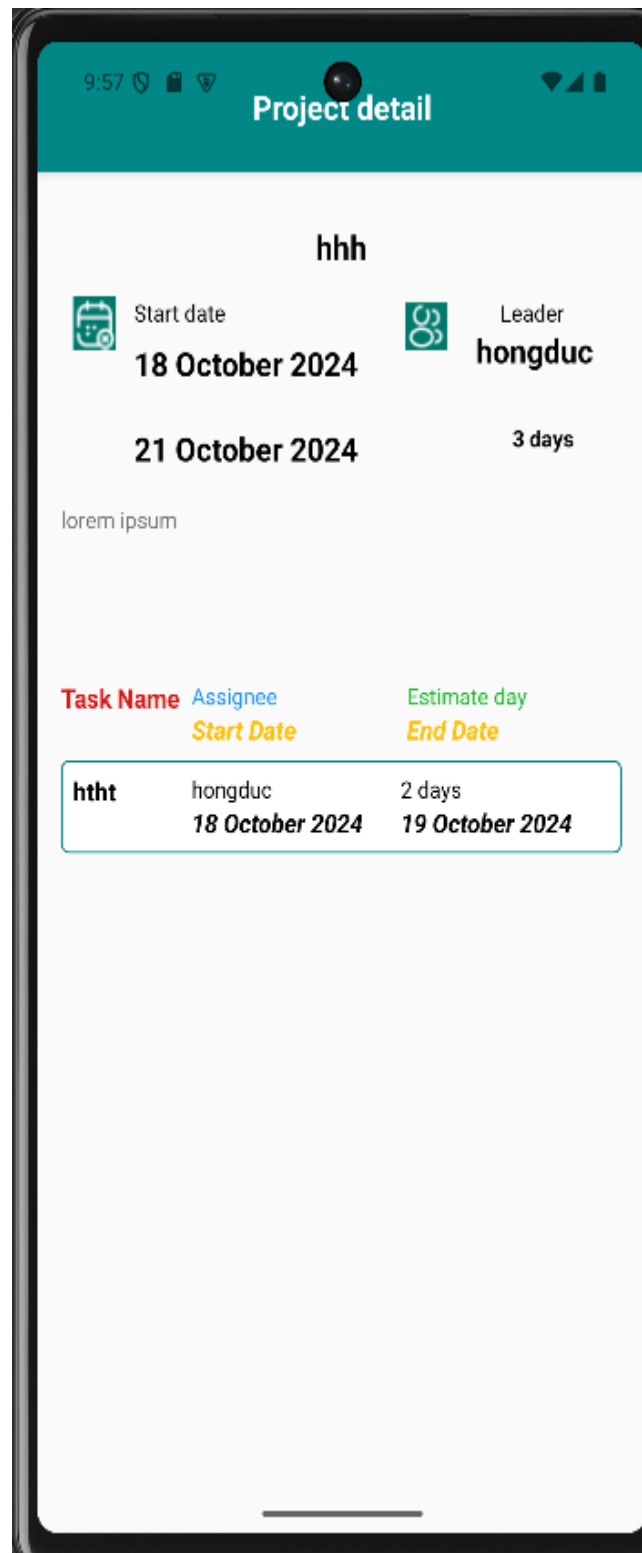


Figure 3.1.9 Edit Task Activity Layout

1.9.2.Project Detail Activity layout description

- >*This is the screen that displays the information of the project including: Project name, dev name, startdate, enddate, estimeday.*
- >*In addition, display the information of the task including: Task name, dev name, startdate, enddate, estimeday.*
- > *This screen only retrieves information from the database and displays on the edittext and has no additional functions. (just to see).*

CHƯƠNG 4. TESTING

1. TEST CASE 1

Test Case ID	BU_001	Test Case Description	Test add a project to the database					
Created By	Manh	Reviewed By	Dung	Version	1.0			
QA Tester's Log		Review comments from Dung incorporate in version 1.1						
Tester's Name	Manh	Date Tested	20-Oct-2024	Test Case (Pass/Fail/Not	Pass			
S #	Prerequisites:		S #	Test Data				
1	Add data to database		1	Project name = Facebook				
2			2	User name = Manh				
3			3	Startdeate = 20 October 2024				
4			4	Enddeate = 23 October 2024				
			5	Description = Make Facebook				
Test Scenario	When the customer clicks "save", the project will be added to the database.							
Step #	Step Details	Expected Results	Actual Results		Pass / Fail / Not executed / Suspended			
1	Access "add project activity" from Home Fragment.	Access successful	As Expected		Pass			
2	Enter information for the project to be created.	Full data fields can be entered	As Expected		Pass			
3	Click Save	Data added successfully to database	As Expected		Pass			

Figure 4.1 Adding Project

2. TEST CASE 2

Test Case ID	BU_002	Test Case Description	Test edit a project to the database			
Created By	Duc	Reviewed By	manh	Version	1.0	
QA Tester's Log		Review comments from Dung incorporate in version 1.0				
Tester's Name	Duc	Date Tested	20-Oct-2024	Test Case (Pass/Fail/Not	Pass	
S #	Prerequisites:		S #	Test Data		
1	Edit data to database		1	Project name = Facebook edit		
2			2	User name = Manh		
3			3	Startdate = 20 October 2024		
4			4	Enddate = 23 October 2024		
			5	Description = Make Facebook edit		
Test Scenario	When the customer clicks "Save", the project will be updated to the database.					
Step #	Step Details	Expected Results	Actual Results		Pass / Fail / Not executed / Suspended	
1	Access "Edit project activity" from bottom sheet in Home Fragment.	Access successful	As Expected		Pass	
2	Enter information for the project to be edit.	Full data fields can be entered	As Expected		Pass	
3	Click Save	Data updated successfully to database	As Expected		Pass	

Figure 4.2 Updating project

3. TEST CASE 3

Test Case ID	BU_003	Test Case Description	Test add a task to the database				
Created By	Manh	Reviewed By	Duc	Version	1.0		
QA Tester's Log		Review comments from Dung incorporate in version 1.0					
Tester's Name	Manh	Date Tested	20-Oct-2024	Test Case (Pass/Fail/Not	Pass		
S #	Prerequisites:		S #	Test Data			
1	Add data to database		1	Task name = Layout			
2			2	User name = Manh			
3			3	Startdeate = 20 October 2024			
4			4	Enddeate = 23 October 2024			
			5	Estimateday = 4			
Test Scenario		When the customer clicks "Add", the task will be added to the database.					
Step #	Step Details	Expected Results	Actual Results		Pass / Fail / Not executed / Suspended		
1	Access "add task activity" from Edit project Activity.	Access successful	As Expected		Pass		
2	Enter information for the task to be created.	Full data fields can be entered	As Expected		Pass		
3	Click Add	Data added successfully to	As Expected		Pass		

Figure 4.3 Adding task

4. TEST CASE 4

Test Case ID	BU_004	Test Case Description	Test edit a task to the database				
Created By	Duc	Reviewed By	Manh	Version	1.0		
QA Tester's Log		Review comments from Dung incorprate in version 1.0					
Tester's Name	Duc	Date Tested	20-Oct-2024	Test Case (Pass/Fail/Not	Pass		
S #	Prerequisites:		S #	Test Data			
1	Edit data to database		1	Task name = Layout Edit			
2			2	User name = Duc			
3			3	Startdate = 20 October 2024			
4			4	Enddate = 25 October 2024			
			5	Estimateday = 6			
Test Scenario	When the customer clicks "Edit", the project will be updated to the database.						
Step #	Step Details	Expected Results	Actual Results		Pass / Fail / Not executed / Suspended		
1	Access "Edit task activity" from Edit project Activity.	Access successful	As Expected		Pass		
2	Select the task to delete by clicking on it.	Selected the task to delete and moved to the edit task page.	As Expected		Pass		
3	Click Update	Data updated successfully to database.	As Expected		Pass		

Figure 4.4 Updating task

5. TEST CASE 5

Test Case ID	BU_005	Test Case Description	Test Delete a project to the database				
Created By	Dung	Reviewed By	Manh	Version	1.0		
QA Tester's Log		Review comments from Manh incorprate in version 1.0					
Tester's Name	Dung	Date Tested	20-Oct-2024	Test Case (Pass/Fail/Not	Pass		
S #	Prerequisites:		S #	Test Data			
1	Delete data to database		1	Not data			
2							
3							
4							
Test Scenario	When the customer clicks "Delete all", the project will be Delete to the database.						
Step #	Step Details	Expected Results	Actual Results		Pass / Fail / Not executed / Suspended		
1	Access "HomeFragment"	Access successful	As Expected		Pass		
2	Select the projects to delete by holding until the checkboxes appear and you can delete multiple projects at once.	Select one or more projects to delete.	As Expected		Pass		
2	Perform deletion by clicking the "Delete All" button to perform the deletion operation.	Display a "Delete all" button for users to click	As Expected		Pass		
3	Click "Delete All"	Data Delete all data successfully to database	As Expected		Pass		

Figure 4.5 Deleting projects

6. TEST CASE 6

Test Case ID	BU_006	Test Case Description	Test Delete a task to the database				
Created By	Dung	Reviewed By	Manh	Version	1.0		
QA Tester's Log		Review comments from Manh incorporate in version 1.0					
Tester's Name	Dung	Date Tested	20-Oct-2024		Pass		
				Test Case (Pass/Fail/Not			
S #	Prerequisites:			S #	Test Data		
1	Delete data to database			1	Not data		
2							
3							
4							
Test Scenario	When the customer clicks "Delete all", the project will be Delete to the database.						
Step #	Step Details	Expected Results	Actual Results		Pass / Fail / Not executed / Suspended		
1	Access "Edit project activity" from bottom sheet in Home Fragment.	Access successful	As Expected		Pass		
2	Select the task to delete by clicking on it.	Selected the task to delete and moved to the edit task page.	As Expected		Pass		
2	Click on the "DELETE" button in Edit task activity and delete the task.	Data delete successfully to database	As Expected		Pass		

Figure 4.6 Deleting task

References

Student book UEF:

Android Programming The Big Nerd Ranch Guide (Bill Phillips, Chris Stewart, Kristin Marsicano).