Proposal on

Take It Easy

(Live To Learn)

Prepared for
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Prepared by
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Date: 15/03/2022

Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

Executive Summary

We intend to create a platform where users can ask any queries or offer comments without fear of being judged. Essentially, this app will serve as a helpful community where users may seek assistance or make suggestions.

If a user wishes, she or he can ask any questions or provide ideas anonymously on this app. People who are hesitant or don't want to offer their assistance or ask questions will be able to do so without hesitation.

There will be a login page first. We'll utilize a database for this. After that, there will be a few sections. The first portion will be the "Learning Section," which will include movies and fundamental information on the themes (algorithms, data structures, time complexity, and competitive programming).

After each topic, the participant will be presented with a set of multiple-choice questions (MCQs).

Then there will be a quiz area where members will be required to take exams on the topics we supply on a daily or weekly basis. Participants will be able to choose their own time to give tests or study using a personalized reminder.

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1. Letter of Transmittal

March 15, 2022

A. K. M. Ahsanul Hoque,

Ahsanullah University of Science and Technology, Tejgaon, Dhaka.

Subject: Submission of Take It Easy Project

Assalamu Olaikum sir,
We, the proposers, would like to provide "Take It Easy" in accordance with your instructions and the Information System Design and Software Engineering Lab's needs.
The purpose of this post is to recommend an app that will be beneficial to society. This website will be able to connect those who require assistance or suggestions with others who wish to assist or suggest.

We merely hope that you will accept our proposal.

Yours Sincerely,

Md Hasib Ahmed Chowdhury, 18.02.04.093

Tahsin Tasnim, 18.02.04.107

Md Ashfaqur Rahman, 18.02.04.110

Tajrian Islam Ishan , 18.02.04.111

2. Introduction

2.1. Project Introduction:

"**Take It Easy**" is an app where users can learn and take quiz to test themselves seek help and ask questions as well as they can ask for suggestions. Users who will be able to help and suggest they can help or suggest them. In this way we may build a helpful community online. By helping each other users will get the actual help. We will be trying to keep the app bullying free as well. For that necessary steps and features would be implemented.

2.2. Team Introduction:

Take It Easy is a group of four people. The majority of the backend work is handled by Siam and Ishan. Hasib and Proma are the project's database developers.

3. Background of the Study

3.1. Project Background:

Nowadays, the majority of people look for help on the internet on specific topics but they don't find it in one place. Shy people can't ask for help or ask inquiries very often. In this app they can anonymously ask questions and take quizzes.

Basically, everyone suffers since they are unable to receive adequate assistance.

That is why we are attempting to create an app to address the issue. Users can ask for or seek support and advice, and they can also enhance their skills by learning algorithms.

4. Objectives

4.1. Primary Objective:

First, there will be a login page. For this, we'll need a database. There will be a couple of sections after that.

The "Learning Section," which will comprise movies and basic information on the themes, will be the first section (<u>algorithms</u>, <u>data structures</u>, <u>time complexity</u>, and <u>competitive programming</u>).

A set of multiple-choice questions will be offered to the participant after each topic.

Then there will be a quiz section where members will be expected to take daily or weekly exams on the topics we provide. Using a customized reminder, participants will be able to choose their own time to deliver tests or study.

4.2. Secondary Objectives:

We wanted to build an app where student will found all the necessary core materials of undergraduate CSE and can be found in one place. And people can be able to use all of these features easily. Thus, life can become easier and safer to live

5. Methodology

5.1. Process Model:

A process is a collection of activities, actions and tasks that are performed when some work product is to be created. It enables the people doing the work to pick and choose the appropriate set of work actions and tasks... Software development process defines which member of the development team is doing which part, the timing in relation to other activities and the details and steps in the activity. Communication, planning, modeling, constructions, deployment these are the basic phase of process. All of these phases together called process model. There are different types of process models based on the sequence and intercommunication between these phases. Ex: Traditional process models, Agile Models, The unified process etc.

In traditional process models, the flow of development is unidirectional, from communication to clients and then to planning and development, then to testing and maintenance. This model is based on pre-organized phases of the software development life cycle. Some traditional models are:

1. Waterfall Model

2. Incremental Model

3. Prototyping Model
4. Spiral Model

In this project we will use a **Incremental process Model** and that is Incremental Model. In this model-

The incremental model is a software development process that divides requirements into numerous separate modules during the software development cycle. Each module in this paradigm goes through the processes of requirements, design, implementation, and testing. Every release of the module after then adds functionality to the preceding iteration. The procedure is repeated until the entire system is completed.
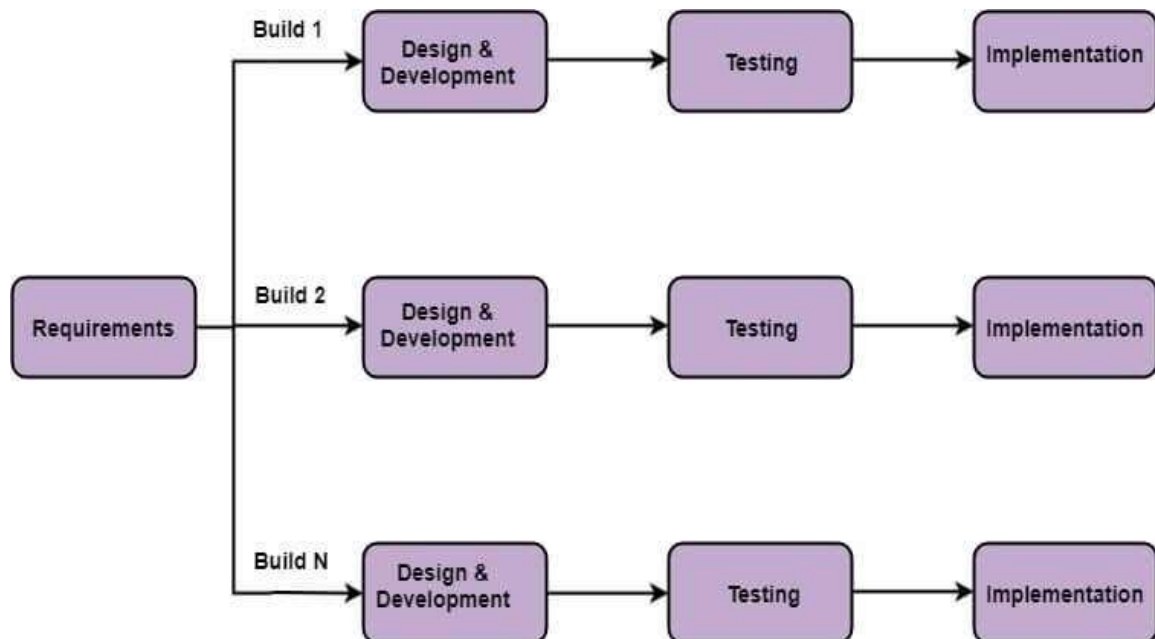

Fig: Incremental Model

Profile creation, verification. Quiz section, Chat section Reminder Section. Database section. Our project's needs have been clearly stated. Furthermore, our project is still in the works. We believe the incremental model will be a good fit for our project because it is made up of discrete modules that we can construct and develop separately. This will hasten the project's overall development.
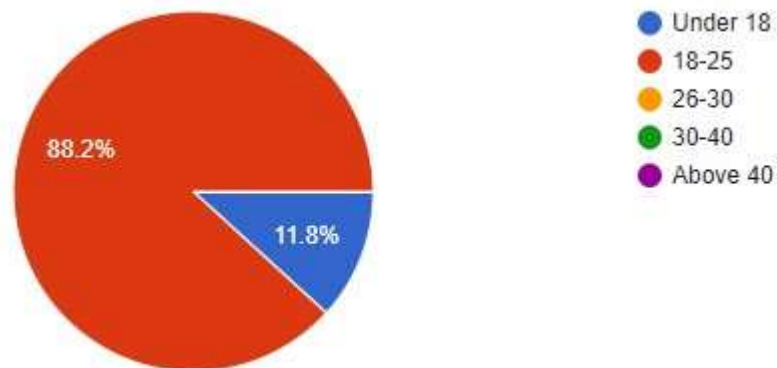
6. The Project

6.1. Communication

Survey

To have a better understanding of how "Take It Easy" appears to its target audience, as well as what they think about the current situation. The poll was conducted via social media. The results of our poll are listed below.
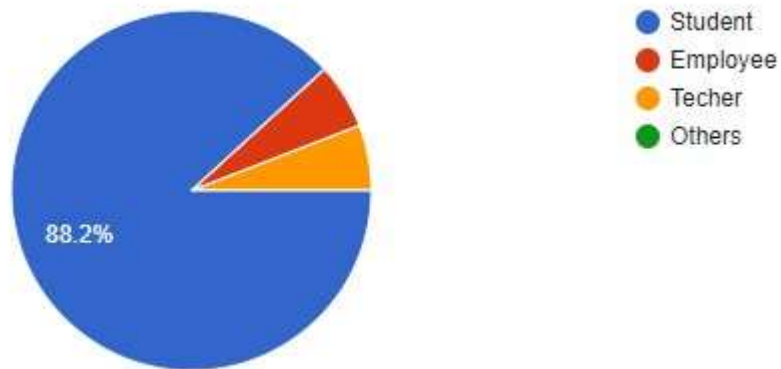
Your age?

We're trying to figure out which age groups are drawn to our app.

People between the ages of 18 and 25, followed by those under the age of 18, appear to be the most interested.

Your Occupation?

We're attempting to determine which aspects of our app are of interest to visitors. This app appears to be of interest to students, employers, and technologists alike.

Do you think getting resource for data structure and algorithm is hard ?
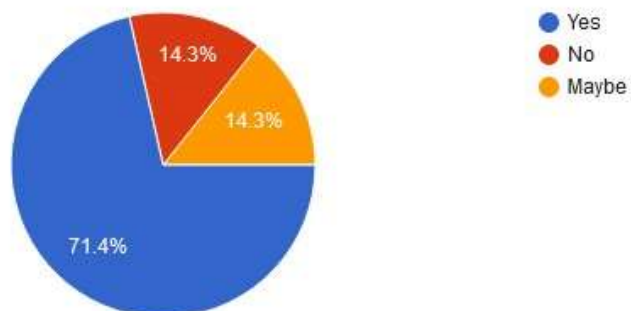
We asked individuals if they find it difficult or not to find the courses regarding data structure and algorithms. Most of them gave opinion they find it hard.

What do you think an open discussion chat system will be better for you?
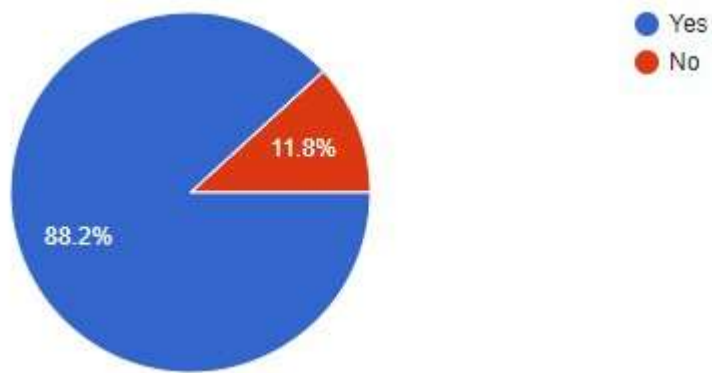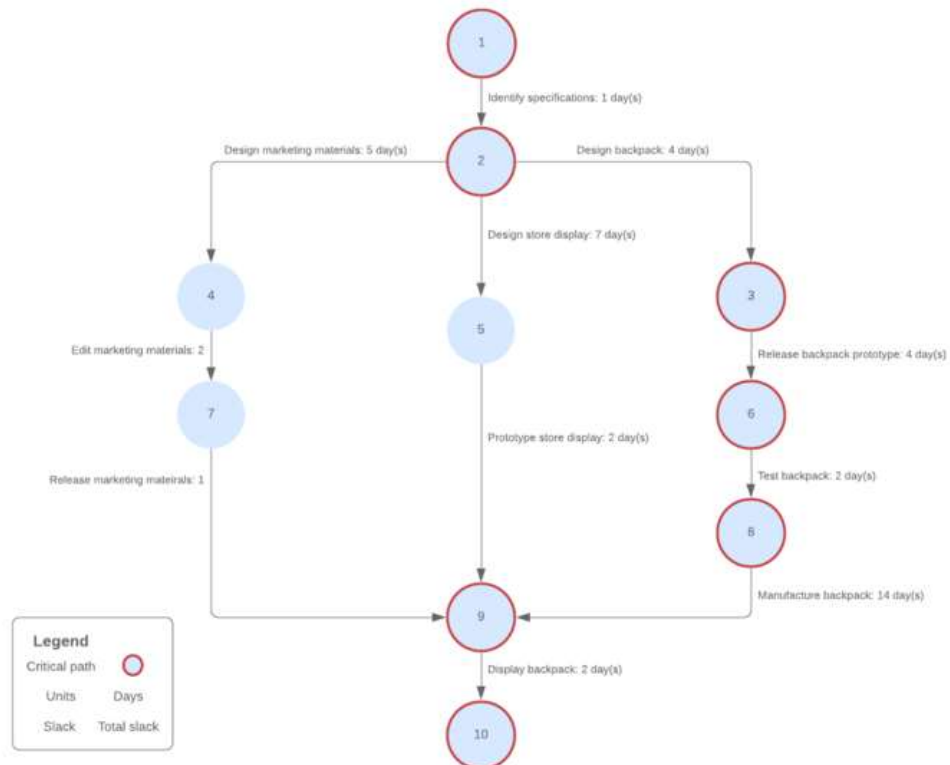

Finally, we asked if they wanted to use any apps for help, to ask questions, or to seek recommendations.
While 88.2 percent of those polled agreed, 11.8 percent disapproved.

6.2. Planning

a. PERT Chart

b. Gantt Chart

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Basic Idea and Structure	██	██										
Initial Designing of prototype		██	██									
Development of App			██	██	██	██	██	██	██	██		
Adding Features				██	██	██	██	██	██			
Bugfix and Deploy										██	██	██

c. Project Planning

We have five processes in place for our project. Those areas are listed below.

i. Within two weeks, we will have a complete basic notion of the project and its structures.

ii. Then, between weeks 2 and 4, create an initial design for the project structure.

iii. The project's development will then begin from the end of week 3 through week 10

iv. Then, between weeks 4 and 9, the features will be added.

v. Then, from the tenth to the twelfth week, we will fix bugs and submit the project.

d. Project Estimation

We plan to finish our project in 12 weeks as per lab timing. This project has a lot of area for improvement in the future. The risk about this project is that we already have a lot of competitor. Server malfunctioning, courses might get backdated. But we are making the best possible way to avoid this issue.

e. Cost Benefit Analysis

The cost of this project we initially find out that would be

Costs	In 12 Months (BDT)
App publishing Cost	2135
instructor hiring cost	420,000
advertisement cost	70,000
Others Cost	30,000
Total	522,135

The project's cost is determined by the amount of time we spend working on it.

We will work 15 hours per week.

As a result, the estimated cost of this project in the first year is 522,135 Taka BDT.

f. Feasibility Analysis

f.1. Operational

- o Convenient for all those who are seeking help and suggestions for any learning topics.

- o Open Discussion while being anonymous.

f.2. Economical

Year	Costs	Profit(BDT)	Net Profit (BDT)
Year -1	522,135	924,000	401,865

f.3. Technical

- o A versatile user interface concept that may be used on a variety of devices.

- o Improving a project is a lot easier.

f.4. Legal

There are no potential legal or copyright issues with our project at this time.

f.5. Resource Requirements

Resources we will need:
- ▪ 3-4 Software engineers
.

6.3. Modeling:

a. Function Definition and Description

Function Name	Learning
Scenario	In this educational system, our app will provide courses related to Computer Science (Currently). Necessary documents and cpp codes to learn.
Precondition	Signup and Login
Function Name	Quiz
Scenario	Students can test themselves after learning from the learning section by giving quiz on specific topics.
Precondition	Signup and Login

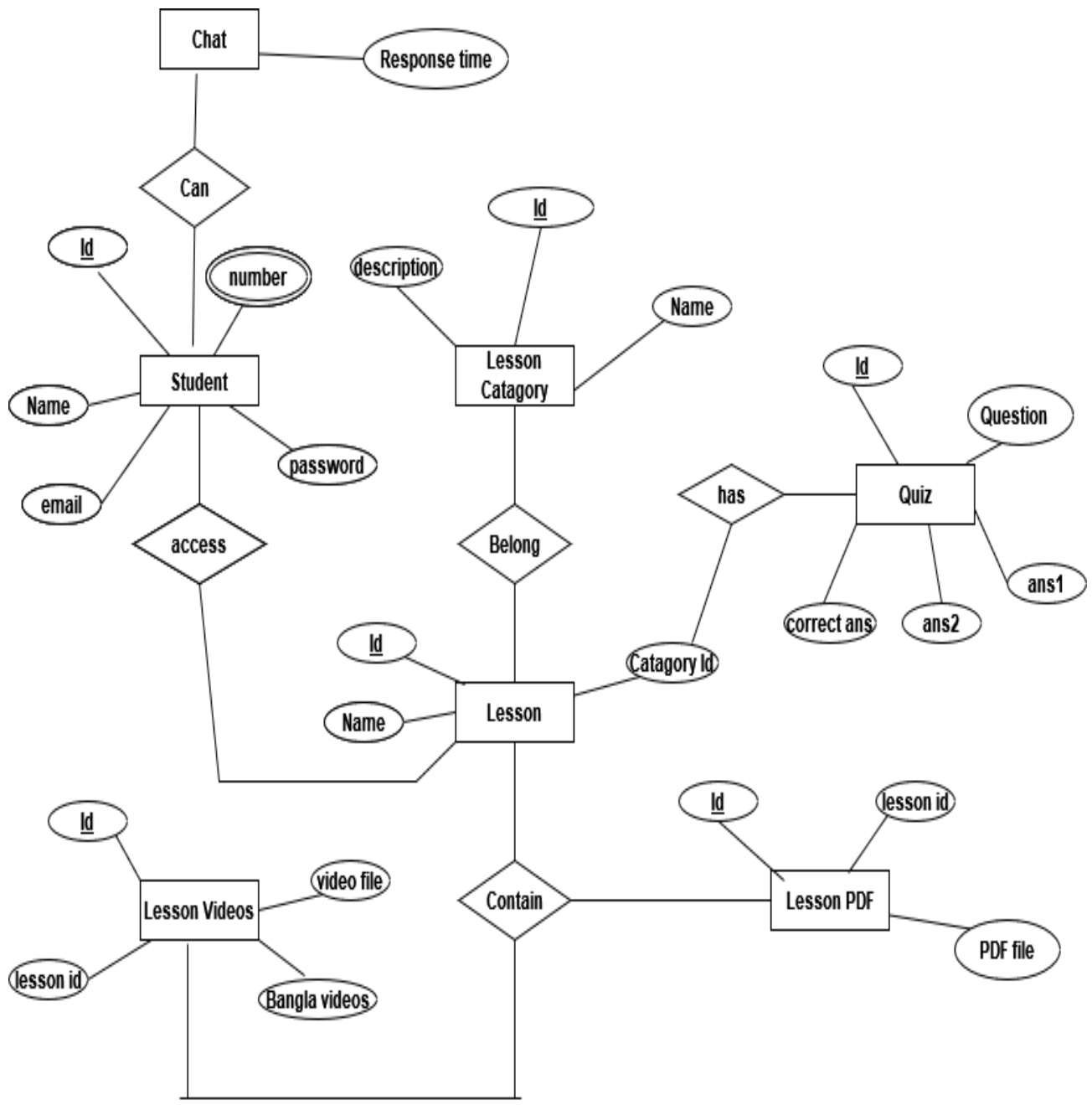|	
Function	Remind
Scenari	One can remind thems elves of quiz by using this reminder
Precondition	Signu and Login

Function	Bangla Videos
Scenario	Students will be provided Bangla videos on their special requests.
Precondition	None or Login

|	
Function Name	Chat System
Scenario	People can chat anonymously so that they don't feel shy to ask questions.
Precondition	Signup and Login
Function Name	Blog
Scenario	People can read famous vlogs containing the topics which is covered in the lessons,
Precondition	Signup and Login

Entity	Attributes
Chat	Response Time
Student	Id
	Number
	Name
	E-mail
	Password
Lesson	Id
	Name
	Category Id
Lesson Videos	Id
	Lesson id
	Video file
	Bangla videos
Lesson Pdf	Id
	Lesson id
	Pdf file
Lesson Category	Id
	Description
	Name
Quiz	Id
	Question
	Ans1
	Ans2
	Correct Answer

d. Entity Relationship Schema
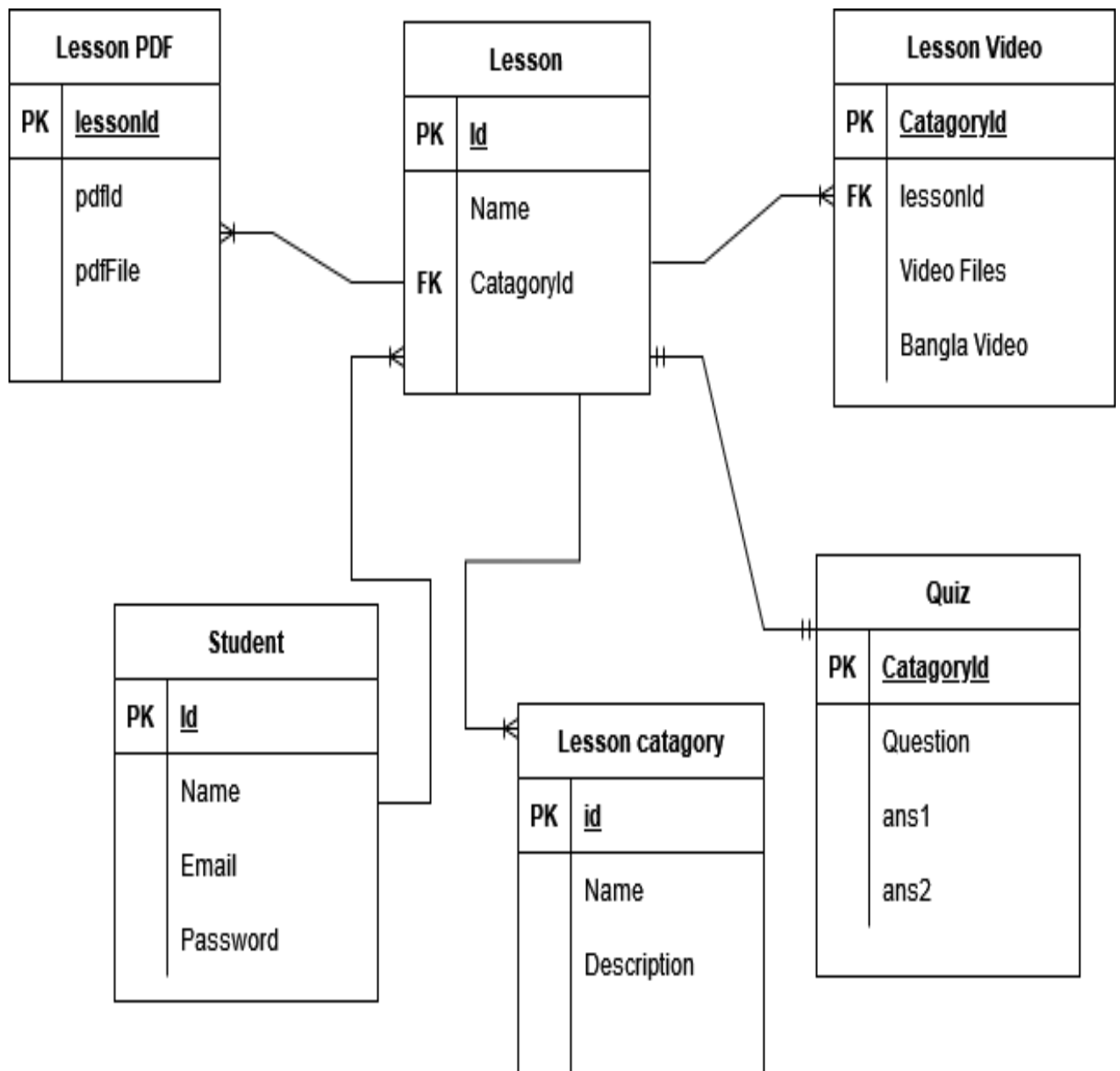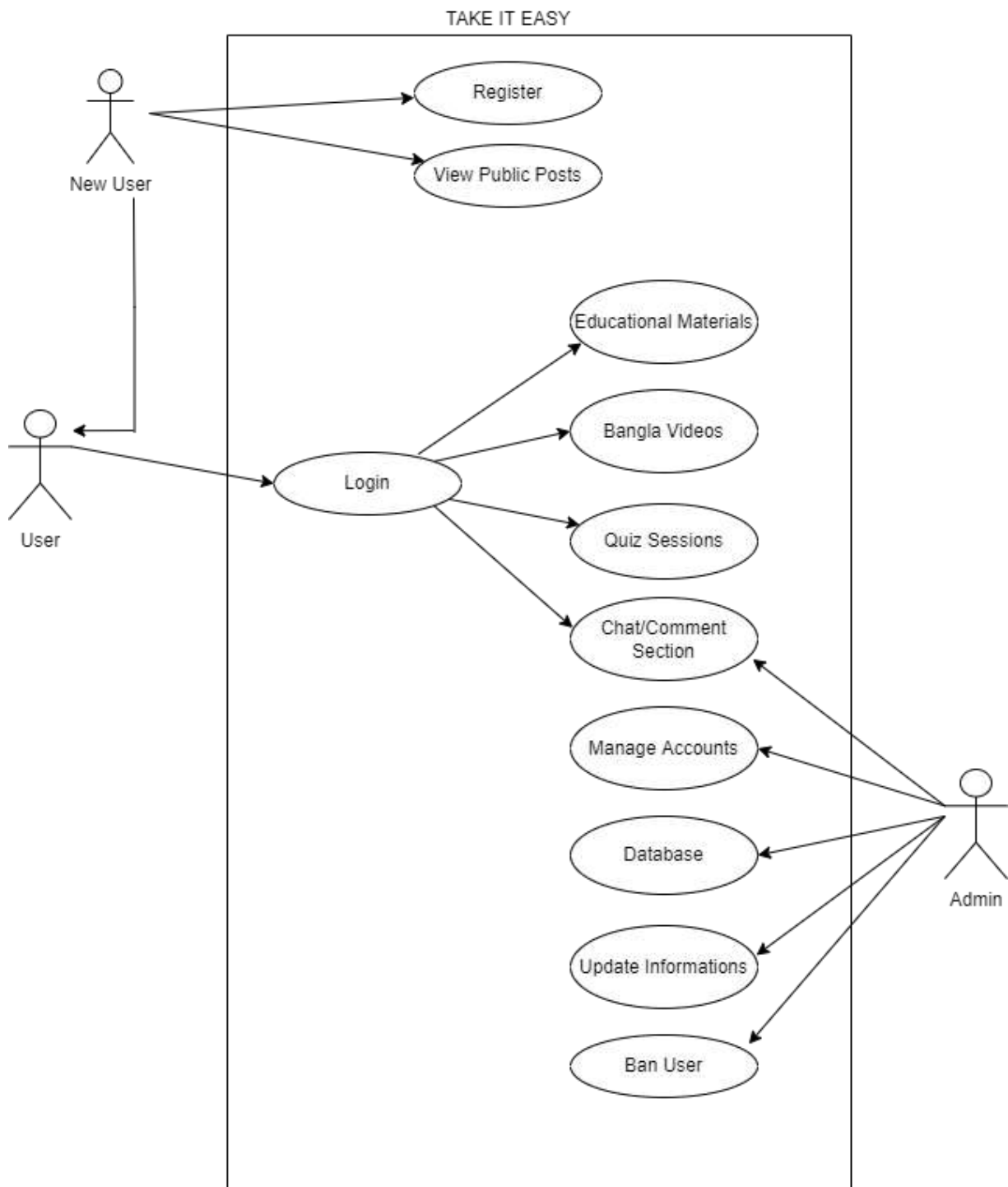
f. Use case narratives

Title:	Student Registration
Description:	User can register themselves by giving additional information.
Primary Actor:	New User
Preconditions:	Android Device, Internet Connection & email
Postconditions:	After the registration they can enter the site.
Main Success Scenario:	User can create an account and can see our other features.
Extensions:	If the user doesn't have internet connection, incorrect password.
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High

Title:	Educational Materials
Description:	Where student can learn different topics of Data structure and Algorithms etc.
Primary Actor:	User
Preconditions:	Login, need payment for paid courses.
Postconditions:	Can experience additional features
Main Success Scenario:	User can find all the CSE related topics in one section.
Extensions:	If the user not enroll, he/she will not be able to access this feature
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High

Title:	Quiz Section
Description:	There will be a quiz section for users.
Primary Actor:	User
Preconditions:	Login, need payment for paid courses
Postconditions:	Can experience additional features
Main Success Scenario:	User can evaluate themselves.
Extensions:	If the user not enroll, he/she will not be able to access this feature
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High

Title:	Lecture Videos
Description:	There will be a video section where topic wise Bangla/English lecture videos will be found.
Primary Actor:	User
Preconditions:	Login, need payment for paid courses
Postconditions:	Can experience additional features
Main Success Scenario:	User can find all the topic wise videos in one section.
Extensions:	If the user not enroll, he/she will not be able to access this feature
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High
Title:	Chat/Comment section
Description:	Ther will be a chat system where student can ask questions and instructors will reply accordingly

Primary Actor:	User
Preconditions:	Login, need payment for paid courses
Postconditions:	Can experience additional features
Main Success Scenario:	Instant solution
Extensions:	If the user not enroll, he/she will not be able to access this feature
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High

Title:	Manage Account
Description:	Admin panel will manage all the accounts of students and teachers.
Primary Actor:	Admin
Preconditions:	Admin account
Postconditions:	After the registration they can enter as admin.
Main Success Scenario:	Maintain and monitor all the activities.
Extensions:	None
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High

Title:	Database & Update Information
Description:	There will be a database where all the information will be stored and Admin can update database.
Primary Actor:	Admin
Preconditions:	Need an Admin Account
Postconditions:	After the registration they can enter as admin.
Main Success Scenario:	All the data will be secured
Extensions:	None
Frequency of Use:	Always when user need
Status:	Work in progress
Priority:	High

If a situation occurs that a student forgot his user password, there will be a window to reset it by confirming his identity. The application will send the user a verification code in his email id or phone number to confirm his identity and will let him reset the password.

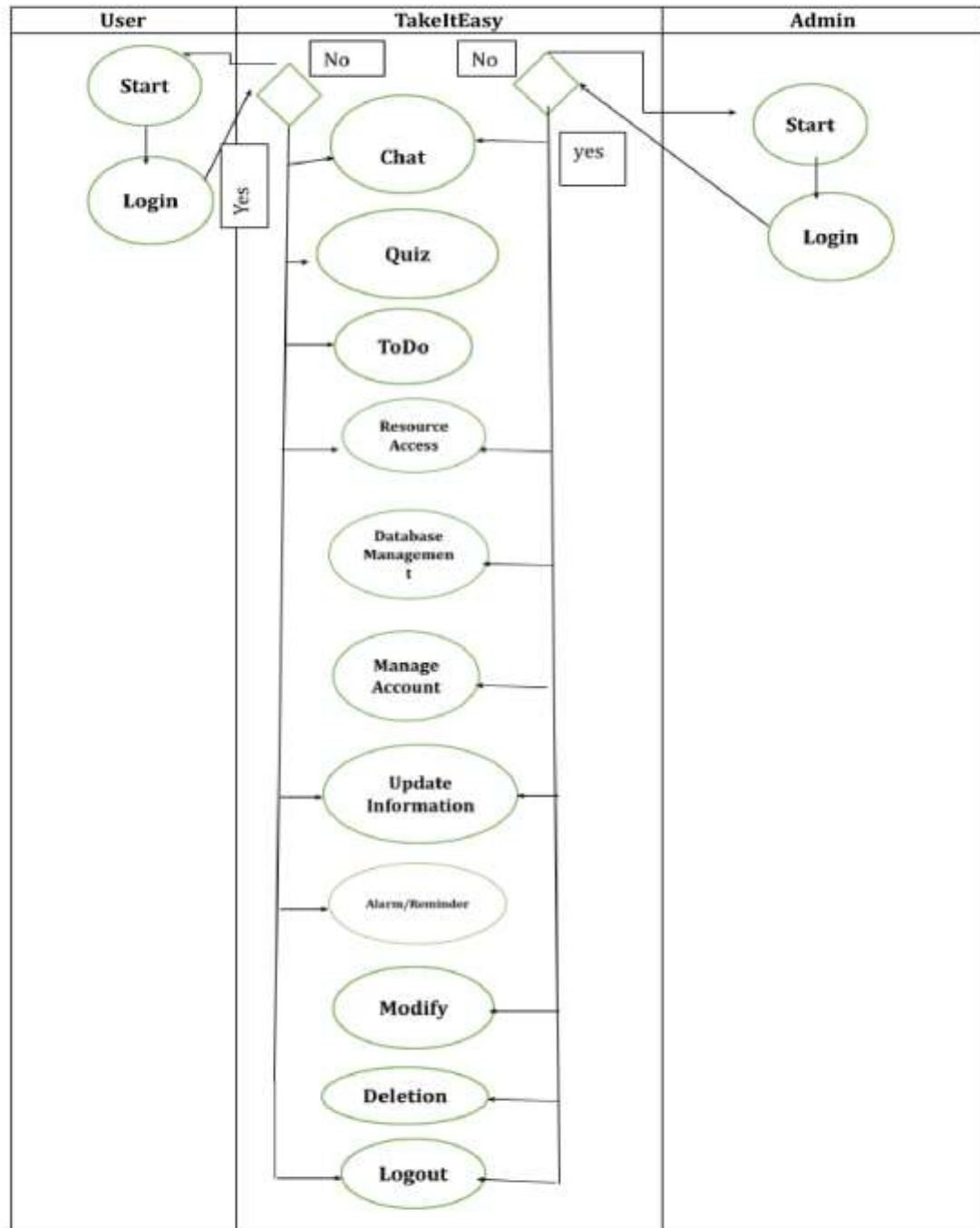If a student wants to evaluate themselves then there will be a quiz section for them.

In any case someone forgot to attend class or quiz on time they will be notify immediately.

If some student got difficulty in regular lecture videos they can watch our Bangla lecture video playlist.

h. State Diagram
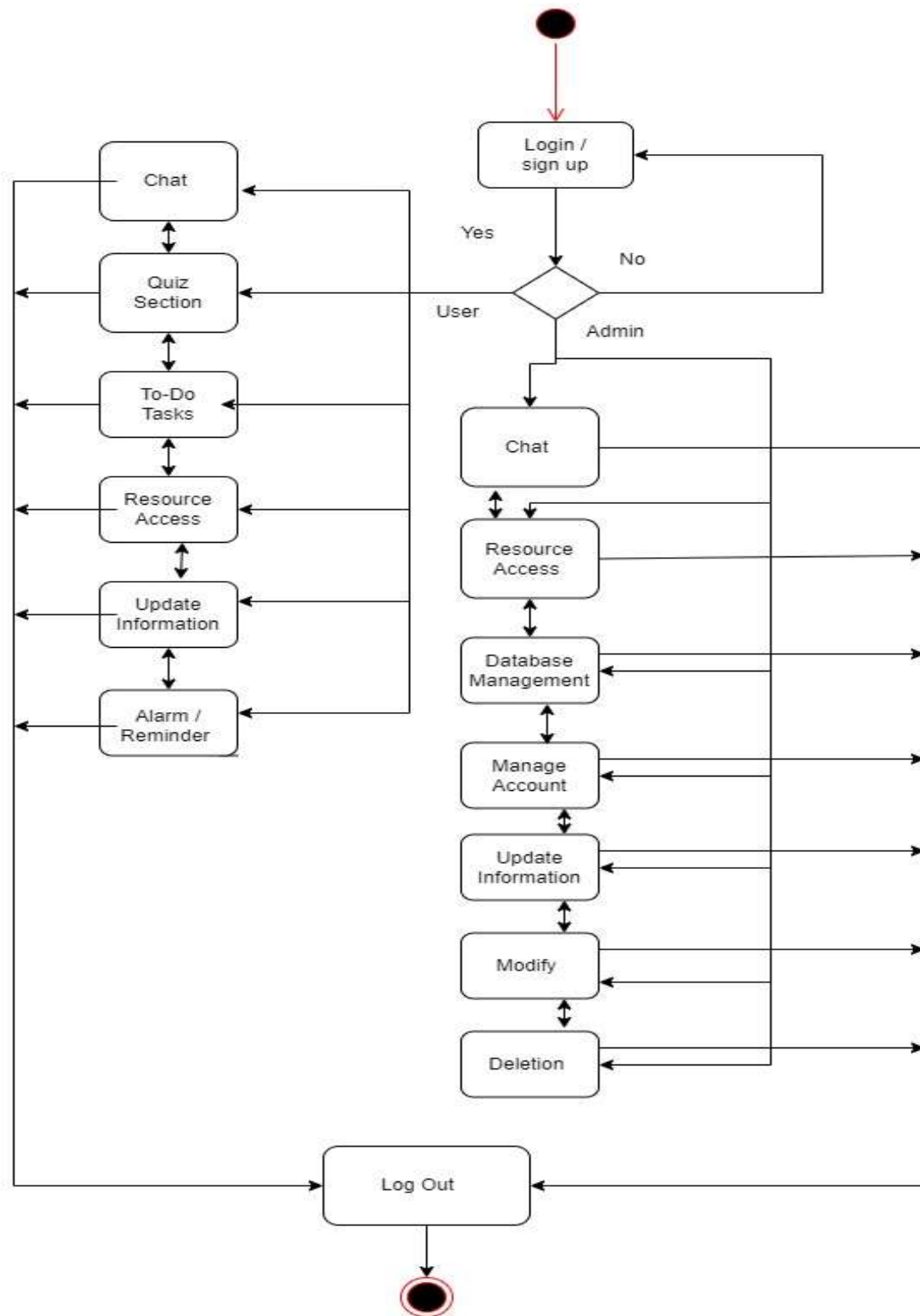
i. Swim Lane Diagram

Swim Lane Diagram

1. MainActivity
2. SignUp
3. ResetPassword
4. QuizSection
5. Task
6. ResultActivity
7. Dashboard
8. Ringing

k. CRC

Class: MainActivity	
Home page for user after opening the application	
Responsibility:	Collaborator:
Creates user interface after opening the app	Home page
Shows options of login and other features.	Login

Class: SignUp	
There will be a Sign up option for new Students.	
Responsibility:	Collaborator:
Takes user input for name, email, phone no, location, blood group, password.	
Saves information of students	
Creates new user account	

Class: ResetPassword	
Student can reset there password according to need	
Responsibility:	Collaborator:
Need some previous information to reset once password.	Sign up

| Class: QuizSection	
User interface for Quiz section	
Responsibility:	Collaborator:
Students can attend quiz online	Signup
There will be also chapter wise evaluation	Result

Class: Task	
User interface for task	
Responsibility:	Collaborator:
To do list	Dashboard

Class: ResultActivity	
Interface for student evaluation	
Responsibility:	Collaborator:
Where students can get there progress report and marks of the quizzes.	
There will be a ranking.	

Class: Dashboard	
Interface for Dashboard	
Responsibility:	Collaborator:
Where all information of a student will be found.	

Class: Ringing	
Notifications	
Responsibility:	Collaborator:
There will be notification Section where student will notify before class & quiz.	

l. Class Diagram

m. UI/UX Diagram
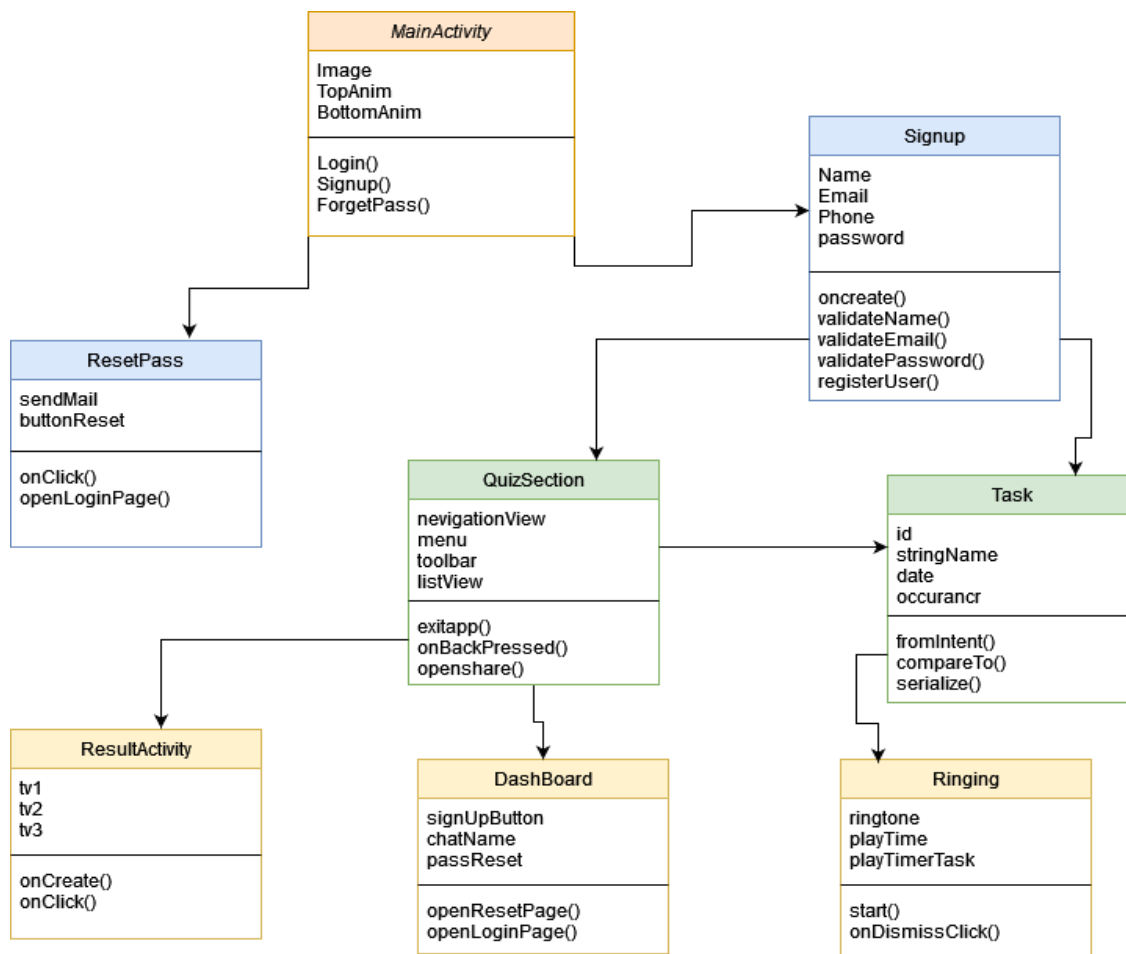
Welcoming Pages

Animated Welcome

Login Page

Register Page

After Login

➢ Quiz

➢ Courses

➢ Reminder

➢ Web Browser

➢ Comments

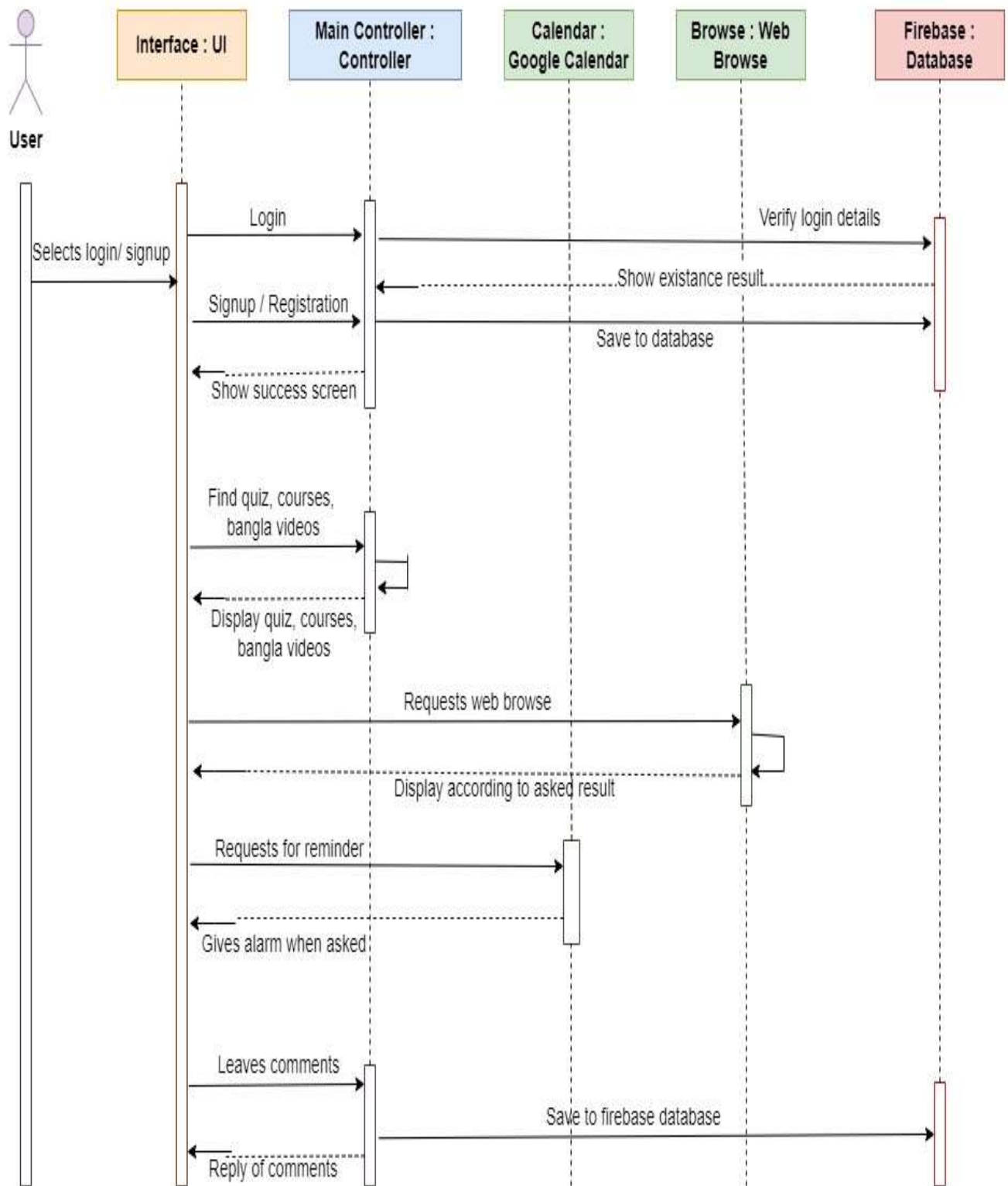➢ Bangla Videos

Courses Section
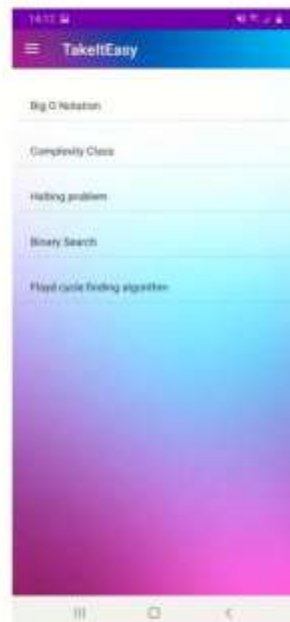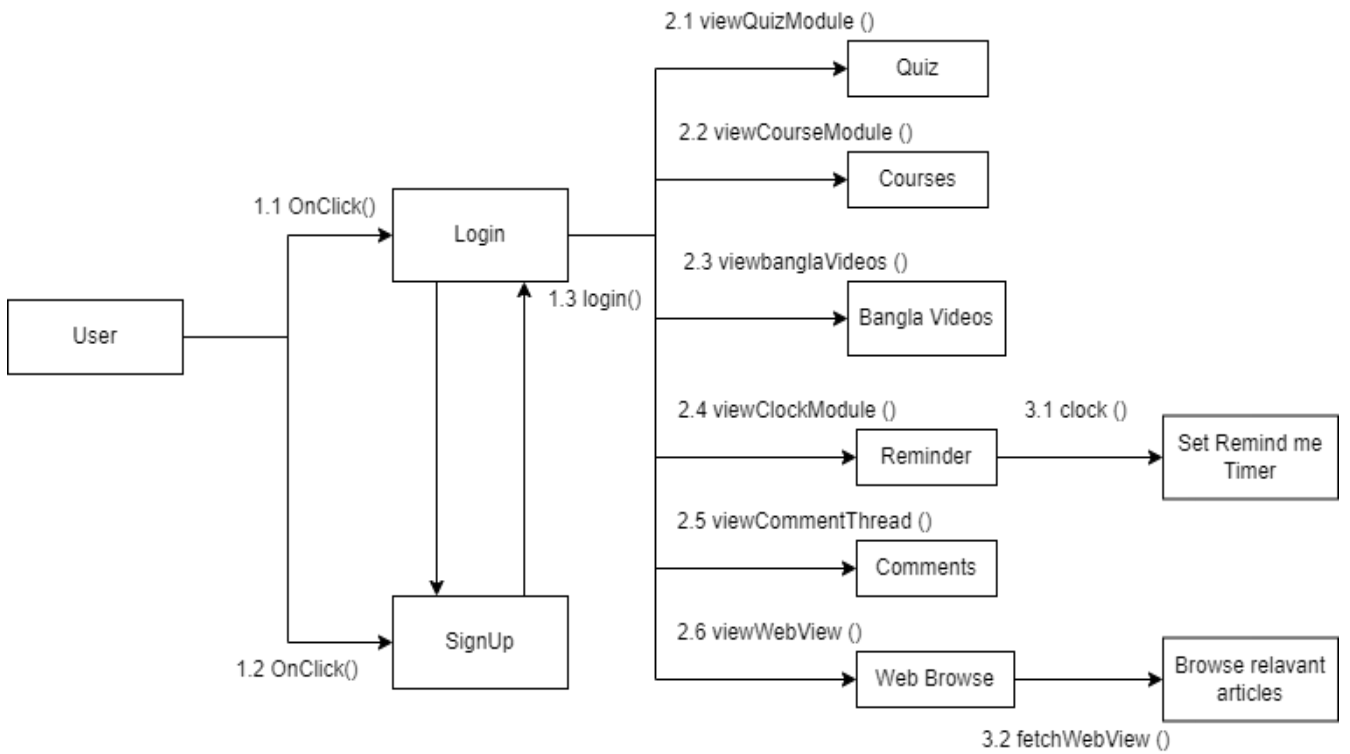

Reminder Section

Web Browser Section
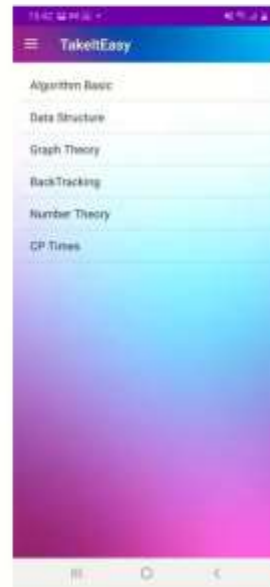
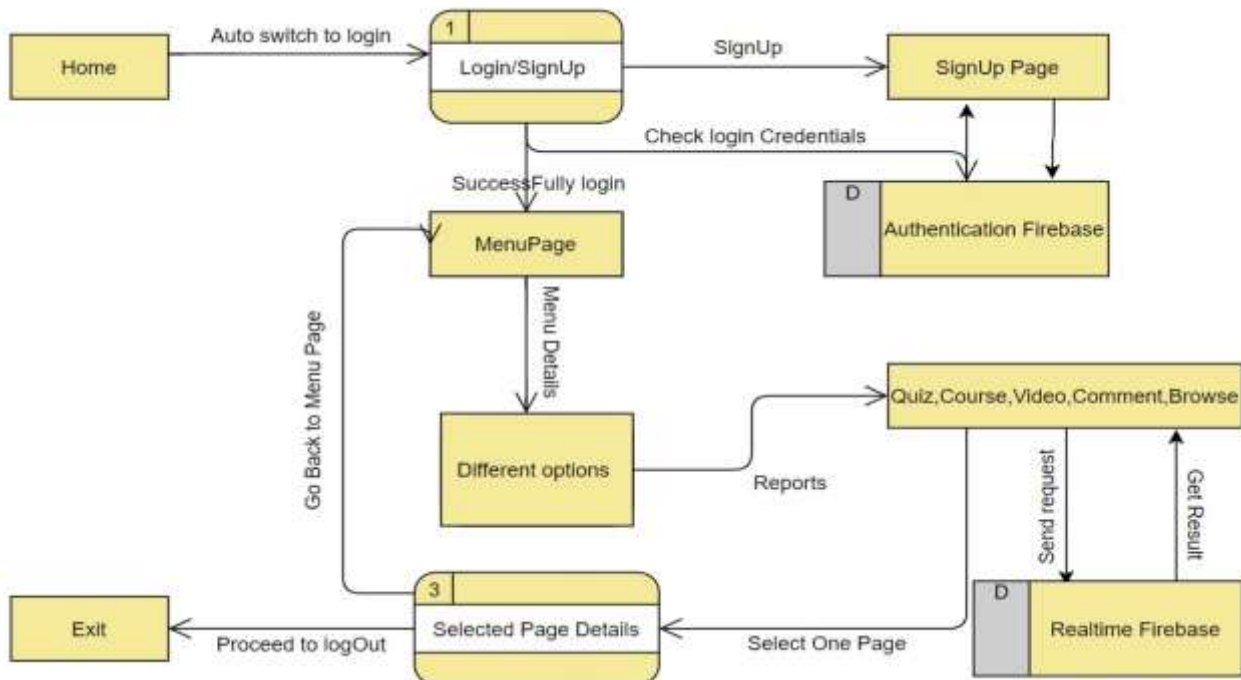# Bangla Video Section

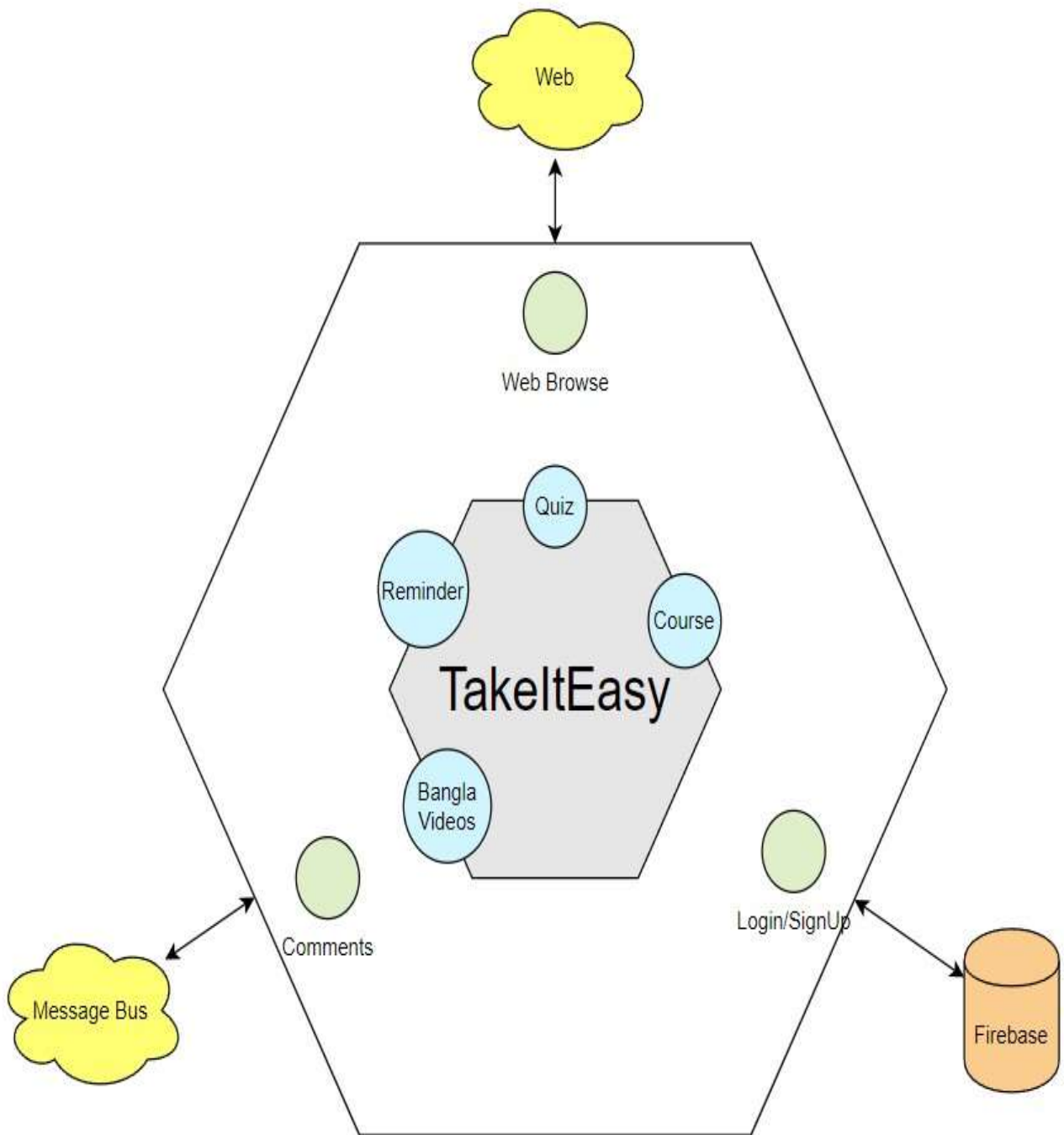# n. Sequence Diagram

o. Collaboration Diagram

p. Data Flow Diagram

q. System Architecture

6.4. Construction

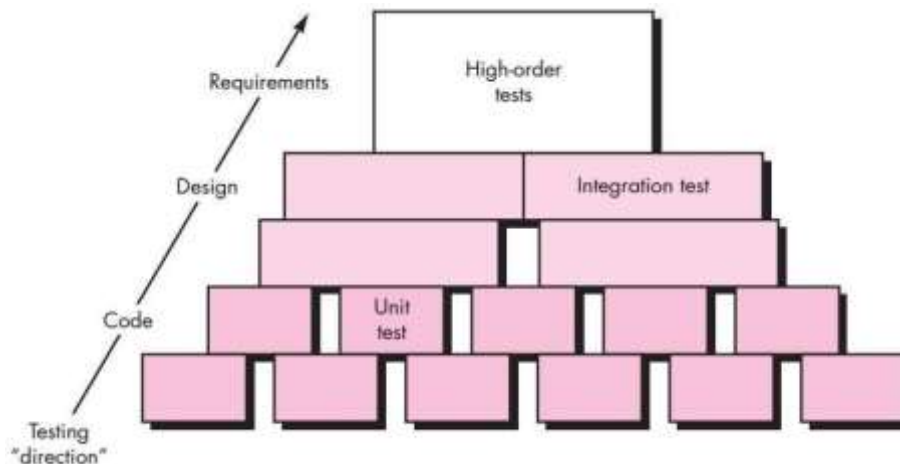a) <u>Development Environment</u>

     I.   Framework: Android Studio

    II.   Language: Java

   III.   Database: Firebase

b) <u>Testing Strategy</u>

- We begin by testing-in-the-small and move testing in the large
- For conventional Software
- The module (component) is our initial focus □ Integration of Modules follow

c) <u>Testing Techniques</u>

6.5. Deployment

a) Deployment

This application will be deployed in google play store in future. For right now we are providing drive link of the apk for installation of the app. Thus users can be benefited and also we will get customer review for future update.

b) AMC

Annual Maintenance Contract is all about the process to check the equipment's sold to the customers are well running and retaining the equipment keep running without any hazardous breakdowns happening. So we will keep track and record if "Take It Easy" is harming any physical device anyhow.

c) Support and Maintenance

   We Hope to continue supporting this application until December 2024. We will keep releasing updates until then and user feedbacks will be much appreciated for bug fixing.

6.6. Learning Experiences

 There is no doubt working on projects help students to better understanding of theoretical concepts. But working on projects with elements of real world contributes even more to the connection between theory and practice. The involvement of real client requirements helped us to understand more deeply the specific of the system. Working as a team on the project improved our soft skills. We also learned how to follow a strong schedule, how to maintain working model and procedures, how to share responsibilities, how to communicate with others.

All these issues are actual challenges of every real-world projects. Having encountered them in a project at academic environment gave us the opportunity to overcome obstacles with our lecturers in more structured and disciplined way, using a lot of useful practices, presented in the courses.

6.7. Future Plans

- Adding more courses
- Giving Scholarships
- Giving more job opportunities

6.8. Conclusion

 It was a great experience working on this project for the past 5/6 weeks. Thanks to our honorable course teachers for helping us with there valuable feedbacks. **Take It Easy** is an educational learning app which will help our youths to learn CSE related core topics. We would like to work on it in the future to make it more efficient and user friendly.
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Appendix

- Your age?

- Your Occupation?

- Which subject are you reading in?

- Do you think getting resource for data structure and algorithm is hard?

- What do you think an open discussion chat system will be better for you?

- What more do you want from us?
- Do you think this software will be an useful initiative for our society?
- How can we make our app better?