American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Spring 21_22

Section: I

Group No: 02

The Weather Station

Weather Forecasting and Health Care

A software Engineering project submitted
By

S/N	Student Name	Student ID	Contribution (%)	Individual Marks
17	Amit Podder	20-42273-1	25%	
20	Sudipto Roy	20-42479-1	25%	
21	Kazi Shifatur Rahman	20-42593-1	25%	
22	Anonnya Sarker	20-42600-1	25%	

The project will be Evaluated for the following Course Outcomes

Your Project will be Evaluated based on the following marking criteria		Total Marks
Requirements Analysis (functional, quality, and project requirements)	[5Marks]	
System Design (UI/UX design) & Test case	[5Marks]	
Project Management Planning	[5Marks]	
Submission, Completeness, Spelling, Grammar and Organization	[5Marks]	

Submission Date:17 April, 2022

Description of Student's Contribution in the Project work

Student Name: Amit Podder
Student ID: 20-42593-1
Contribution in Percentage (%): 25 %
Contribution in the Project:

- System Test Plan
- Contribution Description 2

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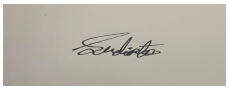
Signature of the Student

Student Name: Sudipto Roy
Student ID: 20-42479-1
Contribution in Percentage (%): 25%
Contribution in the Project:

- Project Scheduling
- Risk Analysis



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Signature of the Student

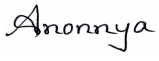
Student Name: Kazi Shifatur Rahman
Student ID: 20-42593-1
Contribution in Percentage (%): 25%
Contribution in the Project:

- System features, System quality attributes
- Project Requirements.

_____SHIFAT_____
Signature of the Student

Student Name: Anonnya Sarkar
Student ID: 20-42600-1
Contribution in Percentage (%): 25%
Contribution in the Project:

- System features, System design specification
- Ui/Ux design



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Signature of the Student

1. PRODUCT AND PROJECT DESCRIPTION

1.1 System Features

1. System Signup

Functional Requirements

a. To use this software users must register or signup with the system providing particular data.

Priority Level: High
Precondition:
Cross-reference:

2. System Sign in

Functional Requirements

a. The software shall allow users to login with their given username and password.

b. If the username and password is correct then the homepage of the user is provided or ask the user to insert the username and password again.

c. If the username and/or password has been inserted wrong for more than three times, the random verification code will be generated by the system to retry login.

Priority Level: High
Precondition: user have valid user id and password
Cross-reference:

3. Settings

Functional Requirements

a. User can change their personal details and password from settings and also they can changed the ui(user interface) from this portion of the system.

Priority Level: Medium
Precondition:
Cross-reference:

4. Location

Functional Requirements

a. The user can select his/her location through this software.
b. The software will show the weather report according to the location

Priority Level: High
Precondition:
Cross-reference:

5. Agriculture

Functional Requirements

a. The software shall allow users to get notified about the weather report so that farmers can be notified previously about which cultivation will be appropriate for that season.
b. The software will also provide alarm to the users by showing alarming light.

Priority Level: High
Precondition:
Cross-reference:

6. Health Care

Functional Requirements

a. The software shall help the users by providing weather information and its suitability to the user according to his health .
b. This system will notify to the users previously that what will be right for his health according to the weather.

Priority Level: High
Precondition: user have to submit his/her heath records.
Cross-reference:

1.2 System Quality Attributes

QA 1 – Availability: The system shall be available at least 95% percent on weekdays in the time of 5.00am to 11.00 pm.
Priority Level: High
Precondition: N/A
Cross-reference: QA-3

QA 2 –Integrity: Only author can be able to see the user's checklist and most priority questions.
Priority Level: High
Precondition: N/A
Cross-reference: QA-3

QA 3 – Performance: The system shall be available at least 95% percent on weekdays in the time of 5.00am to 11.00 pm.
Priority Level: High
Precondition: N/A
Cross-reference: QA-3
QA 4 – Efficiency: 20% percent of the processor capacity and ram available to the application shall be unused at the planned peak condition.

Priority Level: High
Precondition: N/A
Cross-reference: QA-3

QA 5 – Flexibility: Programmer who has at least five month experience this application shall be able to test and modify the system to take no more longer than two hours.
Priority Level: Medium
Precondition: N/A
Cross-reference: QA-3

QA 6 – Portability: The application can easily transfer from one environment to another environment. Example: windows, apple, Linux, parrot , ubuntu etc.
Priority Level: Medium
Precondition: N/A
Cross-reference: QA-3

QA 6 – Testability: The largest cyclamate complexity will not exceed 20
Priority Level: Medium
Precondition: N/A
Cross-reference: QA-3

QA 7 – Robustness: If the author fails before catch the users particular data the author shall be recover all the information made in the file and also being recover up to one minute.
Priority Level: Medium
Precondition: N/A
Cross-reference: QA-3

QA 8 – Maintainability: Maintenance programmer who has at least 6 month of working experience can solve any problem up to not more than 2hours.
Priority Level: Medium
Precondition: N/A
Cross-reference: QA-3

1.3 Project Requirements

1.Quality: Quality is one of six primary constraints of any project, along with scope, time, and money. Because any adjustment to the other three project constraints would almost always affect quality, it sits somewhat aside from the other three project requirements appearing inside the triangle. Changing quality expectations, on the other hand, will almost definitely have an influence on the project's timeline, scope, and cost.

2.Time: One of the most important stakeholder considerations, project time, is a vital measure of project success. Our major task is to estimate project time as accurately as possible, which requires a blend of research and experience.
With the help of market research, we estimated the time frame for our project.

Time – 3Months

3.Budget: A project's budget includes both fixed and variable costs, including materials, permits, labour, and the financial impact of team members working on the project.

By reviewing historical data and estimating the rate of cost for goods and labor we fixed a budget.

Budget – 1.5lakh BDT

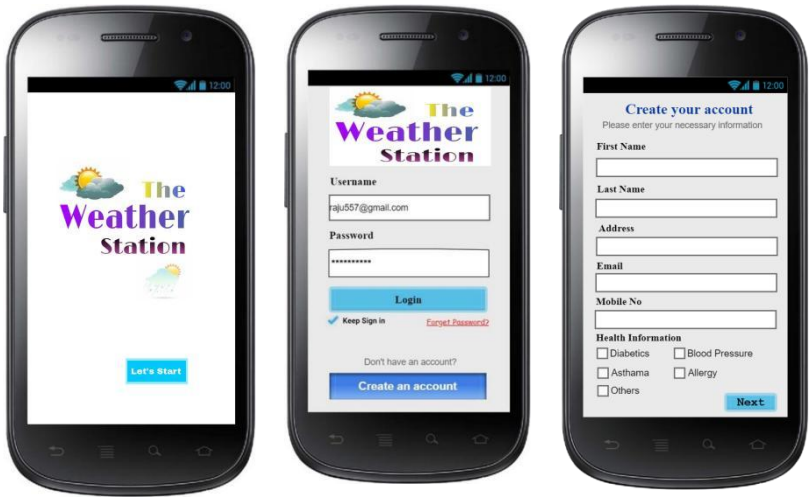
4.Teams: We are going to be working as four individual teams. This will make sure the project runs smoothly and effectively

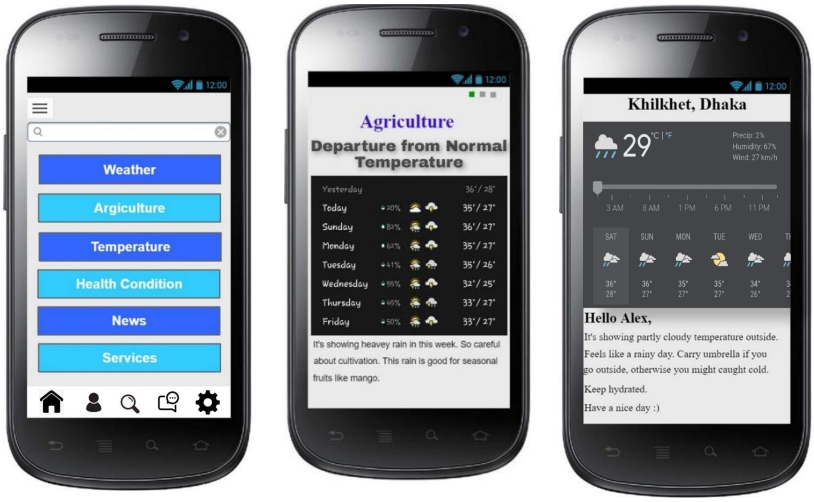
a) UI designer
b) Programmer
c) Software engineer
d) Re-Checker

1. **Starting Time**
2. **Delivery Time**
3. **Demo Project Presentation –** After 1 week
4. **Project UI design –** 1 week

2. SYSTEM DESIGN SPECIFICATION

2.1 UI/UX Design





3. SYSTEM TEST PLAN

*01: Test Case for **Create account/1***

Project Name: Weather Forecasting and Health Care	**Test Designed by:** Amit Podder
Test Case ID: Amit	**Test Designed date:**
Test Priority (Low, Medium, High): Medium	Test Executed by:
Module Name: Create Account Session	Test Execution date:
Test Title: Verify and make a new user account	
Description: Create an account to test the Android app	
The precondition (If any): A code must be sent to the user's mobile phone	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the app 2. Click Next 3. Click Create an Account 4. Fill up the Form 5. Click get code and fill up the code session 6. Click Sign Up	Username: Amit Password: 1234 Code: Ab12C5	A user's code, user id, and password are required	As expected,	Pass

Post Condition: The user first creates an account, which is then validated against the database and the user can successfully log in to the account. The information of the create account session is saved in the database.

*02: Test Case for **Help Service***

Project Name: Weather Forecasting and Health Care	**Test Designed by:** Amit Podder
Test Case ID: Shifat	**Test Designed date:**
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Help Service Session	Test Execution date:
Test Title: Check out the Help Service	
Description: Try out the Android app Help Service	
The precondition (If any): A log-in account is required for the user	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the app **2.** Click Profile **3.** Click Help	Username: Shifat Options: How can you use this app? How to know the weather forecast?	The user must have a login account	As expected,	Pass
Post Condition: The user first goes to their profile and then clicks on help. Then enter help, and you'll be able to see all of the different support services available in this app.				

*03: Test Case for **Profile***

Project Name: Weather Forecasting and Health Care	**Test Designed by:** Amit Podder
Test Case ID: Anonnya	**Test Designed date:**
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Profile Session	Test Execution date:
Test Title: Verify the Profile	
Description: Try out the Android app Profile	
The precondition (If any): An account is required for the user	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the app **2.** Click Log In **3.** Click on Profile **4.** See your details **5.** Edit your Profile	Username: Anonnya Password: 5678 New Profile Picture uploaded	User must have a login ID	As expected,	Pass
Post Condition: The user must first create an account and then change his or her profile information.				

4. PROJECT MANAGEMENT PLAN

4.1 Project Scheduling

01: Work Breakdown Structure (WBS) of Weather Forecasting & Healthcare System

Project Activities/Task	**Duration**	**Pre-requisite**
1.Preliminary Project/Thesis Plan	2 weeks	N/A
2. Requirements Specification	6 weeks	Thesis Plan
3. Analysis [Object model, User interface]	2 weeks	Requirements Specification
4. Source Code	4 weeks	Analysis [Object model, User interface]
5. Test Plan	3 weeks	Source Code
6. Final Product / Demo	3 weeks	Test Plan

Task	Weeks																			
Person	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A.Anonnya																				
B.Anonnya																				
C. Shifat																				
D. Shifat																				
E. Sudipto																				
F. Amit																				

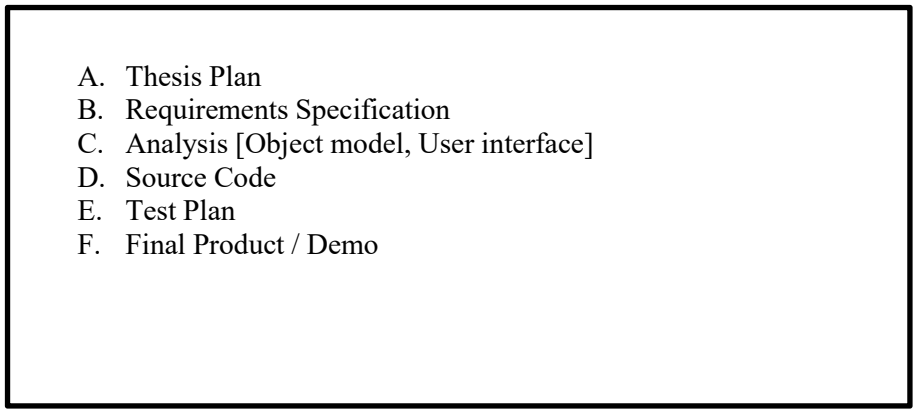


Figure 01: Activity Planning of Weather forecasting system with health care.

4.2 Risk Analysis

01: Risk Management of Weather Forecasting & Healthcare System

S/N	Risk Description	Probability	Impact	Priority	Mitigation Plan
1	Unrealistic time estimation	40%	Project will be delayed 2 months	High	Take multiple estimation
2	A team member decides to quit	10%	Progress will be delayed	Normal	1. Add another developer if possible 2. Open position
3	Delays in feedback or late approval from client-side	40%	Project will be delayed several weeks	High	1. Discovery and communication plan 2. Clearly say how delays will affect us
4	Created architecture is not scalable when developing a product	30%	project will be delayed indefinitely	High	1. Discuss with tech lead vision of the product, short-term and long-term 2. Review current architecture and how it should be changed 3. Add time before the start of development for creating the product architecture
5	After release users found bugs	35%	Product will be at of rejection	High	1. Smoke testing before release for 2 environments 2. High-load testing before release 3. Acceptance testing

6	Users do not use the core functionality	30%	Product will lose its value	Normal	1. Define users' needs 2. Test prototype with core functionality 3. Set up analytics to track what is being used and what's not
7	Bad feedback about the product	25%	Product will face loss	High	1. Testing before the release to fix critical bugs 2. A soft launch to find and fix bugs and also receive user feedback early