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Concordia University

SOEN 6841 - Software Project Management

Project Report

Group 7

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Project Overview

Project Name	Project Description	Start Date	End Date
LifeLine	Collecting data for patients with depression	Feb 09, 2023	Apr 13, 2023

Project Description

A web-application for healthcare that will act as an intermediary between doctors and patients. Patients can take a rapid test (Self-Assessment test) in the application and get the results of it, this result will be examined by the counselor and based on results the counselor will let patient book the appointment and assign a doctor or physician and if the diseases/problem is not serious he can refuse patient's request of the appointment. In either of the cases, he will be notified.

Project Objective

The project's goal is to provide patients with quick access to the medical system. Furthermore, having an intermediary system like this between the patient and the medical staff can help to reduce the excessive workload of a physician consulting both critical and non-critical patients, also it will help people with more serious and critical conditions to be treated faster by the doctors.

Team Members & Roles

Student ID	Student Name	Role(s)
40221302	Aditi Aditi	Project Manager
40206743	Kenish Rajeshbhai Halani	Business & Process Analyst, Software Tester
40204459	Shivam Mishra	Software Architect, Designer, Software Developer
40220250	Bhargav Ashvinbhai Patel	Software Architect, Designer, Software Developer
40190735	Soham Mukherjee	Software Architect, Designer, Software Developer, Software Tester

40201555	Aditya Joshi	Software Architect, Designer, Software Developer
40224578	Anagha Harinath	Software Developer
40190738	Divya Divya	Software Developer, Software Tester
40227757	Madhav Sai Kumar	Software Developer, Software Tester
40220457	Gursimarjit Singh Saini	Software Tester
40197757	Pragya Tomar	Software Tester

Project Approach & Technologies

We use Agile Project Management with Scrum methodology for our project. Our total project work is divided into short cycles known as “sprints”. Tasks for each sprint are taken from the product backlog for each sprint iteration. We use the following development tools to develop the System.

Utility	Tools & Technologies
Product Management	JIRA
Programming Language	Java
Framework	Spring Boot
Web Technology	HTML5, CSS3, JavaScript
Database	SQL Server for MySQL
Version Control	Git
IDE	Eclipse
Operating System	Windows
Application Server	IIS
Testing	JMeter

Project Approach

Agile & Scrum Methodology

Agile is a project management methodology for software development that places a strong emphasis on teamwork, adaptability, and client satisfaction. The Agile methodology is based on the Agile Manifesto, a set of principles for software development that prioritize delivering working software, collaboration, and responding to change. Requirements and solutions in an Agile software development project are developed collaboratively by self-organizing, cross-functional teams. The development process is iterative and incremental, with regular cycles of planning, development, and review.

We can use Agile as follows in developing the project:

1. Prioritize and refine the project backlog: the team works with stakeholders to prioritize the project requirements and refine them into a backlog of specific and actionable items.
2. Plan and estimate: the team breaks down the project backlog into smaller chunks and estimates the time and resources needed to complete each chunk.
3. Develop and deliver: the team delivers small, usable portions of the software (called "iterations" or "sprints") in regular intervals, usually every two to four weeks.
4. Review and retrospect: the team regularly reviews the work completed and holds retrospectives to identify opportunities for improvement and make changes for the next iteration.
5. Collaborate and adapt: Agile encourages close collaboration between the development team, stakeholders, and customers, and values adaptive planning and flexible responses to change.

The Scrum framework can be used to manage the development process and ensure a smooth flow of work from the initial idea to the final implementation. The project will be divided into sprints, with each sprint focusing on delivering a specific set of features and functionality.

The team can prioritize the requirements and user stories based on their importance and urgency and can facilitate daily stand-up meetings, sprint planning and review meetings, and sprint retrospectives to ensure that the project is progressing as planned and that any issues are addressed in a timely manner.

The Agile and Scrum methodology will help to ensure that the project is delivered on time, within budget, and with high-quality results.

Technologies Used

Version Control: Git

Version control allows us to maintain track of your work and readily investigate the changes we've made, whether it's data, code scripts, notes, or anything else. If we save multiple files with the same name while adding versions in the name by ourselves, then Version control is considerably smoother and easier to

apply using version control software such as Git. Using an online site to host our files, such as Github, ensures that we have an online backup of your work, which is advantageous to both us and the client.

Version Control: Eclipse / IntelliJ

IDE can provide significant time savings, reduce context switching and make coding much easier for you. The use of IDE is necessary for

1. Debugging: The debugger is a tool for analyzing programs on a line-by-line basis, monitoring and altering variables, and watching output as it is generated. This is just not possible with IDEs.
2. Unit Testing: It's important to do unit testing while doing the development process, this reduces the technical debt by a lot.
3. Code Refactoring: Code refactoring makes it easier to perform global code changes, saving time compared to making changes manually.
4. Source Code Integration: Version Control Systems are also part of IDEs, so no need to push, pull, commit from another cmd tool.
5. Development and Release Tool Integration: Gradle,

A few features that help with coding include spell-checking, track changes and database integrations with the database explorer. For our project, we'll be using IntelliJ's eclipse as it's most useful when dealing with Java based applications.

Operating System: Windows

As the majority of the market is shared by Window devices

[<https://gs.statcounter.com/os-market-share/desktop/worldwide>] and as information provided by client, our main focus will be getting the website to work on Windows systems; other supported versions might be rolled out in the future versions.

Product Management: JIRA

The application of specialized knowledge, skills, tools, and processes to produce something of value to others is referred to as project management. Projects include the creation of software to improve a company process, the construction of a building, the relief effort following a natural disaster, and the expansion of sales into a new geographic market.[<https://www.pmi.org/about/learn-about-pmi/what-is-project-management>]

Jira's adaptability and innovative tools have propelled it to the top of project management software rankings throughout the world. Jira is well-known for its Scrum support; it supports Scrum's scaled agile framework, which includes sprint planning, standups, sprints, retrospectives, and scrum teams. To develop an even more customized process, we might select between fixed-length sprints and future sprints, turning on and off agile elements as needed.[<https://producthq.org/agile/product-management/jira-for-project-management/>]

There's only one problem, the free version of Jira supports at max 10 people. We acknowledge that, and will try to work around that, as other free alternatives are not as effective as Jira, and not many people from our team have experience with those.

Application Server: IIS

Since the application that is aimed to be built is web-based, Internet Information Services is the best option to use. Request response architecture will be followed by using HTTP protocol as the medium.

Testing:

Apache JMeter

JMeter is an open source Java designed application commonly used for testing functional test cases. JMeter allows efficient coverage of end to end test cases for regression testing of the web application. It also allows use case specific functional tests. JMeter generates an HTML report that covers all the performance metrics of the test case.

Programming Language: Java

The project would be developed in Java which is a high-level and object-oriented programming language. It adheres to the WORA principle of "write once, run everywhere" and is highly scalable. Java is the most secure, open-source and free to use programming language which helps to reduce overall development cost and promotes code reuse.

Framework: Maven / Spring Boot

The Java backend framework will be used to implement the project's backend. The build tools aid in project automation by employing a script to save the source code into machine code. An open-source project management tool called Maven helps to automate the download of Jar files and other dependencies. By providing a thorough description of the mistake, it maintains repositories and enhances error reporting. An open-source platform for constructing websites called Spring Boot boosts productivity and cuts down on development time. It has community backing and offers flexibility and scalability, making it the finest technology to be adopted.

Web Technology: HTML, CSS, JavaScript

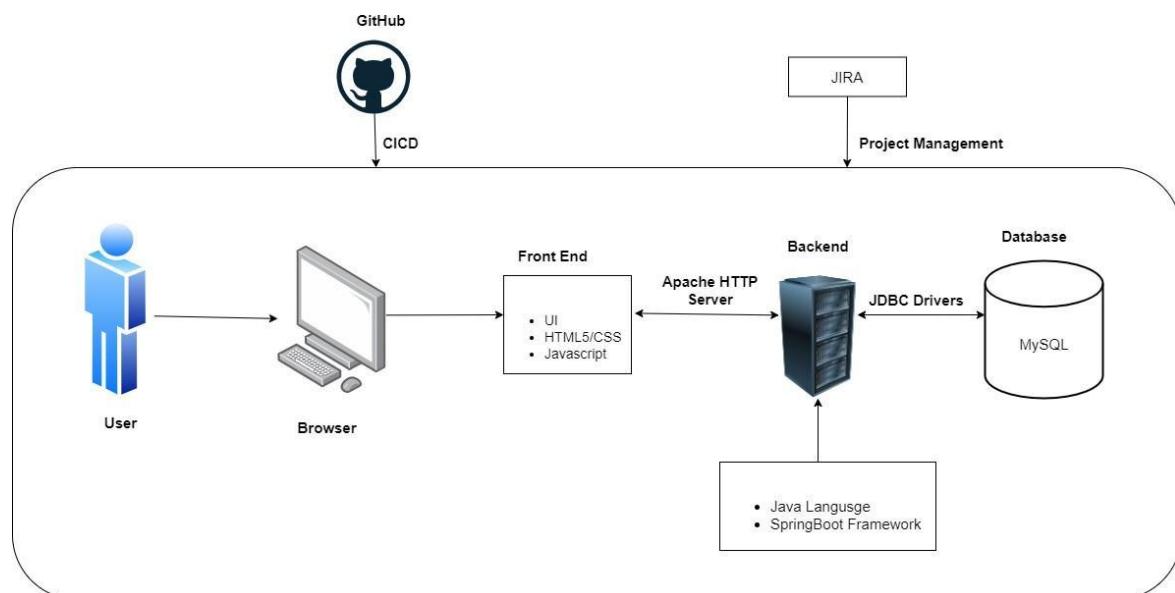
Basically, these are the tools and techniques that are used in creation and maintenance of websites. HTML, CSS and JavaScript are the front end languages used to build the part of websites with which users can interact directly. HTML is used to define the text documentation whereas CSS helps in applying styles to the web pages. JavaScript is used to enhance the website functionality by making it more interactive. The front-end of the project is built using these core web technologies.

Database: SQL Server

Data management is the important part of the project and SQL Server is used in this project. Microsoft SQL Server is relational database software developed by microsoft. It is a collection of tables which consist of rows and columns. It is platform independent and supports case insensitive language named SQL. It maintains production, development and reduces database problems. It also helps in the cost reduction of the software making it the most reliable choice for the projects.

Architecture

For the frontend part of this project, HTML5, CSS3 and javascript will be used and Java programming language will be used for the backend development of this project. In order to implement agile methodology throughout the project JIRA will be used as the project management tool. MySQL will be used to store the key information of patients, doctors, counselors and managers. For hosting the source code of the project GitHub will be used.



User Stories Backlog

Sr. no	Category	User story
1	Patient	I want to register myself in the system with the details like Name, address, contacts, Symptoms, past medical history etc.
2	Patient	I want to login myself in the system with credentials I registered with so that I can access my account

3	Patient	After logging in with valid creds, I want to take a self assessment test and see the results
4	Patient	After my assessment I want to check the status of the appointment and accept/reject the appointment
5	Patient	After successful login I want to see my previous consultations and notes of counselor/doctor on the same
6	Patient	After a meeting with doctor I want to see and download the prescriptions(if any)
7	Patient	I want to be able to add/update my health records on the system
8	Counsellor	I want to be able to register to the website with the username and password.
9	Counsellor	I want to log in to the website with valid credentials and access the system
10	Counsellor	Need to check the self-assessment results of patient to make decisions on their request
11	Counsellor	I want an option to book an appointment for the patient and assign doctors to a patient based on the self-assessment results
12	Counsellor	I want an option to view the appointment details for the doctors and want to see the list of patients to make decisions on their requests
13	Counsellor	I want an option to remove the patient details based on patient's severity
14	Counsellor	I want to see the work board that includes a list of appointments scheduled with me.

15	Doctor	As a doctor, I want a registration page so that I can add my details for registering in the system.
16	Doctor	I want a login page, so that I can access application after first time registration.
17	Doctor	I want to get a list of patients so that I can see what patients are assigned to me.
18	Doctor	Need to see the results of self-assessments so that I can diagnose/check a patient.
19	Doctor	I want to see the upcoming appointments with patients so that I can schedule accordingly.
20	Doctor	I want to have a patient appointment change option, so that I can modify an appointment.
21	Manager	I want an option to register and login to the application, so that I have access to application
22	Manager	I want to have an option to validate the doctor, so that I can accept or reject the doctor
23	Manager	I want to have an option to validate the counselor, so that I can accept or reject the counselor
24	Manager	I want to have an option to view the list of patients, so that I can add or remove the patients

25	Manager	I want to have an option to retrieve the patient's report, so that I can analyze the patient report trend over a period of time
26	Manager	I want to retrieve the report of all doctors availability to understand if we need to update the number of doctors required.
27	Manager	I want to retrieve the report of all counselors availability to understand if we need to update the number of counselors required.

User Acceptance Test Cases

Here are the screenshots for User Acceptance Tests for the system. Here is the link for the excel sheet to view the [test cases](#).

Sprint 1

USER ACCEPTANCE TEST CASES SPRINT 1							
Team Name	TEAM 7 (LIFELINE HEALTH SERVICE)					3/5/2023	
Testing Date							
Name of Tester(s):	1. KENISH RAJESHBHAI HALANI 2.MADHAVA SAI KUMAR KARNATI 3. SIMAR						
JAT ID #	User Story	Preconditions / Data	Steps To Execute	Expected Results	Pass/Fail	Retest Date	Defect/Comments
1	As a Patient I want to register myself in the system with the details like Name, address, contacts, symptoms, past medical history etc.	Name,address, contacts, symptoms, past medical history	1. Go on the website 2. Click on register button 3. Enter the required details. 4. Enter password 5. Click on register to get registered.	After filling in the details the patient should be able to register on the website.	Pass	3/7/2023	
2	As a Patient I want to login myself in the system with credentials I registered with so that I can access my account	Login Credentials of the user	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the patient should not be able to login in the website	Pass	3/7/2023	
3	As a Patient I want to login myself in the system with credentials I registered with so that I can access my account	Login Credentials of the user	1. Go on the website 2. Click on login button 3. Enter the correct credentials to login	After filling in the correct details patient should be able to login	Pass	3/7/2023	
4	As a patient, I want a login page, so that I can access my application after first time registration	Login Credentials of the user	1. Go on the website 2. Click on login button 3. Enter the correct credentials to login	After login in with the correct credentials the patient should be able to land on patient's home page	Pass	3/7/2023	
6	As a Counsellor I want to log in to the website with valid credentials and access the system	Login credentials of the counsellor	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the counsellor should not be able to login in the website	Pass	3/7/2023	
5	As a Counsellor I want to be able to register to the website with the username and password	User name and password	1. Go on the website 2. Click on register button 3. Enter the details i.e. username and password	After entering the details the counsellor should get registered on the portal	Pass	3/7/2023	
7	As a Counsellor I want to log in to the website with valid credentials and access the system	Login credentials of the counsellor	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After filling in the correct details counsellor should be able to login	Pass	3/7/2023	

8	As a Counsellor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After logging in the portal the counsellor should be landed on the home page	3/7/2023		
9	As a doctor, I want a registration page so that I can add my details for registering in the system.	Details of doctor	1. Go on the website 2. Click on register button 3. Enter the details	After entering the details the doctor should get registered on the portal	3/7/2023		
10	As a Doctor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the doctor should not be able to login in the website	3/7/2023		
11	As a Doctor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After filling in the details the doctor should be able to login into the system	3/7/2023		
12	As a doctor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After logging in the portal the doctor should be landed on the home page	3/7/2023		
13	As a patient, self assessment for patient should be accessible	Patient landing page	1. Go to patient landing page 2. After logging in 3. Click on self assessment	Self assessment page opens	3/7/2023		
14	As a patient, self assessment page for patient should be submitted	Patient self-assessment page	1. Filling self assessment page 2. After logging in 3. Click on submit button	Submission is successful	3/7/2023		
15	As a manager, I want a registration page so that I can add my details for registering in the system.	Details of Manager	1. Go on the website 2. Click on register button 3. Enter the details	After entering the details the manager should get registered on the portal	3/7/2023		
16	As a manager, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the manager should not be able to login in the website	3/7/2023		
17	As a manager, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After filling in the details the manager should be able to login into the system	3/7/2023		
18	As a manager, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After logging in the portal the manager should be landed on the home page	3/7/2023		
19	As a manager, I want to be able to see the available doctors, counsellors and patients	Manager landing page	1. Go on the website 2. After logging in 3. Click on view doctors/patients/counsellors	Doctors/Patient/Counsellor list page visible	3/7/2023		
20	As a counsellor, doctor rejection page	Counsellor landing page	1. Go to the website 2. After logging in 3. Click on view doctor list page	Doctor list page	3/7/2023		
21	As a doctor/counsellor, I want to get patient report	Doctor/counsellor landing page	1. Go to the website 2. After logging in 3. Click on patient report generation page	Patient report generation page	3/7/2023		
22	As a doctor, I want to see upcoming appointments with patient	Doctor landing page	1. Go to the website 2. After logging in 3. Click on patient list page	Patient list page	3/7/2023		
23	As a manager, I want to patient removal page	Manager landing page	1. Go to the website 2. After logging in 3. Click on patient remove page	Patient remove page	3/7/2023		
24	As a counsellor, I want to make appointment bookings for patients and doctors	Counsellor landing page	1. Go to the website 2. After logging in 3. Click on booking page	Booking page	3/7/2023		

Sprint 2

USER ACCEPTANCE TEST CASES SPRINT 2								
Team Name	TEAM 7 (LIFELINE HEALTH SERVICE)							
Testing Date	3/21/2023							
Name of Tester(s): QA Team								
UAT ID #	User Story	Preconditions / Data	Steps To Execute	Expected Results	Pass	Fail	Retest Date	Defect/Comments
1	As a patient, self assessment page for patient should be submitted	Patient self-assessment page	1. Filling self assessment page 2. After logging in 3. Click on submit button	Submission is successful	3/21/2023			
2	As a counsellor, I want to make appointment bookings for patients and doctors	Counsellor landing page	1. Go to the website 2. After logging in 3. Click on booking page	Booking page	3/21/2023			
3	As a counsellor/doctor, I want to be able to see the available patients	counsellor/doctor landing page	1. Go on the website 2. After logging in 3. Click on view patients	Patient list page visible	3/21/2023			
4	As an admin, I want to patient removal page	Admin landing page	1. Go to the website 2. After logging in 3. Click on patient remove page	Patient remove page	3/21/2023			
5	As a user, I want to be able to confirm password before registering	Information of the user, First Name, Last Name, Mobile, Email, etc	1. Go on the website 2. Click on register button 3. Enter the required details 4. Enter password 5. Enter Password Again 6. Click on register to get registered.	Second password field should be able to check for successful password match with the first password field	3/21/2023			
6	As a user, I want to check for correct values on login and registration page	Information of the user, First Name, Last Name, Mobile, Email, etc	1. Go on the website 2. Click on register button 3. Enter the required details 4. Enter password 5. Enter Password Again 6. Click on register to get registered.	Numeric field should have numeric values only, string field should have string values only, and so on.	3/21/2023			

7	As a patient, I want a landing page	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	Landing page for patients should be there		3/21/2023	
8	As a doctor, I want a landing page	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	Landing page for doctors should be there		3/21/2023	
9	As a counsellor, I want a landing page	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	Landing page for counsellor should be there		3/21/2023	
10	As a patient, I have to see my appointments	Patient Landing Page	1. Go to the website 2. Click on login 3. Enter the credentials 4. From landing page, click to see appointments	Appointments list for the patient should be visible		3/21/2023	
11	As a patient, I want whole website to be linked to a single interface point	Login Page	1. Go to the website 2. Click on login 3. Enter the credentials 4. From landing page, there should be various options to glide through the website	Fully usable patient API		3/21/2023	
12	As a manager, I want whole website to be linked to a single interface point	Login Page	1. Go to the website 2. Click on login 3. Enter the credentials 4. From landing page, there should be various options to glide through the website	Fully usable manager API		3/21/2023	
13	As a patient, self assessment page for patient should be submitted	Patient self-assessment page	1. Filling self assessment page 2. After logging in 3. Click on submit button	Submission is successful		3/21/2023	
14	As an admin, I want centre point for connection of various other pages	Admin landing page	1. Go to the website 2. After logging in 3. Click on relevant page	Access to page like patient removal is only possible after this		3/21/2023	

Sprint 3

USER ACCEPTANCE TEST CASES SPRINT 3								
Team Name	TEAM 7 (LIFELINE HEALTH SERVICE)							
Testing Date	4/4/2023							
Name of Tester(s):	QA Team							
UAT ID #	User Story	Preconditions / Data	Steps To Execute	Expected Results	Pass	Fail	Retest Date	Defect/Comments
1	As a patient, self assessment page for patient should be submitted	Patient self-assessment page	1. Filling self assessment page 2. After logging in 3. Click on submit button	Submission is successful		4/4/2023		
2	As a counsellor, I want to make appointment bookings for patients and doctors	Counsellor landing page	1. Go to the website 2. After logging in 3. Click on booking page	Booking page		4/4/2023		
3	As a counsellor/doctor, I want to be able to see the available patients	Counsellor/doctor landing page	1. Go on the website 2. After logging in 3. Click on view patients	Patient list page visible		4/4/2023		
4	As an admin, I want to patient removal page	Admin landing page	1. Go to the website 2. After logging in 3. Click on patient remove page	Patient remove page		4/4/2023		
5	As a user, I want to be able to confirm password before registering	Information of the user, First Name, Last Name, Mobile, Email, etc	1. Go on the website 2. Click on register button 3. Enter the required details. 4. Enter password 5. Enter Password Again 6. Click on register to get registered.	Second password field should be able to check for successful password match with the first password field		4/4/2023		
6	As a user, I want to check for correct values on login and registration page	Information of the user, First Name, Last Name, Mobile, Email, etc	1. Go on the website 2. Click on register button 3. Enter the required details. 4. Enter password 5. Enter Password Again 6. Click on register to get registered.	Numeric field should have numeric values only, string field should have string values only, and so on.		4/4/2023		
b	registration page	Name, Mobile, Email, etc	get registered.	and so on.		4/4/2023		
7	As a patient, I want a landing page	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	Landing page for patients should be there		4/4/2023		
8	As a doctor, I want a landing page	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	Landing page for doctors should be there		4/4/2023		
9	As a counsellor, I want a landing page	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	Landing page for counsellor should be there		4/4/2023		
10	As a patient, I have to see my appointments	Patient Landing Page	1. Go to the website 2. Click on login 3. Enter the credentials 4. From landing page, click to see appointments	Appointments list for the patient should be visible		4/4/2023		
11	As a patient, I want whole website to be linked to a single interface point	Login Page	1. Go to the website 2. Click on login 3. Enter the credentials 4. From landing page, there should be various options to glide through the website	Fully usable patient API		4/4/2023		
12	As a manager, I want whole website to be linked to a single interface point	Login Page	1. Go to the website 2. Click on login 3. Enter the credentials 4. From landing page, there should be various options to glide through the website	Fully usable manager API		4/4/2023		
13	As a patient, self assessment page for patient should be submitted	Patient self-assessment page	1. Filling self assessment page 2. After logging in 3. Click on submit button	Submission is successful		4/4/2023		
14	As an admin, I want centre point for connection of various other pages	Admin landing page	1. Go to the website 2. After logging in 3. Click on relevant page	Access to page like patient removal is only possible after this		4/4/2023		

15	As a Patient I want to register myself in the system with the details like Name, address, contacts, Symptoms, past medical history etc.	Name,address, contacts, symptoms, past medical history	1. Go on the website 2. Click on register button 3. Enter the required details. 4. Enter password 5. Click on register to get registered.	After filling in the details the patient should be able to register on the website.	4/4/2023	
16	As a Patient I want to login myself in the system with credentials I registered with so that I can access my account	Login Credentials of the user	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the patient should not be able to login in the website	4/4/2023	
17	As a Patient I want to login myself in the system with credentials I registered with so that I can access my account	Login Credentials of the user	1. Go on the website 2. Click on login button 3. Enter the correct credentials to login	After filling in the correct details patient should be able to login	4/4/2023	
18	As a patient, I want a login page, so that I can access my application after first time registration	Login Credentials of the user	1. Go on the website 2. Click on login button 3. Enter the correct credentials to login	After login in with the correct credentials the patient should be able to land on patient's home page	4/4/2023	
19	As a Counsellor I want to log in to the website with valid credentials and access the system	Login credentials of the counsellor	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the counsellor should not be able to login in the website	4/4/2023	
20	As a Counsellor I want to be able to register to the website with the username and password	User name and password	1. Go on the website 2. Click on register button 3. Enter the details i.e. username and password	After entering the details the counsellor should get registered on the portal	4/4/2023	
21	As a Counsellor I want to log in to the website with valid credentials and access the system	Login credentials of the counsellor	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After filling in the correct details counsellor should be able to login	4/4/2023	
22	As a Counsellor, I want a login page, so that I can access application after first time registration	Login Credentials of the counsellor	button 3. Enter the correct credentials	counsellor should be able to login	4/4/2023	
22	As a Counsellor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After login in the portal the counsellor should be landed on the home page	4/4/2023	
23	As a doctor, I want a registration page so that I can add my details for registering in the system.	Details of doctor	1. Go on the website 2. Click on register button 3. Enter the details	After entering the details the doctor should get registered on the portal	4/4/2023	
24	As a Doctor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the wrong credentials	After filling in the details the doctor should not be able to login in the website	4/4/2023	
25	As a Doctor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After filling in the details the doctor should be able to login into the system	4/4/2023	
26	As a Doctor, I want a login page, so that I can access application after first time registration	Login Credentials	1. Go on the website 2. Click on login button 3. Enter the correct credentials	After login in the portal the doctor should be landed on the home page	4/4/2023	
27	As an admin, I want to remove patient	Home page for admin	1. Go on the website 2. Login to Website. 3. Home Page 4. Patient Removal Page	Patient removed from the list	4/4/2023	
28	As a user, I want notifications for easy access	App installed on device	1. App installed on device 2. Account registered	Notifications from the application	4/4/2023	
29	As an admin, I should have the option to add a patient	Home page for admin	1. Go on the website 2. Login to Website. 3. Home Page 4. Patient addition	Patient should be added to list	4/4/2023	
30	As an admin, I should get a list of all patients and doctors	Home page for admin	1. Go on the website 2. Login to Website. 3. Home Page 4. List patients, doctors	Patient/Doctor list should be visible	4/4/2023	

Project Scope

Following Functionalities will be developed for the web-based application:

1. Registration and Login Modules for Patients, Doctors, and Counselors. - In this module all the users (i.e., Patients, Doctors and Counselors) can register themselves in the system by providing their name, address, email, DOB and phone number. After filling in these details the users will get a notification about the successful registration and once registered, they can log in to the system by entering their credentials.
2. Self-Assessment Module for Patient. - This module will help the patient take the self-assessment test by simply giving in their details or answering some questions.
3. Reports Module for Patient (to check and keep records of all the reports generated). - Once the self-assessment test is completed a report containing the results will be displayed by this module. Patients can have access to all the reports that were generated before and can easily be retrieved as per the requirements.
4. Notification/Alert Modules. - This module will send the notification and alerts of the events and activities to the concerned user.

5. Appointment Management Module. - After examining the results counselor can set up an appointment for the patient through this module. Rescheduling of appointments, cancellation and checking the status of it can be done through this module.
6. Management modules for Patient, Doctor, and Counsellor. - This module will keep the data of all the patients, doctor and counselor that have accessed the system and can view, edit, and update their details.
7. Dashboard for all the users. - A dashboard for all the users so that they can have a glimpse of all the activities going on.
8. Access Rights and role management module. - This module will manage all the roles and grant access to the user based on the role.

Assumptions

1. All users are assumed to be familiar with GUI terminals.
2. All users have an overview of the user training.
3. As the deadline of the project is tight all the team members might work on multiple roles and put in extra efforts to deliver user stories on time.
4. No integration of third-party apps.

Constraints

1. Time Constraint- The project has a tight deadline; the project is planned into 3 sprints of 2 weeks each.
2. Quality Constraint- The final application might not meet /satisfy all the user requirements because of tight budget and limited time.
3. Resources Constraint- Availability of all the resources and technologies is very important for the successful implementation of the project.

Project Out of Scope

1. Two Factor Authentication
2. Mobile Application for this project
3. Verification through One time password (OTP)
4. All the functionalities that are not mentioned in project scope are by default considered out of scope.

Story Points of the Project (Sprint 1, 2 & 3)

We have completed all the story points that were expected throughout the project, a total of 120 points were completed out of 120 expected story points, all the story points are listed in the table below for the reference.

Sprint 1:

Sr No	Sub Task	Epic	User Story ID	Story Points	Description
1	Remote repository creation	Repository setup		2	<ul style="list-style-type: none"> - Create folder structure of the repository - Create the remote repository in GitHub - Provide access to the team members
2	Database Design	Database setup		2	<ul style="list-style-type: none"> - Draw ER diagrams and design diagrams to finalise the tables - Finalise on the attributes to be present in each table - Identify the primary keys and the foreign key constraints between the tables
3	Database creation				<ul style="list-style-type: none"> - Create the tables in a MySQL database with respective attributes and dependencies. - Export the .db file and update in the remote repo
4	Build the Registration form for patient	Registration and Login component	1	2	<ul style="list-style-type: none"> - Design the UI for registration component with forms for patients to register - Write APIs to post the data from payload to the database into the respective table.
5	Build the login form for patient				<ul style="list-style-type: none"> - Design the UI for login component with forms for patients to login - Write APIs to post the data from payload and validate against the login data in the database in the respective table.
6	Build the Registration		8	1	<ul style="list-style-type: none"> - Design the UI for registration component with forms for counselors to

	form for counselor				register - Write APIs to post the data from payload to the database into the respective table.
7	Build the login form for counselors	9	1		- Design the UI for login component with forms for counselors to login - Write APIs to post the data from payload and validate against the login data in the database in the respective table.
8	Build the Registration form for doctors	15	1		- Design the UI for registration component with forms for doctors to register - Write APIs to post the data from payload to the database into the respective table.
9	Build the login form for doctors	16	1		- Design the UI for login component with forms for doctors to login - Write APIs to post the data from payload and validate against the login data in the database in the respective table.
10	Build the Registration and Login form for Managers	21	2		- Design the UI for registration and login component with forms for managers to register and login - Write APIs to post the data from payload and validate against the login data in the database in the respective table.
11	Setup the JMeter dashboard	Testing	4		- Setup JMeter dashboard by referring the documentation
12	Validate the registration and login component		8		- Write test cases to validate registration form against the valid and invalid data entries - Run test scripts and check the reports in the dashboard for each scenario

Sprint 2:

Sr No	Sub Task	Epic	User Story ID	Story Points	Description
1	Complete the backlog from Sprint - 1			2	<ul style="list-style-type: none"> - Check and complete all the tasks and issues, if any, from the previous Sprint.
2	Build Portal for Patient	Patient Component	4, 5, 6 and 7.	2	<ul style="list-style-type: none"> - Build a portal (UI) for the Patient module (including booking an appointment/ accepting or cancelling the appointment, check consultations/ notes from Doctor and Counsellor, Download Prescriptions, add/update health records) -Integrate the UI with the DB. -Deciding on the Acceptance Criteria. - Writing the Test Cases and executing the testing accordingly. -Build REST API To Fetch Data from DB and Unit Test With Postman.
3	Build Portal for Doctor	Doctor Component	17, 18, 19 and 20.	2	<ul style="list-style-type: none"> -Build a Portal (UI) for the Doctor Module (Check Assigned Patients, Check results of self-assessments to diagnose the patients, schedule/modify appointments) -Integrate the UI with the DB. -Deciding on the Acceptance Criteria. - Writing the Test Cases and executing the testing accordingly. -Build REST API To Fetch Data from DB and Unit Test With Postman.

4	Build Portal for Counsellor	Counsellor Component	10, 11, 12, 13 and 14.	3	<ul style="list-style-type: none"> -Build a Portal (UI) for the Counsellor Module (Check the self-assessment results for patients, Book/View appointment of Patients, Assign Doctors to Patients, Remove Patient Details). -Integrate the UI with the DB. -Deciding on the Acceptance Criteria. - Writing the Test Cases and Executing the testing accordingly. -Build REST API To Fetch Data from DB and Unit Test With Postman.
5	Add Notification functionality	Patient Component	4	1	<ul style="list-style-type: none"> -Build a functionality for notifying the Patient.
6	Self assessment Test	Self assessment Component	3	2	<ul style="list-style-type: none"> -Provide a link for self assessment on the patient landing page. - Design UI for the self assessment - Store responses of the assessment in the database - Fetch results of the assessment from database to the counselor view
7	Patient view component	Doctor and Counsellor Component	17	2	<ul style="list-style-type: none"> -The UI component with list of patients with suitable hyperlinks for the counselor and doctor

Sprint 3:

Sr	Sub Task	Epic	User	Story	Description
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No			Story ID	Points	
1	Sprint 2 backlog completion	Previous Sprint Backlog			
2	Report Design	Report Functionality	25	4	- For every type of report, generate a schematic design taking into account the parameters to be displayed in the report.
3	Data Collection / Cleaning				- Query required data as per selected report type and period. - Convert the gathered data into the format required for report generation.
4	Report Generation				- Run a reporting engine with the formatted data.
5	Report Display Page				- Develop a page that displays the generated report and shows a button to download the displayed report.
6	Report Download				- Develop a functionality to download the generated report on the user's device.
7	Landing Page				- A page that the manager would be redirected to after successful logic. - This page would show a list of Doctors, Counselors and Patients.
8	Accept / Reject Doctors	Portal for Manager	22	2	- There would be an option to Accept or Reject doctors. - When the manager clicks the accept or reject button, then corresponding action would be initiated in the backend and on completion the result would be shown on the screen.
9	Accept / Reject Counselors				- There would be an option to Accept or Reject counselors. - When the manager clicks the accept or reject button, then corresponding action would be initiated in the backend and on completion the result would be shown on the screen.

10	Accept / Reject Patients		24	1	<ul style="list-style-type: none"> - There would be an option to add or remove patients. - When the manager clicks the add or remove button, then corresponding action would be initiated in the backend and on completion the result would be shown on the screen.
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Risk & Disclaimer

We identified the following risks with the delivery of this project:

Sr. No	Risk Item	Risk Category	Risk Management Technique
1	Finishing all story points in time	Estimation risk	<p>Mitigation</p> <ol style="list-style-type: none"> 1. Divided the team into 2 parts and worked in parallel to increase the speed and efficiency. 2. Planned and had regular meetings to help task between teams.
2	Integration of code within team	Integration risk	<p>Mitigation</p> <ol style="list-style-type: none"> 1. Planned a meeting with people from both sub- team's developer to discuss and merge the code.
3	Integration with external systems	Estimation risk	<p>Mitigation</p> <ol style="list-style-type: none"> 1. Identify the integration points early in the project. 2. Test the integration points frequently to identify and resolve issues early. 3. Document the integration process and dependencies clearly.

			Mitigation
4	Insufficient Testing	Quality Risk	<p>Mitigation</p> <ol style="list-style-type: none"> 1. Develop comprehensive test cases and plans. 2. Conduct regular testing throughout the sprint. 3. Use automated testing tools where possible.
5	Security Vulnerabilities	Security risk	<p>Mitigation</p> <ol style="list-style-type: none"> 1. Conduct regular security audits and penetration testing. 2. Follow secure coding practices apply security patches promptly. 3. Train the development team on best security practices.
6	Unexpected changes in project scope or requirements	Scope risk	<p>Mitigation</p> <ol style="list-style-type: none"> 1. Establish a change management process for all stakeholders. 2. Ensure regular communications and agreements on changes. 3. Reassess project plans and resources to accommodate changes. 4. Prioritize changes based on impact and feasibility.
7	Improper communication with the team members	Communication risk	<p>Avoidance</p> <ol style="list-style-type: none"> 1. Set a coding standard for the dev team. 2. After scrum meetings, extra session time for peer review of developed codes.
8	Inadequate documentations	Documentation Risk	<p>Avoidance</p> <ol style="list-style-type: none"> 1. Set documentation standards for the team 2. Review and update documentation regularly 3. Schedule dedicated time for documentation tasks during the sprint.

9	Development issues (Any technical roadblock faced by dev team while developing the project)	Technology risk	Mitigation 1. Planned regular scrum meetings to discuss.
10	Dependency on other team members	Dependency risk	Mitigation 1. Prioritized dependencies, which task should be done first, to avoid stalling. 2. Frequent communication with the other team members about the task status. 3. Ensured the dependent tasks are completed on time.
11	Some of the tasks need more time than estimated	Estimation risk	Mitigation 1. Discussed the updates on development in regular meetings and coordinated with the Team leads to help other members wherever required.

Measurement Data & Success Indicators

1. Goal Attainment: The team was able to deliver story points of the estimated for this Sprint. Functionality pertaining to the following stories were delivered:
 - a. Patient Portal
 - b. Counselor Portal
 - c. Doctor Portal
 - d. Self-Assessment Test Component
 - e. Manager Portal
 - f. Notification Component
 - g. Reports Component

Goal	To complete the Sprints' deliverable on time and within budget and delivered
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Question	How well did we complete the milestones or deliverable on time and within budget?
Indicator	Burndown Charts.
Metrics	Goal attainment, measured by the Story Points completed in the Sprint.

2. Quality: We found a few defects in the previous sprint and moved them to this sprint and all the three defects have been fixed by the development team. The bugs and defects found in this sprint had been tracked and solved by the team.

Goal	To ensure software quality meets established standards.
Question	How many defects or bugs were found in testing or production?
Indicator	JIRA tickets for bug tracking are in progress.
Metrics	Defect density, measured as the number of defects or bugs per unit of software code or functionality

3. Communication and Collaboration: The Team worked on introducing new features constantly to enhance the Patient, Doctor, Counselor and Self-Assessment components in the best way possible.

Goal	To improve project team communication and collaboration.
Question	How well are the team members communicating and collaborating with each other.
Indicator	The Team has tried to have standup meeting and review meetings to communicate and collaborate with each other.
Metrics	Communication and Collaboration percentage, measured as percentage of effective communication and collaboration practices.

4. Technical Debt & Maintainability: The Development team made sure that there is no technical debt and they followed coding principles. They also made sure that the code is easy to understand and can be easily maintained.

Goal	To minimize technical debt and ensure code maintainability
Question	How much technical debt is there in the project?

Indicator	Team tried to get static code analysis reports like sonarqube.
Metrics	Technical debt ratio measured as the percentage of issues found in code reviews and static code analysis

5. Customer/Stakeholder Satisfaction:

- a. Meeting Requirements: Stakeholders would be satisfied if the software meets the requirements that were defined for it. This includes accurate and up-to-date information, easy navigation, uniformity in the format of pages, and controls that are self-explanatory.
- b. Usability Testing Score: The Usability testing score that was provided by the Testing team is a good indicator of stakeholder satisfaction. If the score is high, then stakeholders can be assured that the application is easy to use and meets their needs.
- c. Aesthetics: The visual appearance of the application can also contribute to stakeholder satisfaction. If the colors, content, icons, and overall design are aesthetically pleasing, then stakeholders are likely to be satisfied with the software.
- d. Ease of Learning: Stakeholders would also be satisfied if the application is easy to learn. This includes having clear and concise instructions, intuitive navigation, and an overall user-friendly design.
- e. Accessibility: Finally, stakeholders would be satisfied if the application is accessible to all users, including those with disabilities. This includes ensuring that the application is compatible with assistive technologies and that it meets accessibility standards.

Goal	To ensure customer satisfaction by meeting their needs and expectations.
Question	How satisfied are the customers and the stakeholders with the delivered functionality?
Indicator	Customer Feedback survey.
Metrics	Customer satisfaction score measured by the ratings and feedback provided by the customers on the delivered functionality

6. Security:

- a. Ensure Security Measures: The team implemented security measures to protect the data of the patient.
- b. Verification Mail: After the registration of doctor and counselor the manager get the email to either accept them or refuse them which adds a security that no unauthorized person is added and has access to the data of the patient.

Goal	To ensure the software is security and protect the user data.
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Question	How secure is the application and user data?
Indicator	Security score is 80 as we are only focusing on the major things and not all the modules are covered as time and resources required for security updates is quite less.
Metrics	Security score, measured as a percentage of identified vulnerabilities and their security level.

7. Effort: The amount of work expended for conflicting commitments (part-time jobs and other subject assignments) reduced the team throughput to 85%. GQIM model is deployed to mitigate the risk and improve effort.

Goal	To restore the team throughput to 100%
Question	Is the team effort increasing?
Indicator	The Sprint was shorter as compared to the previous one, but the Team still managed to have a Team velocity/throughput of 85%.
Metrics	Team Velocity at the end of the sprint.

8. Cost Effectiveness: The cost expenditure of all the features implemented in this Sprint are at par with the budget estimated for Sprint. Expenditures on resources for 90% commitments were visualized and the rest of the amount was spent on miscellaneous expenses and the Final spends for the sprint was -\$4,293.

Goal	To ensure the project or feature is cost effective and spend \$4293 on Sprint 3.
Question	What is the cost of the Project/Sprint or feature compared to the expected return on investment?
Indicator	The Team is currently at par with the budget for this Sprint.
Metrics	Cost effectiveness, measured as the cost of the project or feature as compared to the expected return on investment.

Comparison

The Comparison between Measurement Data on Success Indicators between Sprint 1, 2 & 3 is as follows

-

Success Indicator	Sprint 1	Sprint 2	Sprint 3
Progress / Goal Attainment	The Team was able to deliver 41 Story Points out of 41 estimated Story points.	The Team was able to deliver 49 Story Points out of 58 estimated story points, moving the remaining 9 Story points to the next Sprint.	The Team was able to deliver 21 Story Points out of 21 estimated and there was no backlog that is needed to move to the next sprint
Defects Density	The Team found 5 defects during the Sprint and resolved 3 of them whereas the other 2 were moved to next Sprint and being tracked on the JIRA board.	The Team found 5 defects during the Sprint and resolved 2 of them whereas the other 3 were moved to next Sprint and being tracked on the JIRA board.	The Team found 5 defects during the sprint and resolved all the defects (defects from the previous sprint as well) and were tracked on JIRA
Efforts	The Team's throughput was affected due to conflicting commitments (Midterms) and resulted in a value of 75%	The duration of the Sprint 2 was shorter as compared to Sprint 1 but the Team still managed to produce a throughput of 85% even though it had other commitments (Part-time jobs and other assignments)	The duration of the Sprint 3 was same as compared to Sprint 2, but the Team still managed to produce a throughput of % 90 even though it had other commitments (Parttime jobs and other assignments)
Cost Effectiveness	The Team spent \$4,420 out of the \$4,830 estimated budget for the Sprint including the 75% expenditures on the resources and other miscellaneous costs	The Team spent \$4,480 out of the \$4,890 estimated budget for the Sprint including the 85% expenditures on the resources and additional \$800 on API outage and Database resources.	The team spent \$4,293 out of the \$4,770 estimated budget for the sprint including the 80% expenditures on the resources. And the rest were spent on miscellaneous expenses.

Analysis of Result

Based on the above comparison data, we can see that the team's progress or goal attainment has increased from Sprint 1 to Sprint 2. In Sprint 1, the team was able to deliver 41 Story Points out of 41 estimated Story points, indicating that they were able to complete all the work that Success Indicator Sprint 1 Sprint 2 Sprint 3 Progress / Goal Attainment The Team was able to deliver 41 Story Points out of 41 estimated Story points. The Team was able to deliver 49 Story Points out of 58 estimated story points, moving the remaining 9 Story points to the next Sprint. The Team was able to deliver 21 Story Points out of 21 estimated and there was no backlog that is needed to move to the next sprint Defects Density The Team found 5 defects during the Sprint and resolved 3 of them whereas the other 2 were moved to next Sprint and being tracked on the JIRA board. The Team found 5 defects during the Sprint and resolved 2 of them whereas the other 3 were moved to next Sprint and being tracked on the JIRA board. The Team found 5 defects during the sprint and resolved all the defects (defects from the previous sprint as well) and were

tracked on JIRA Efforts The Team's throughput was affected due to conflicting commitments (Midterms) and resulted in a value of 75%. The duration of the Sprint 2 was shorter as compared to Sprint 1 but the Team still managed to produce a throughput of 85% even though it had other commitments (Part-time jobs and other assignments) The duration of the Sprint 3 was same as compared to Sprint 2, but the Team still managed to produce a throughput of % 90 even though it had other commitments (Part Time jobs and other assignments) Cost Effectiveness The Team spent \$4,420 out of the \$4,830 estimated budget for the Sprint including the 75% expenditures on the resources and other miscellaneous costs. The Team spent \$4,480 out of the \$4,890 estimated budget for the Sprint including the 85% expenditures on the resources and additional \$800 on API outage and Database resources. The team spent \$4,293 out of the \$4,770 estimated budget for the sprint including the 80% expenditures on the resources. And the rest were spent on miscellaneous expenses. they had planned for that sprint. In Sprint 2, the team was able to deliver 49 Story Points out of 58 estimated story points. Although they were not able to complete all the work that they had planned for this sprint, they were able to deliver more than what they delivered in Sprint 1. Additionally, they have carried over the remaining 9 story points to the next sprint, which can be considered as progress towards achieving their overall goal. In sprint 3 the team was able to complete all the 21 Story Points out of 21 estimated story points as compared to sprint 2 where the team was not able to complete all of the stories.

In terms of Defect Density, we can see that the values do not show a significant change or rather declined a little between Sprint 1 and Sprint 2. In Sprint 1, the team found 5 defects and resolved 3 of them, meaning that the team was left with 2 unresolved defects at the end, which were moved to the next sprint for further resolution. In Sprint 2, the team found the same number of defects (5) during the sprint, but resolved only 2 of them, leaving 3 unresolved defects to be carried over to the next sprint; however, the analysis of Defect Density highlights a significant difference between Sprint 2 and Sprint 3. In Sprint 2, the team detected five defects, out of which they could only resolve two, leaving three unresolved defects. These were carried forward to the subsequent sprint for further resolution. However, in Sprint 3, the team identified five defects, and were able to resolve all of them successfully. The team learned from the previous sprint's analysis, and realized the importance of monitoring the number of defects and the rate at which they are resolved to prevent any escalation in defect density. As a result of the team's efforts, they were able to decrease the defect density as compared to sprint 2.

In terms of Efforts, we can see that there has been an increase in Efforts or throughput from Sprint 1 to Sprint 2 and to Sprint 3, even though the team had other commitments in both sprints. In Sprint 1 the team's throughput was 75%. In Sprint 2, the team's throughput was affected due to conflicting commitments (Midterms), resulting in a value of 85%. In Sprint 3, even though the duration of the sprint was like Sprint 2, the team managed to produce a throughput of 90%. It's worth noting that the team learnt that they may need to monitor their capacity and availability in the upcoming sprint to ensure that they are not overburdened with commitments, which can affect their throughput.

The analysis of Cost Effectiveness shows that there was no significant difference between Sprint 1, Sprint 2 and Sprint 3, with a negligible variance in the expenses incurred. In Sprint 1, the team spent \$4,420 out of the estimated budget of \$4,830 which indicates that the team was able to complete the sprint within the budget, In Sprint 2, the team was able to complete the tasks within the estimated budget of \$4,890, spending only \$4,480, indicating a successful outcome. However, in Sprint 3, although the team remained within the budget, they spent \$4,293, which is 90% of the allocated funds, leaving only a small amount for miscellaneous expenses. This resulted in a higher percentage of expenditure being used on resources.

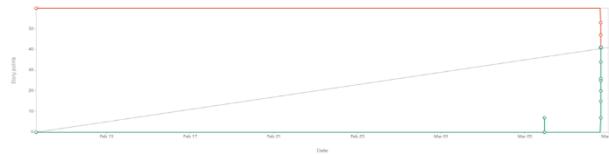
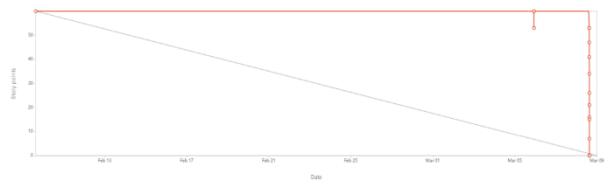
The team learned from the previous sprint's analysis and recognized the need to monitor expenses and the percentage of expenditure on resources to ensure cost-effectiveness in the upcoming sprint. As a result, they focused on utilizing most of the expenditure on resources and to maintain cost-effectiveness.

Iteration and Release Burndown Charts

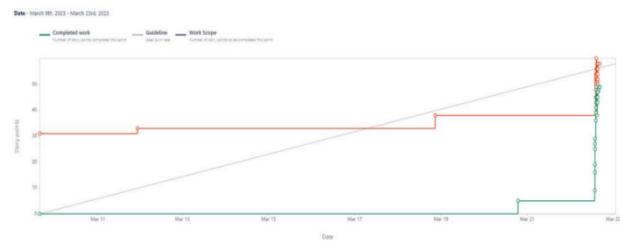
If a sprint has "burn down" it means that it was not completed successfully and may have been terminated before completion due to various reasons such as technical difficulties, resource constraints, or changing project requirements. In such a case, a burnt down chart would show incomplete or partially completed tasks, with the remaining work appearing as a gap or a downward trend on the chart.

In sprint 1, the team completed all 41 story points that were estimated for the sprint and the team was able to achieve a ideal burn down chart for the sprint. During Sprint 2, we were able to complete 49 out of 58 story points, which resulted in a slightly deviated graph from the ideal one that we achieved in the previous sprint. However, most of the work was completed within the sprint, resulting in a graph that closely resembles the ideal one. Moving forward to Sprint 3, we were able to complete all of the story points, which enabled us to achieve the ideal burndown chart. The burn down charts of the all the sprints are shown below.

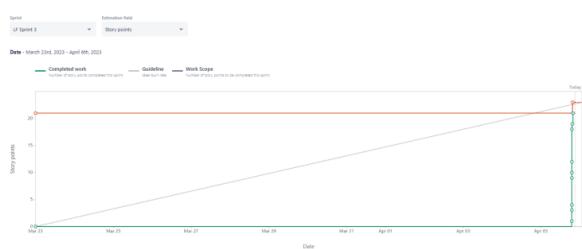
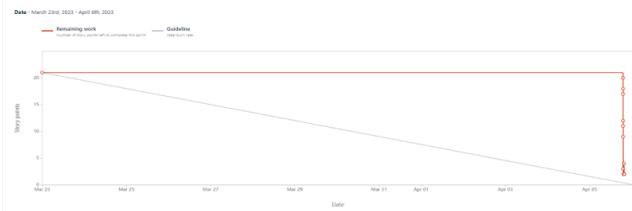
Sprint 1



Sprint 2



Sprint 3



Retrospective Analysis

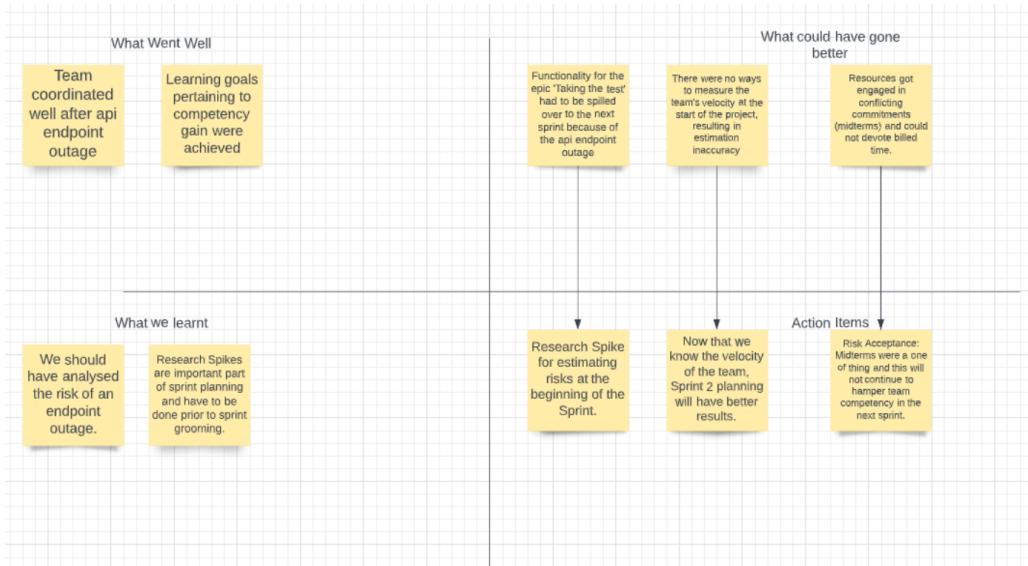
Sprint 1

Date/Time – 7th March 2023, (19:30 – 20:00 hours)

Venue – Zoom meeting (online)

Points Discussed:

- Team discussed what went well, what we learnt, what could have gone better and the action items.
- There was no way to measure the velocity of the team at the start of the project. The velocity prediction of the team was 41 SP. But we are able to deliver 41 SP. Now, we know the velocity, Sprint 2 planning will be more accurate.
- No user story has to be spilled over to the next sprint only 2 defects has been spilled over to the next sprint.



Sprint 2

Date/Time - 22nd March 2023, (22:30 -23:00)

Venue – Zoom meeting (online)

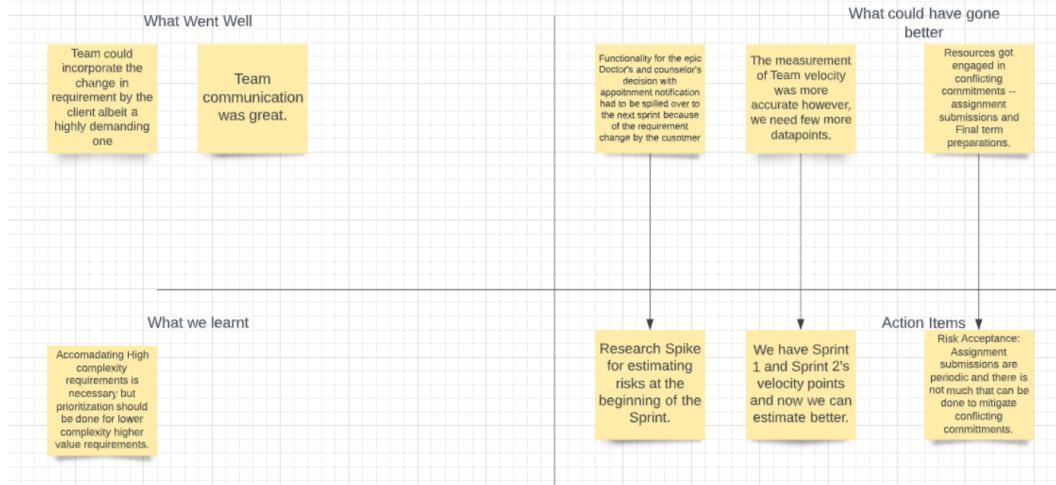
Points Discussed:

- Team discussed what went well, what we learnt, what could have gone better, and the action items.
- We discussed why our velocity was low and what is the expected velocity for the next meeting.

What went well:
Team could incorporate the change in requirements by the client albeit a highly demanding one. Team communication was great.
What we learnt:
Accommodating high complexity requirements is necessary but prioritization should be done for lower complexity, high value requirements.project goals.

What could have gone better:	Action Item:
Functionality for the Doctor/Counselor Decision story moved to the next sprint because of the change request by the customer.	We should have research spike for estimating the risk at the beginning of the sprint
The measurement of team's velocity was better than before. However, we still need to have more accurate estimation	Now, we have more datapoints and information about our team capabilities. So, we could have better estimation for the future.

Resources got engaged in conflicting commitments such as assignments and preparing for final term exams.	We decided to accept this risk. Cause these types of assignment are periodic and there is not much that can be done to mitigate this risk.
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Sprint 3

Date/Time – 5th April 2023, (22:30 - 23:00)

Venue – Zoom meeting (online)

Points Discussed:

- The team discussed what went well, what we learnt, what could have gone better, and the action items.
- We discussed the problems and the hurdles faced in the sprint and what is the expected result of the sprint.

What went well:

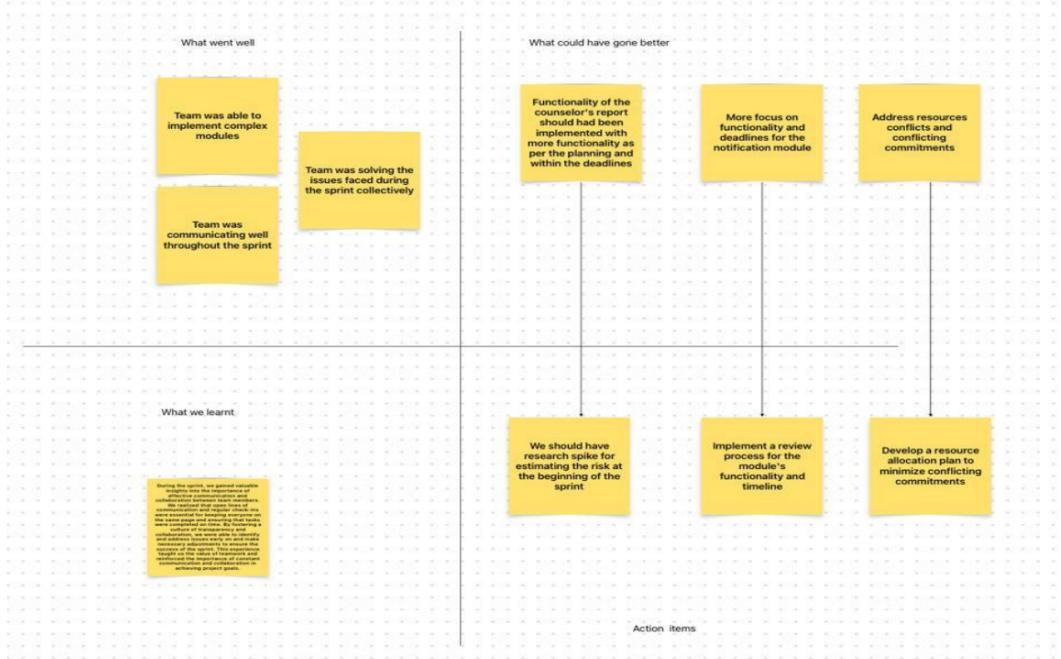
The team communication was great, and the team was able to solve the issues collectively. Team was able to implement the complex modules and developed the product as per the client's requirements

What we learnt:

During the sprint, we gained valuable insights into the importance of effective communication and collaboration between team members. We realized that open lines of communication and regular check-ins were essential for keeping everyone on the same page and ensuring that tasks were completed on time. By fostering a culture of transparency and collaboration, we were able to identify and address issues early on and make necessary adjustments to ensure the success of the sprint. This experience taught us the value of teamwork and reinforced the importance of constant communication and collaboration in achieving project goals.

What could have gone better:	Action Item:
Functionality for the counselor's report should have been implemented with more functionality as per the plan and within the deadline	We should have research spike for estimating the risk at the beginning of the sprint
More focus on functionality and deadlines for the notification module	Implement a review process for the module's functionality and timelines

Address resource conflicts and conflicting commitments	Develop a resource allocation plan to minimize conflicting commitments
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Customer Satisfaction Survey

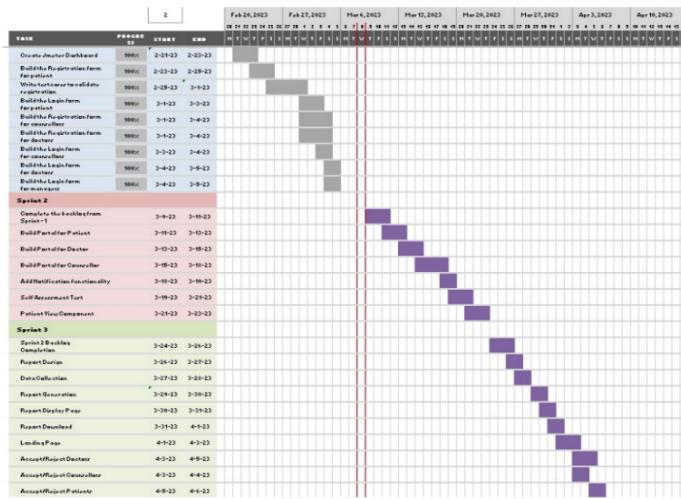
- Sprint 1: Customer was fully satisfied with what was covered for the first sprint.
- Sprint 2: Customer wanted completion of notification part within sprint 2. Front end wasn't able to handle the api calls properly.
- Sprint 3: Customer was fully satisfied with what was covered for the 3rd sprint.

Agility Analysis

SURVEY: Are you agile enough? NOTE: report the averages of the answers to each question below in your Demo 1 presentations											
0 - Never 1 - Hardly ever (10%) 2 - Rarely (20%) 3 - Sometimes (30%) 4 - Common (40%) 5 - Half & Half (50%) 6 - Usually (60%) 7 - Often (70%) 8 - Regular (80%) 9 - Always (90%) 10 - Fanatic (100%)											
This Scale may help:											
What is your team name?										TEAM 7	
QUESTION:	Average of all team members: Answers /10	Explanation									
Planning - Does your team engage in stand-up meetings everyday?	10	The team takes 10 minutes each day to review what needs to be done each day and assigns user tasks to team members. * Stand up meetings take place everyday. * Stand up meeting takes less than 15 minutes (for an average of 10 people). * Meetings are short and to the point, focusing only on what has been done and needs to be done that day. * Team members exhibit courage in discussing concerns and successes.									
Planning - What % of the time do you get quick interaction with your customers when needed?	9	The customer is the body for whom the product is being developed and may be either internal or external. Customer access is imperative to developing a product that satisfies the customers' needs as well as clear up requirement ambiguity/inciseness. On-Site Customer is best, but you can use chat, e-mail, telephone, etc., to quickly verify requirements and get feedback. Ideally, the customer is always available. * Customer is involved in release planning. * The developers have direct access (telephone/email/video conference) to the customer. * The developers have same day responses from customer. * The customer is on-site. * Fast and consistent feedback between customer and developer.									
Planning - Do you allow for changes in release plans/requirements after each iteration based on customer feedback and current implementation?	10	The planning game is a highly interactive process between all stakeholders wherein customers and developers trade items in and out of the plan based on current priorities and costs. Adaptation is favored over following a plan. * There is a release plan. * The whole team including coach, customer, developer, etc. is present during release planning. * The customer picks the order of the User Stories in the release plan. * When stories are added to a release, stories of equal value may be re-prioritized. * Developers estimate the time needed to complete the User Stories. * Developers break down User Stories into tasks. Each developer signs up for tasks and estimates the ones he/she owns. * The release plan is used to determine how much can be done by a certain time. * Past User Story experience aids in determining how much can be done by a certain time. * Release points have been identified and communicated to all stakeholders * At least one User Story is created for automating acceptance tests.									
Testing - How important are customer acceptance tests to the development of your product?	10	Customer acceptance tests exist to ensure both the developers and the customer know what they want. All acceptance tests must be passed before the product can be delivered to the customer. * Acceptance tests are used to verify a system functionality and customer requirements. * Customer provides acceptance criteria. * Customer uses acceptance test to determine what has been accomplished at the end of an iteration. * Acceptance testing is automated. * A User Story is not finished until its acceptance tests pass. * Acceptance tests are run automatically every night. * A test environment that matches our end-user's environment is used to test.									

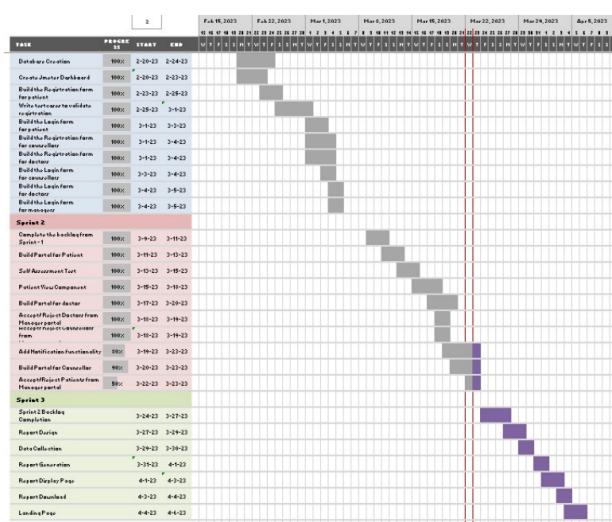
Timeline & Gantt Chart

Sprint 1



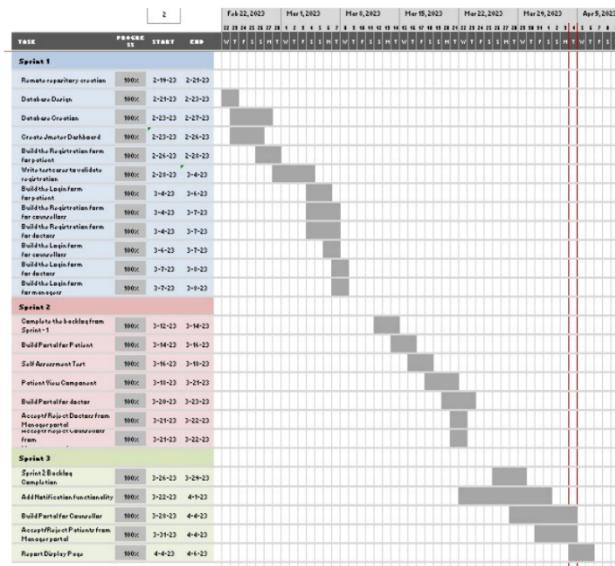
Sprint 2

Sprint 2 started on March 9th and ended on March 23rd. A total of 10 user stories were included including stories involving doctor, counselor, patient and manager modules. A total of 7 user stories were completed on schedule as planned. 3 user stories are partially completed and thus will be moved to the Sprint 3 backlog. These 3 backlog stories will be completed in priority when Sprint 3 starts on March 24th.



Sprint 3

The third sprint commenced on March 23rd and concluded on April 6th. This sprint involved a comprehensive set of user stories, including those related to doctor, counselor, patient, manager, notification, and report modules. As per our initial plan, a total of 21 user stories were successfully completed within the stipulated time frame.



Budget & Budget Reporting

Base Costs

Time spent per person per day	1 hour
Total time of all team members per week	56 hours
Total time per Sprint	112 hours
Total time for Project (3 Sprints)	336 hours
Average cost of 1 Person-hour	\$345 / 8 = \$43.125
Cost of Total Person-hours	\$14,490

Additional Costs

6 initial planning meetings	6 hours * 8 team members = \$2070
Planning Poker	2 hours * 8 team members = \$690
Contingency Risk Cost	0.1 Probability * \$4830 = \$483
Contingency Integration Factor	5% of \$14,490 = \$724.5

Total Cost

Base Cost	\$14,490
Additional Costs	\$3,967.5
Total Cost	\$18,457.5

Out of \$18,457, the team spent \$4420 for the sprint 1, \$4480 for the sprint 2 and \$4293 for the sprint 3 i.e., around \$13,193 which is less than what was estimated at the beginning of the project. The team was able to spend most of the funds from the budget on resources and on average around 85% of it was spent on resources throughout the project, the rest was spent on miscellaneous expenses. The team managed to complete the project within the budget and has a balance of \$5264 left with them.