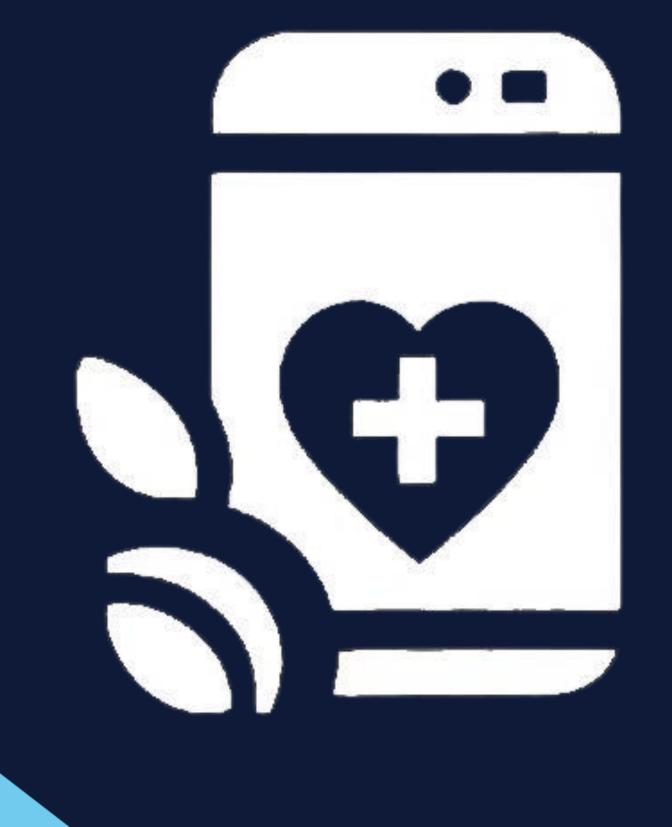# uSpark
AI Medical Assistor

Sprint 0 Presentation

Team 1 – Rush Hour
CS691
February 2025

AGENDA

Team :

- Names and Introduction
- Roles and Responsibilities

Project Overview :

- Problem Statement
- Project Description
- Personas
- Product Idea

Technologies

- Brief Description of the algorithms and testing tools used in the Project

Schedule and Agreement

- Project Schedule and Team Working Agreement

Retrospective

- Reached Goals?
- What went well
- Corrections needed
- Updating Backlogs

FULL STACK TEAM

Avinash Manchala
Full Stack Developer/ UI Designer

Rathan Jayanath Singavarapu
Team Lead/Scrum Master/Full
Stack Developer

Koundinya Pidaparthy
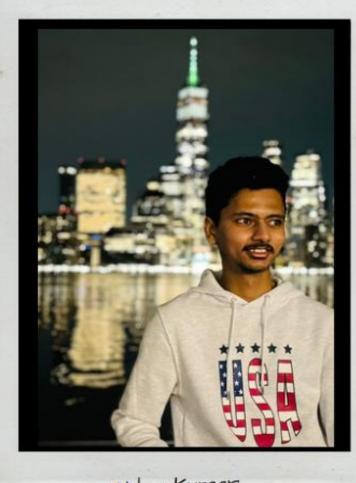Lead Full Stack Developer

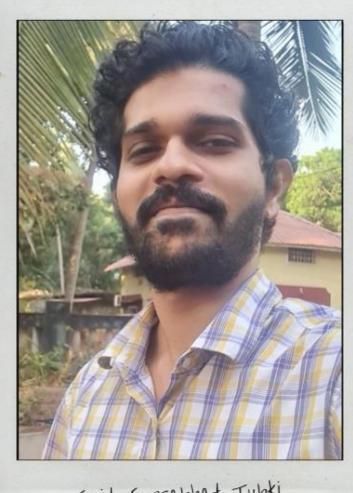Sairam Maddela
Full Stack Testing Engineer

ML AI TEAM

Pranay Kumar Reddy
Lead AI, ML Engineer

Uday Kumar
AI, ML Engineer/Tester

Murali Kummari
AI, ML Engineer/Tester

Sujit Suprabhat Tubki
Tester/Quality Assurance

PROBLEM STATEMENT

Continuous Medical Assistance is one of a non-negotiable requirement these days and it can't be ignored. It is tedious to manage and store data related to a diagnosis of a patient for hospitals and for the patient as well. A simplified way of managing health care is needed, which can be achieved through AI chatbot and smart data storage system and like wise professionals in the medical sector can use a trained ML based algorithm service to reduce manual effort in the patient diagnosis.

This creates a hassle-free environment for both patient and doctors.

PROJECT DESCRIPTION

A robust approach to ease the process of health care and management with just one click!

➔ "uSpark" is an Intelligent full stack application incorporated with machine learning that is an ultimate go-to point for the users/patients for all their healthcare related issues. uSpark allows users to schedule appointments in a hassle-free manner.

➔ These appointments can be virtual or in-person using "Uheal" a smart chatbot in the application that diagnoses the patient condition with the help of few questions. uSpark stores all the assessment details of the patient for further usage.

➔ Doctors can use uSpark as their personal virtual assistant that helps them in their work for managing appointments and patients records. It provides doctors with "Useg" a well-trained ML algorithm that precisely processes bio-medical images that produces an output

FEATURE 1

BOOK APPOINTMENTS!!

uSpark allows users to make appointments which can be in-person or virtual based on their availability and doctor's availability , in contrast to the traditional way of making appointments

FEATURE2

HOSPITAL RECOMMENDATIONS

Users can now see recommendations of hospitals that might be suitable for their issue. These recommendations on their assessment done via a series of questions asked by our chatbot "Uheal"
Distance from Hospital, working hours can be seen.

FEATURE 4

ONE CARD

uHeal stores the details of the health issue of the patient which is obtained from the conducted assessment, all the assessment details are saved on ONE CARD along with the date of assessment. One card involves patient's assessment details, insurance details, personal details and a QR code that is used to share the ONE CARD, this completely eliminates the need for physical documents to store information.

FEATURE 3

CHATBOT – Uheal

uHeal conducts assessment for the patients with the help of series of questions and also gives few preventive measures and also it makes appointments for the user by giving recommendations about hospitals, in contrast to traditional method of searching hospitals

FEATURE 5: Useg

Useg is an ML algorithm that is used by doctors as a part of their diagnosis.
This makes their work easier and helps them to narrow down the issue in a much quicker way

Persona 1

About

Age: 40
Gender: Female
Occupation: Senior Radiologist
Location: NewYork
Hospital: NYC Health + Hospitals

DR. SARAH JOHN

DESCRIPTION

A dedicated medical professional striving to provide accurate diagnoses while managing time efficiently, seeking AI-driven support to enhance patient care.

CHALLANGES

- Spends too much time manually reviewing medical images.
- Struggles with unstructured patient history and reports.
- Managing appointments and last-minute schedule changes is inefficient.

GOALS & NEEDS

- Wants AI-powered tools to assist in faster and more accurate diagnostics.
- Prefers a centralized system to access patient history easily.
- Needs a well-organized appointment and consultation management system.

Persona 2

About

Age: 45
Gender: Male
Occupation: Bank Manager
Company: TD Bank
Location: New Jersey

MARK THOMPSON

DESCRIPTION

A devoted parent striving to manage his family's health efficiently, looking for a hassle-free way to keep medical information organized and accessible.

CHALLANGES

- He struggles to keep track of family health records.
- Maintaining work and health care responsibilities.
- Lack of a system to monitor recurring health issues.

GOALS & NEEDS

- Wants the best way to access and organize health information.
- Needs a straightforward approach to track symptoms and past treatments.
- Want more efficient way to navigate healthcare for his family.

Persona 3

About

Age: 38
Gender: Female
Occupation: Lab Technician
Hospital: NYC Health + Hospital
Location: New York

EMILY CARTER

DESCRIPTION

A diligent coordinator responsible for keeping healthcare operations smooth, looking for an efficient way to manage appointments and patient records seamlessly.

CHALLANGES

- Managing a large volume of patient appointments manually.
- Ensuring that doctors' schedules are not overbooked.
- Keeping track of patient medical records efficiently.

GOALS & NEEDS

- Wants a streamlined system to handle patient bookings and cancellations.
- Needs an easy way to access inbound and outbound patient records.
- Requires integration with hospital management systems (HMS).

Persona 4

About

Age: 32
Gender: Female
Occupation: Software Employee
Company: Accenture
Location: Brooklyn

LISA BROWN

DESCRIPTION

An individual who values convenience and reliable health guidance, looking for a simple way to make informed healthcare decisions without unnecessary hospital visits.

CHALLANGES

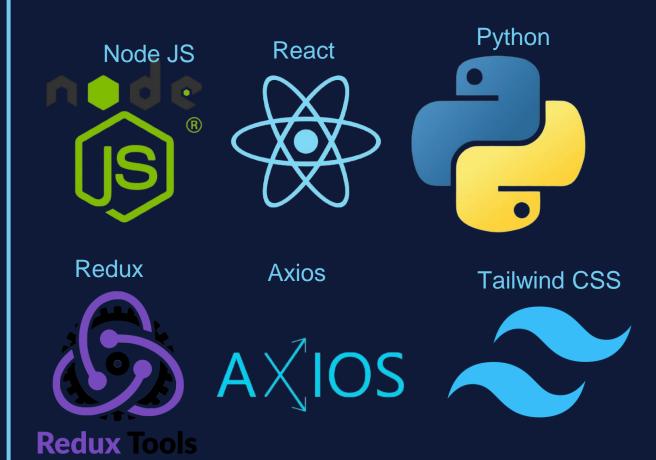- Doesn't visit hospitals often but needs occasional medical guidance.
- Wants reliable health information instead of Googling symptoms.
- Prefers flexible, on-demand healthcare services.

GOALS & NEEDS

- Wants access to trusted medical advice without needing an appointment.
- Needs a way to consult a doctor only when necessary.
- Require better way to understand symptoms and health concerns.

Technologies and Tools

Node JS

React

Python

Mongo DB

Amazon S3

Docker

Jira

VS code

Redux

Axios

Tailwind CSS

MERN Stack

CNN

Figma

Pytorch

Flask

TensorFlow

Postman

GitHub

Full Stack /MI AL Programming Languages

Libraries, Algorithms and
Frameworks, Database

Tools

Team Working Agreement

CS 691 Capstone Project

Team – 1: Rush Hour

Team Working Agreement

To produce a viable result at the end of the project duration is the aim by which our team "Rush Hour" is driven by. Our sole purpose is to give a working product that is capable of handling real life scenarios so that it ultimately leads to customer satisfaction. We as a team understand the need to work together to make this project happen. We strive to give our best to meet the pre-decided plans, commitments, goals. Individually, we are responsible to the tasks that have been assigned to us and will work to the best of our capacity to prioritize the success of the team and to achieve the goal of making our product "uSpark"

Team Rush Hour

As a part of the project and the norms associated to it, we have decided few policies that are incorporated into the team which ensures the success of the team. These policies/terms have been discussed in the agreement.

Terms of Agreement:

Individual Accountability:

As an individual it is one's duty to be responsible and be accountable for their actions. It is an obvious thing that such a big project cannot be completed by a single person or a small team. Individual work is important as much as teamwork in capstone project. This fact is acknowledged by all the team members. We as a team of eight members understand this and are willing to take responsibility for our work and actions through the course of this project.

In all the discussions team members are expected to bring something to the table that adds value to the team and the project. We as a team recognize the importance of our own self and our peers as well in the team.

Communication and Resource Sharing:
Interaction in the team makes a whole lot of difference when a complex project is in progress. This makes many things like idea analysis, brain storming, planning much easier and fluent. It is understood that the team assembled has members that belong to various demographic areas, based on this the technical resources like Laptops, mobiles or other software devices, software they provide to the team might vary. To make the learning and the working more generic we decided to employ a shared resource system so that all can have access to them.

We use Zoom, WhatsApp as our primary way to communicate within the team. For resource sharing we use google docs, word documents are uploaded to a private google drive space which can be accessed only by the team members. All other working software and tools like figma, canva, jira, GitHub can be accessed by the team.

Communication plays an integral part in any team, the team members understand this and are open towards any discussion as a whole team or needed divisions of the team. All the team members agree to be available to rest of the team, so that the work doesn't get stuck at any point.

Team Division and Synchronization:

After finalizing the project idea and the features that are included, we have decided to split the team in to two divisions namely ML/AI team and Full Stack team. "Lead Developer" of each team is head of the their team. This division was done in the best interest of the application and this segregates the task for each division.

This might lead to few mishaps or disturbances in terms of synchronization when work from both the fronts are combined together. The team is expected to understand this and work bearing this in mind as any decision in one team can change the way in which the other team works. The work done one team must compliment the work done by other team, we agree to this and will strive to do the same in the duration of the project.

Participation:

A team of eight member is expected to give a viable output at the end of the project and due to this there might occur two completely contrast scenarios. First one, a particular team member is burdened with a lot of work and has no time to help others. Team members are to understand this situation and are expected to provide with needed space to that person. On the contrary, if a team member has not been assigned any other work, it is to be noted that he must take stand and try to help the team in any way possible. Active participation of the entire team is expected at all times and this ensures on time completion of works.

Openness and Helping:

It is understood that all the team members are acquainted with their own skill sets and might be lacking the skill sets that are needed in the project. The team should be willing to help any other member of the team if a such a situation occurs. The team can be open in expressing this fact if they lack or have expertise in any field of work that is applicable to the project. No member in the team must be excluded at any situation or point in the project, as it leads to discrepancies in the team. Team members must spend a fair amount of time get to know about each other's work and their contribution to the project. Team members must helpful to each other and complete tasks on time.

Work Division:

Work is divided to the team members based on one's own interest, If anyone finds difficult with the work, he can seek the help of the other team members, or bring it to the notice of the entire team so that team can try to solve this. It is to be understood that at all times the volume of work a team member receives is not the same. It is up to the individual to plan accordingly and complete the task on time.

Meetings:

Scrum call:

The team has agreed to have a daily scrum call which is a brief 15-minute discussion about the work completed and the on-hand task and any blockers. The time slot for this everyday 9:00 PM. Prior intimation is expected if any one is not available for the meeting.

Sprint Retrospectives:

Based on the sprint schedule given and the sprint planning, after each sprint a sprint retrospective is conducted to examine what went well and any improvements needed.

Roles in the Team:

Team Lead: Align the team to all tasks and direct accordingly, monitor workflow, tasks and synchronization between ML/AI teams and Full Stack Team.

Scrum Master: Conduct Sprint analysis, sprint retrospectives, daily scrum calls

Quality Assurance Manager: Take care of the deliverabless and verify the trueness and the quality of the work
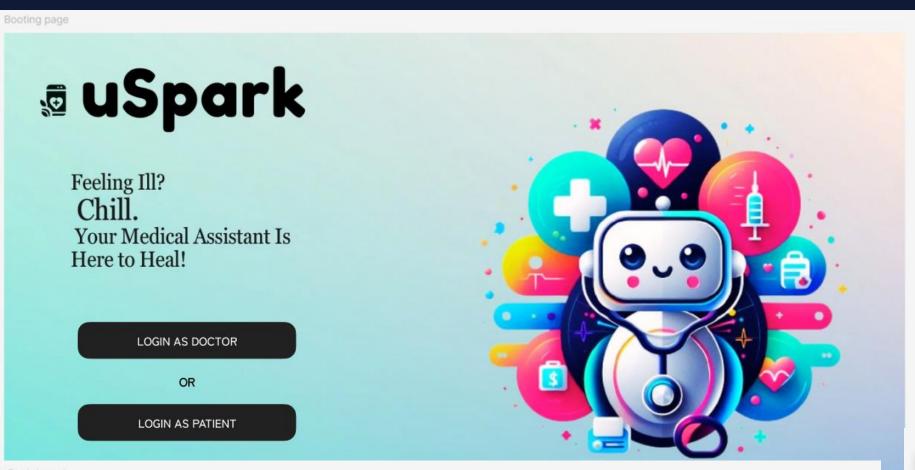
ML/AI Lead Developer: Coordinate with in their division and manage ML/AI team
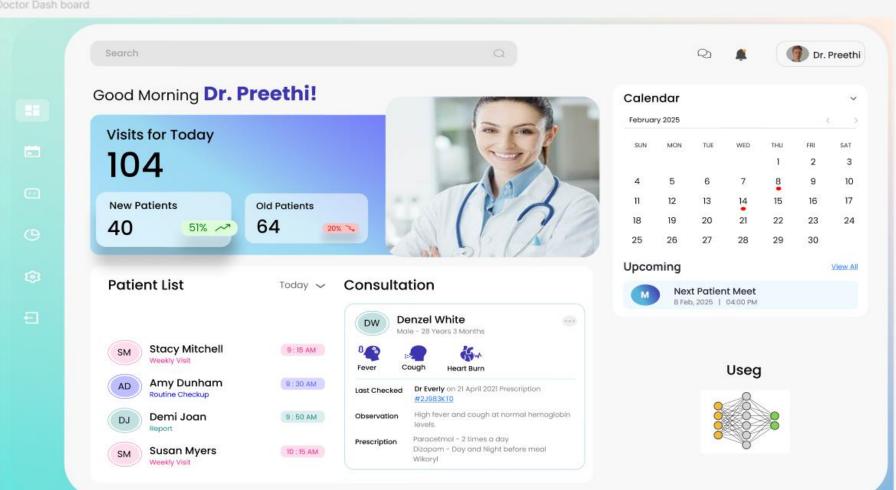
Full Stack Lead Developer: Coordinate with in their division and manage Full Stack team
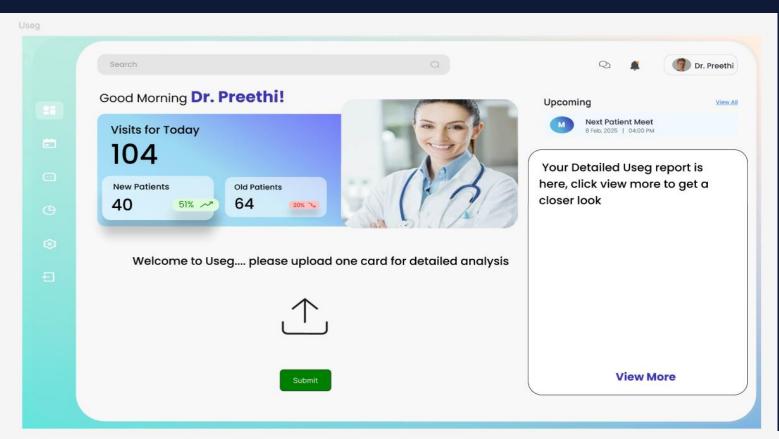
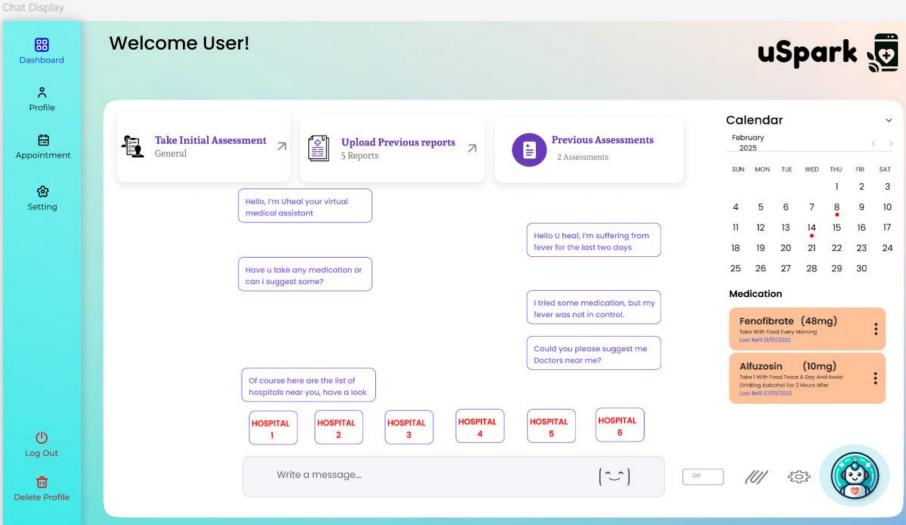UI/UX Designer: Assist Full Stack developers during Front-end Development

Testers: On time testing and scrutiny-based quality assurances
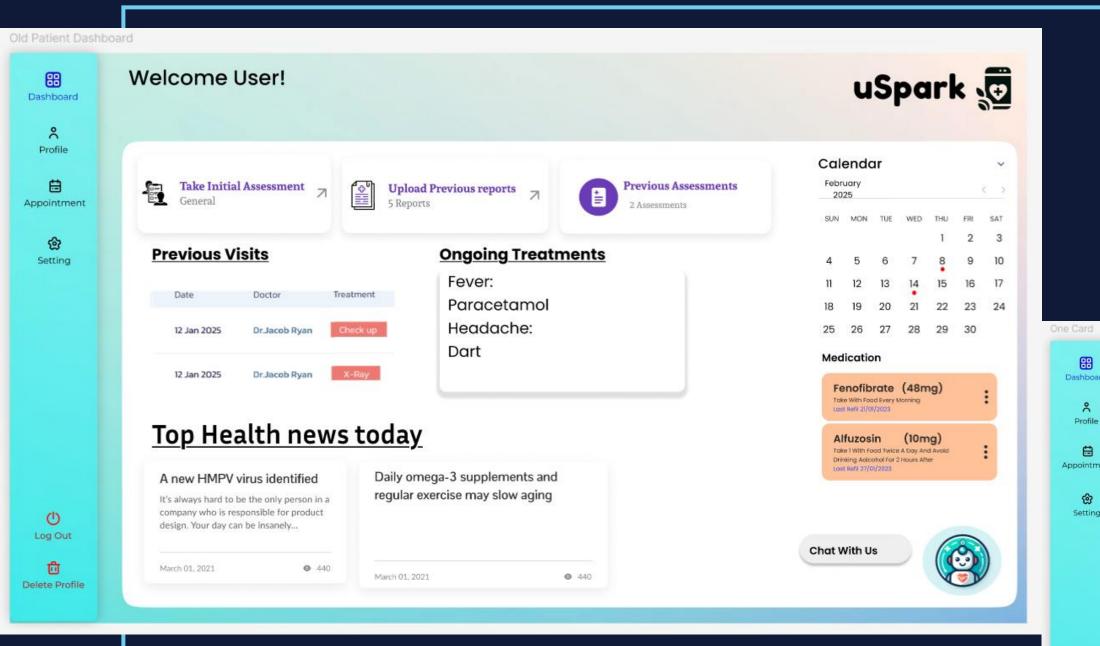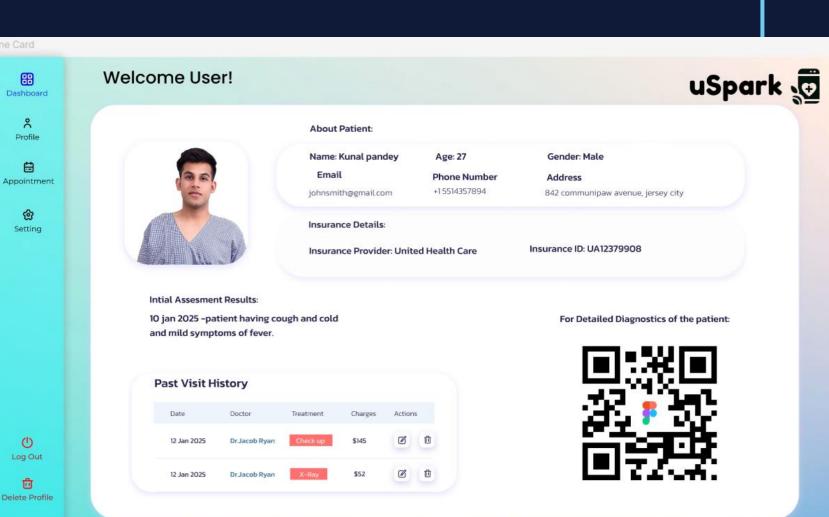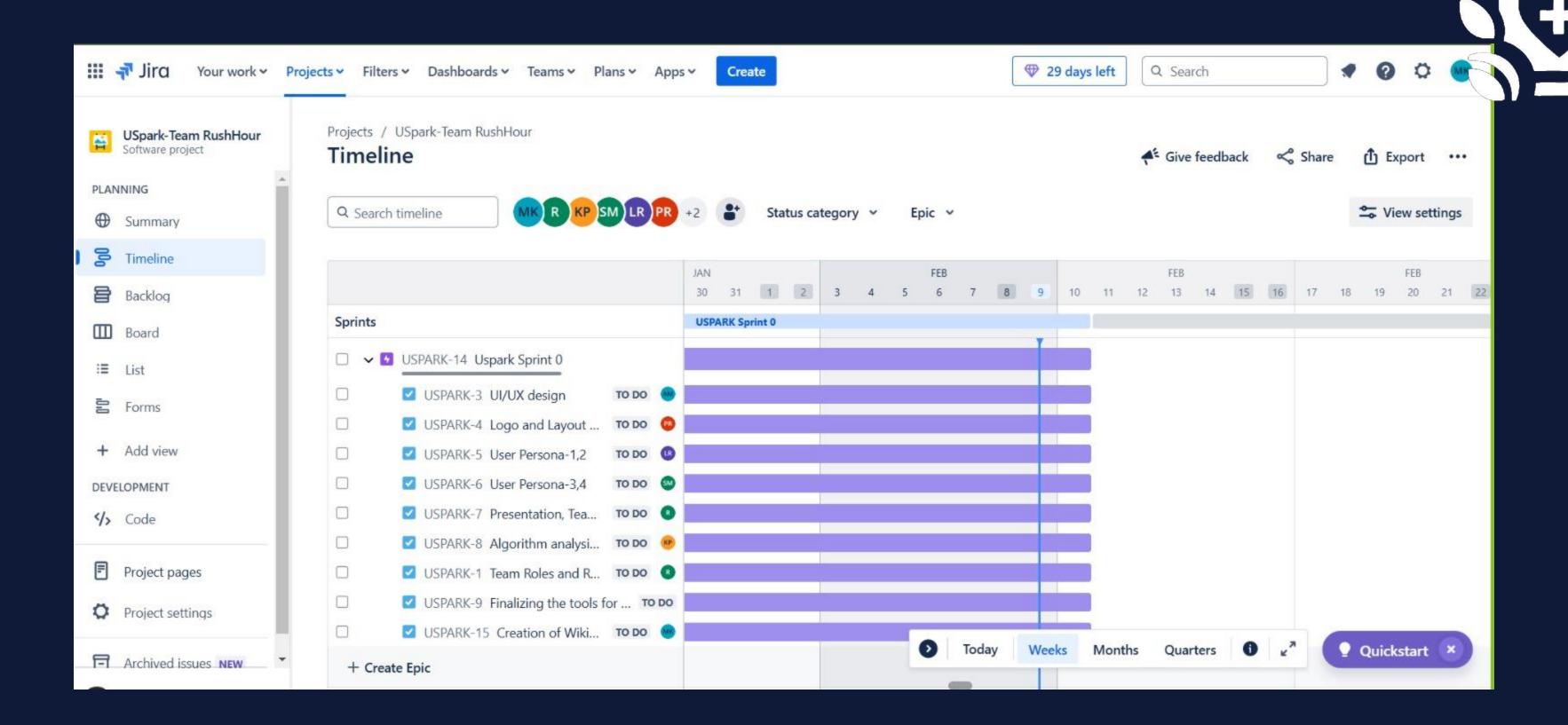
Product Design

MVP Design

Welcome User!

uSpark

Take Initial Assessment
General

Upload Previous reports
5 Reports

Previous Assessments
2 Assessments

Calendar

February 2025

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Previous Visits

Date	Doctor	Treatment
12 Jan 2025	Dr.Jacob Ryan	Check up
12 Jan 2025	Dr.Jacob Ryan	X-Ray

Ongoing Treatments

Fever:
Paracetamol
Headache:
Dart

Medication

Fenofibrate (48mg)
Take With Food Every Morning.
Last Refil 21/01/2023

Alfuzosin (10mg)
Take 1 With Food Twice A Day And Avoid
Drinking Aalcohol For 2 Hours After
Last Refil 27/01/2023

Top Health news today

A new HMPV virus identified

It's always hard to be the only person in a
company who is responsible for product
design. Your day can be insanely...

March 01, 2021   440

Daily omega-3 supplements and regular exercise may slow aging

March 01, 2021   440

Chat With Us

One Card

Welcome User!

uSpark

About Patient:

Name: Kunal pandey | Age: 27 | Gender: Male

Email | Phone Number | Address

johnsmith@gmail.com | +1 5514357894 | 842 communipaw avenue, jersey city

Insurance Details:

Insurance Provider: United Health Care | Insurance ID: UA12379908

Intial Assesment Results:

10 jan 2025 –patient having cough and cold
and mild symptoms of fever.

For Detailed Diagnostics of the patient:

Past Visit History

Date	Doctor	Treatment	Charges	Actions
12 Jan 2025	Dr.Jacob Ryan	Check up	$145	
12 Jan 2025	Dr.Jacob Ryan	X-Ray	$52	

Dashboard · Profile · Appointment · Setting · Log Out · Delete Profile

Sprint 0 – Schedule

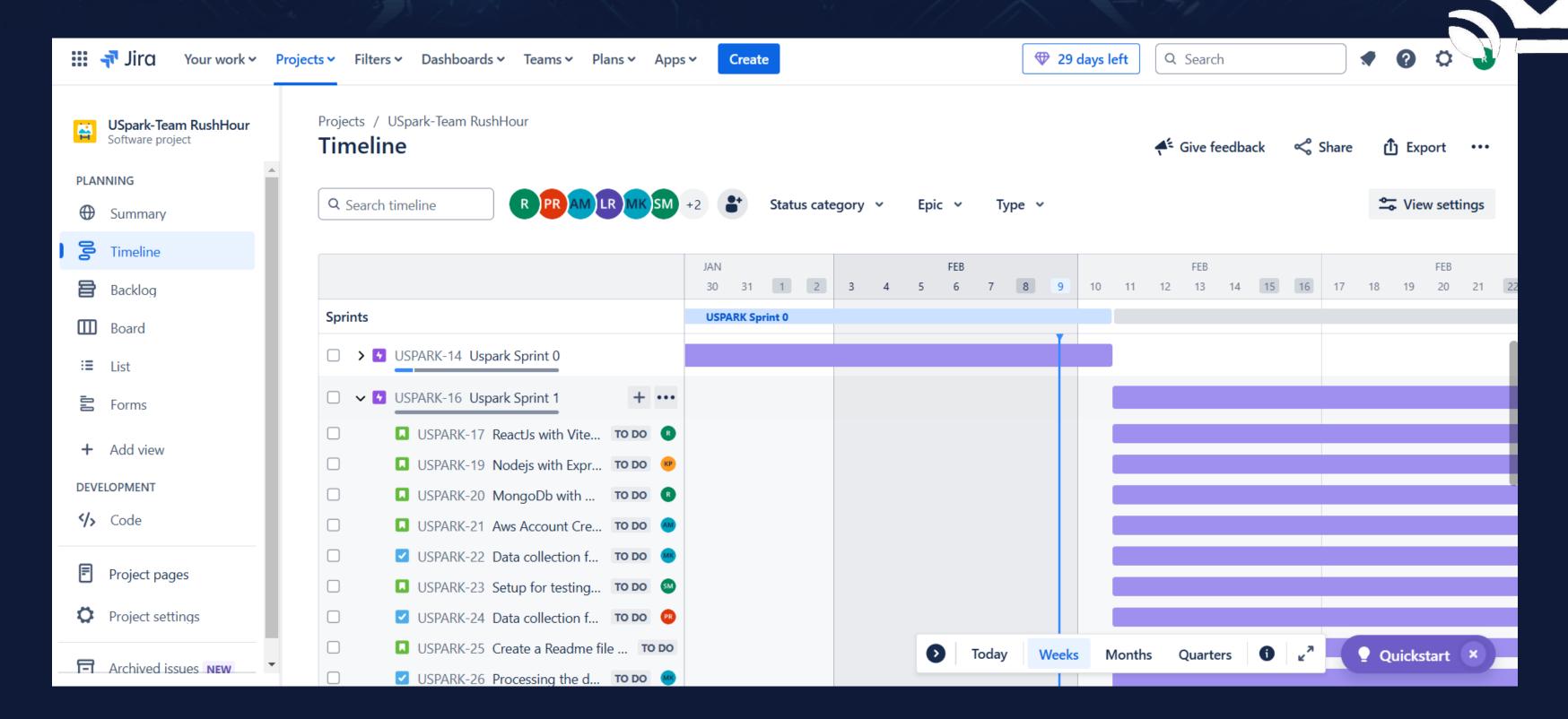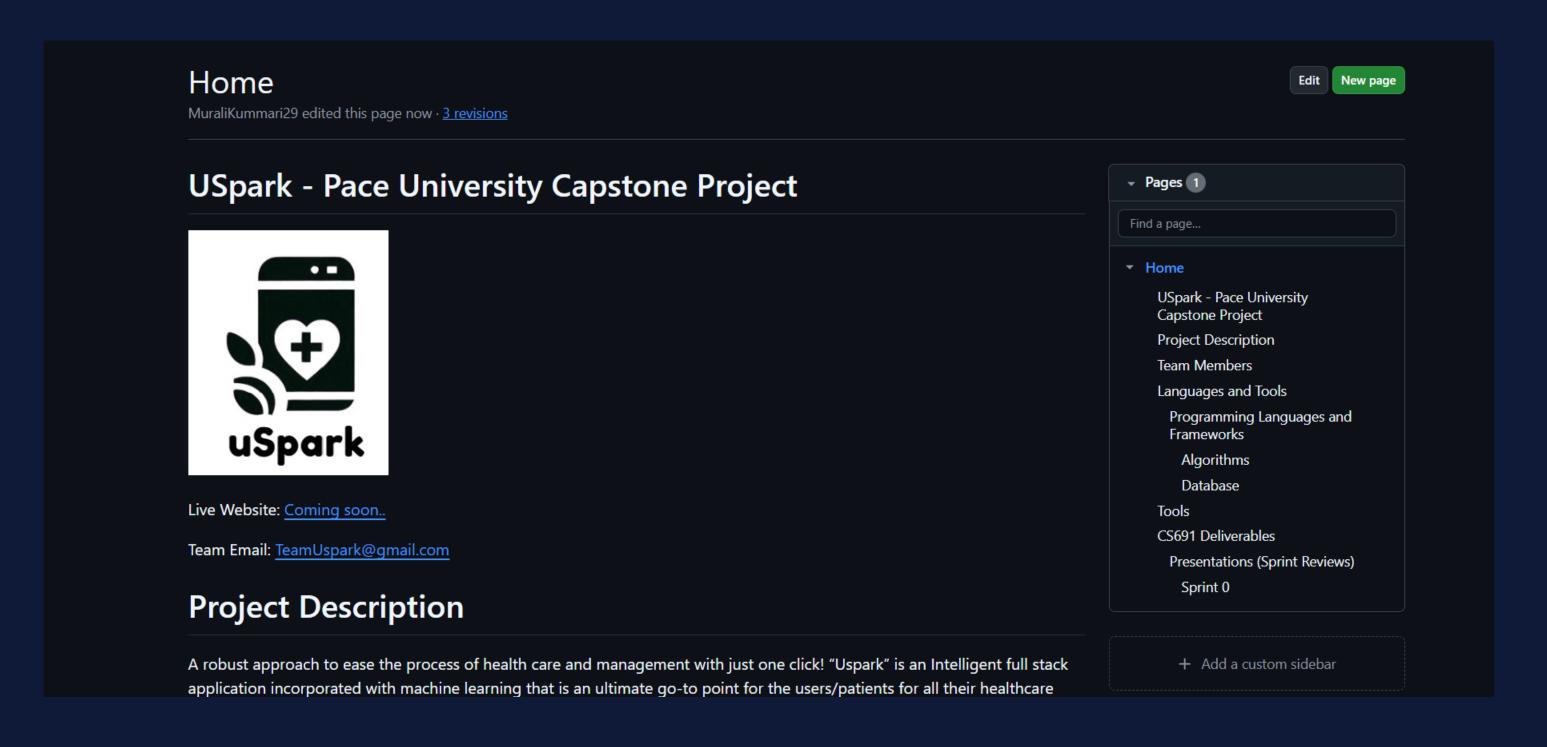# Project Schedule

WIKI PAGE

https://github.com/htmw/2025S-RushHour/wiki

THANK YOU

CONTACT US:

teamuspark@gmail.com