UNIVERSITY OF PLYMOUTH

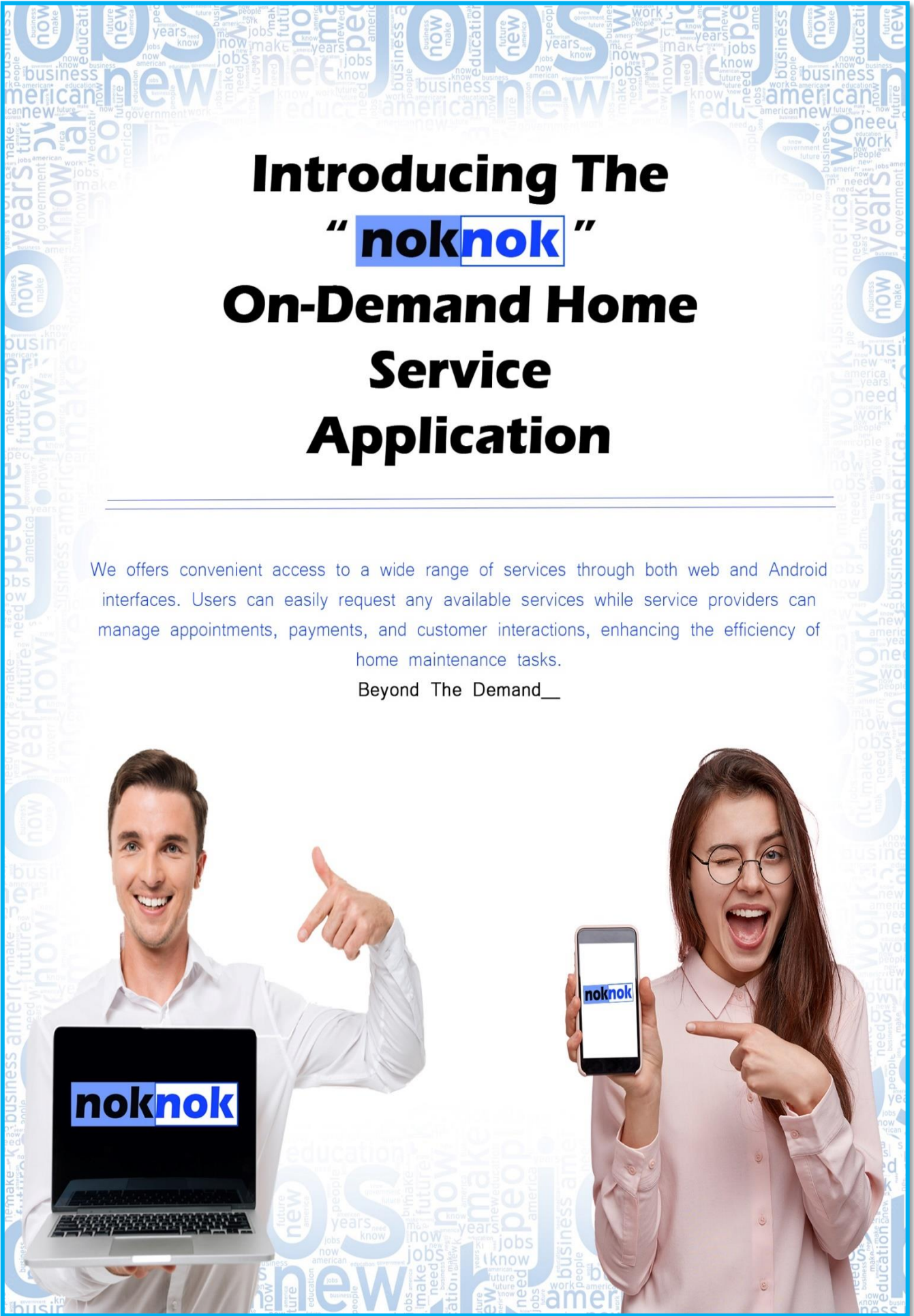# PUSL2021
Computing Group Project

Project Proposal

"noknok" the home service application

GroupB 75

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Introducing The
" noknok "
On-Demand Home Service Application

We offers convenient access to a wide range of services through both web and Android interfaces. Users can easily request any available services while service providers can manage appointments, payments, and customer interactions, enhancing the efficiency of home maintenance tasks.

Beyond The Demand__

Table of Contents

Abstraction

The focus of this project is on how on-demand apps have disrupted most traditional industries in Sri Lanka. So, it has changed the way we travel, eat, shop, and even find romantic partners within these few decades. Now, there is a question: why not revolutionize our household chores and errands too? Let us start by understanding the core services provided by on-demand home service apps. These apps act as platforms where you can easily hire professionals and technicians to take care of your household tasks. These applications are designed to help you solve problems related to carpentry, house cleaning, home electricity, and other household issues. It is important to note that the home service market in Sri Lanka is still in its early stages, and with the rapid growth of Sri Lankan cities, there's significant potential for this industry to expand further.

Introduction to "noknok" the home service application

Home Services app is a new trend in the market of on-demand applications. But most of the Sri Lankans are do not hire a works or the permanent servants to fulfill their daily tasks like cooking, washing, dusting, driving etc. That is why we target the problems occurring in day-to-day life for an example imagine we need an electrician when we get an issue in our household wiring system. Such that these kinds of problems are not frequently occurring problems. Along with that reason when we look through the service providers' side, think about the post of an electrician, there should be an issue in electric side of a particular house in a particular area to receive a task for an electrician. So it is an on-demand job. So we develop the "noknok" as a solution for both customer and service provider just like in the above example. With proper market research, the inclusion of vital features, and appropriate marketing, the application can become successful. The traditional ways of finding help with household issues will not be a source of worry anymore. This trusted home services application connects you with professional and qualified experts who can efficiently repair and fix everything in your home. The demand for these services has grown due to urbanization, busy lifestyle, and the availability of affordable labor at affordable cost. In these busy times, people are willing to pay more for reliable services without any conditions. Also, we have a great opportunity as the alternatives are using ineffective search directories, having refund issues, and dealing with constant calls from inexperienced workers.

The noknok comes along with both forms as web and mobile application. As these problems are not occurring frequently, we designed web application specially for the customer, but it also can use by service providers or the technician too. But the mobile application is only for the service providers as they are getting tasks frequently from the customers. Also, it contains a personality checker developed with machine learning too. So it will be an additional service that will be provided by noknok. Initially it will be only available in major urban cities in Sri Lanka, but eventually it will reach all cities in Sri Lanka. Additionally, this application plans to offer contract-based services to apartment complexes around the urban cities at a reasonable cost.

Our Objectives

Following points are our main objectives.

- Convenience- To provide users (customer) with a convenient way to access a variety of home services, such as electrical work, plumbing, cleaning, lawn care, hair care etc., through a single application. Also, it provides a good working platform to service provider or to the technicians.
- Efficiency for both parties- Streamline the process of finding, booking, and scheduling services, reducing the time and effort required for both users and service providers.
- Safety and Security- Create a safe and secure platform for both users and service providers, including background checks, verification of service providers and if there any unwanted thing happened users can request to get sensitive details of both sides from the administrations with proper reasoning such as police reports. Also, there is rating system too.
- Variety of Services- Offer a wide range of home services upon different user needs, potentially expanding the list of services based on demand.
- Transparency- Offer transparent pricing, details, terms, and conditions for services to build trust among customers and their service providers.
- Quality Assurance- Ensure that customers receive reliable and high-quality services by checking and monitoring service providers, implementing user reviews, and rating point systems.
- Cost-Effectiveness- Help users(customers) to find cost-effective solutions for their needs by providing price comparisons or discounts, also the service providers can arrange their pricing too.
- Well maintained payment and billing method: Facilitate easy and secure payment methods and clear billing procedures.
- Good customer care service- Provide responsive customer support to address user concerns, inquiries, and issues quickly.
- Gathering a large community- Expand the market for local service providers by connecting them with a wider customer base. Enhance a sense of community by connecting customers and service providers, through comments and replies. Also try to keep users engaged with the app through updates, and loyalty programs.
- Scalability- Plan for scalability to growth in both user base and service provider network.
- Environmental Responsibility- Promote eco-friendly and sustainable home services.
- Regulatory Compliance and law- Ensure the application align with local regulations, licensing, warranty guidelines and insurance requirements for home service providers.
- Innovation and research- Continuously innovate and adapt to changing market needs and technological advancements.

So, these points are our main objectives that we are highly concerned about throughout our project

Targeted Users

There are two main targeted users that related to our home service application noknok.

- Service providers
- Customers

Service providers

Service providers are individuals or businesses that offer various services related to home maintenance, repairs, personal care, and improvement in various activities in our data today life. So noknok is a great platform for those kinds of technicians. They are the professionals or experts who perform tasks requested by customers through the application. Following are some main service providers in our application.

- o Plumbers- They are experts in repairing and installing plumbing systems.
- o Electricians- Skilled in electrical repairs, wiring, and installation of electrical systems.
- o Carpenters- They work on wood-related projects, including furniture, doors, and framing.
- o Cleaners- Cleaning professionals who perform varieties of cleaning services.
- o Landscapers or Gardeners- Professionals who maintain outdoor spaces, landscaping, and gardens.
- o Roofers- Experts in roof installing, repair, and maintenance
- o Painters- Skilled at interior and exterior painting tasks.

Customers

Customers are the end-users of the application who require specific services for their homes, businesses, and their personal care. The customer in a home service application is an individual or business entity seeking and utilizing home maintenance, repair, or improvement services. Here are some examples for them.

- o Homeowners- Individuals or families who need regular maintenance, repairs, and improvement services for their homes.
- o Apartment Owners- They are looking for assistance with maintenance issues in their rental apartments.
- o Businesses and offices- Businesses (small or large) and offices seeking cleaning, maintenance, and repair services.
- o Elderly or Disabled People- People who may have difficulty performing household tasks and need assistance with home services and personal needs.
- o Travelers- People (frequently travelers) who require assistance with home-related issues when they are away from home.

Above mentioned facts are about our main targeted users.

Application features

As it is a home service application it has following list of features.

- User registration and Profile
  - Customer
    The customer should register with the application such that it is able to make their own profile by giving their information such as personal details, contact information and their location too. This information is helpful to contact them with suitable service provider in their area.
  - Service provider
    Service providers can register with the application by providing their personal details, contact details, location, police report and photo of NIC card and details about the services they offer, certifications, licenses, and work history. So those information helps to ensure a trusting service among both sides.
- List of services
  - There is a list of available services that customer can gain by browsing and selecting. And there are some key categories that a service provider can register in for an example cleaning, catering, hair care etc...
- Search bar and filters
  - Users can search for specific services and apply filters such as according to location, price range, availability, and user ratings to find the right service provider.
- Booking, Scheduling and Managing
  - Users can book dedicated services at their preferred date and time, and service providers can accept or decline the booking. The application can send reminders and notifications along with the status of requested service. And managing a booking detail also available here(cancelling).
- Secure Payments and Refunding
  - Customers can make payments securely within the app using various payment methods. If there any issues with the service refund also available here.
- Reporting
  - Both of consumers and service providers can report any related problems with valid proof.
- Tracking
  - Customers can track the completing process of their request or the status of their request.
- Messaging and Communication
  - There is an in-app chat feature for customers and service providers to communicate regarding the service, any changes, or inquiries.
- Emergency Services
  - We make a special section for emergency services with quick responses for urgent situations like calling to a medical service.
- Support and Help Center
  - We provide customer support and a help center from administrators' side for addressing user queries, complaints, or technical issues.
- Ratings and Reviews
  - Customers can read and leave reviews and ratings for service providers after to help others make decisions and for get an idea about the service provider.
- Service History and Admin Dashboard
  - We maintain a history of past services, invoices, and receipts for both users and service providers along with a proper dashboard that can be accessed only by the admin.

- Multi-platform Accessing
    - Initially we ensure the application is accessible on both platforms Android and web.

Technologies that we are going to use

We have both web and mobile applications in our noknok home service platform.

So, for the

- Web Application

To create our web application using React.js and Node.js with a NoSQL database like MongoDB, we should build a full-stack architecture. React.js will manage the frontend, creating a dynamic and interactive user interface. Node.js will serve as the backend, handling API requests and business logic. MongoDB will store data in a flexible, JSON-like format. Express can be used with Node.js for easier routing and server setup. Connect React to Node via API calls, allowing data transfer between the client and server. This setup provides a scalable, modern web application.

We developed a movie recommender as a fun fact in our web application using machine learning concepts by Python through the Jupyter notebook.

- Mobile Application

Initially we are going to make an android mobile application(noknok) using Flutter and Dart, along with a web application, you can use a NoSQL database like MongoDB. Develop your mobile app with Flutter and Dart for the Android platform, using Flutter's native mobile capabilities. Connect both applications to a MongoDB NoSQL database to store and retrieve data seamlessly. This ensures data consistency and accessibility across both mobile and web platforms, streamlining your development process.

Use Case Diagram

Home Service application

Login/Register

Select Service Category

Search Service

Work Status

Login/Register

View pending Client request

Service Details

View Clients Details

Make payments

Rate Service

Manage Users

Cash /Card

Online Transition

Add Users

Edit Users

Client

Service Provider

System Administrator
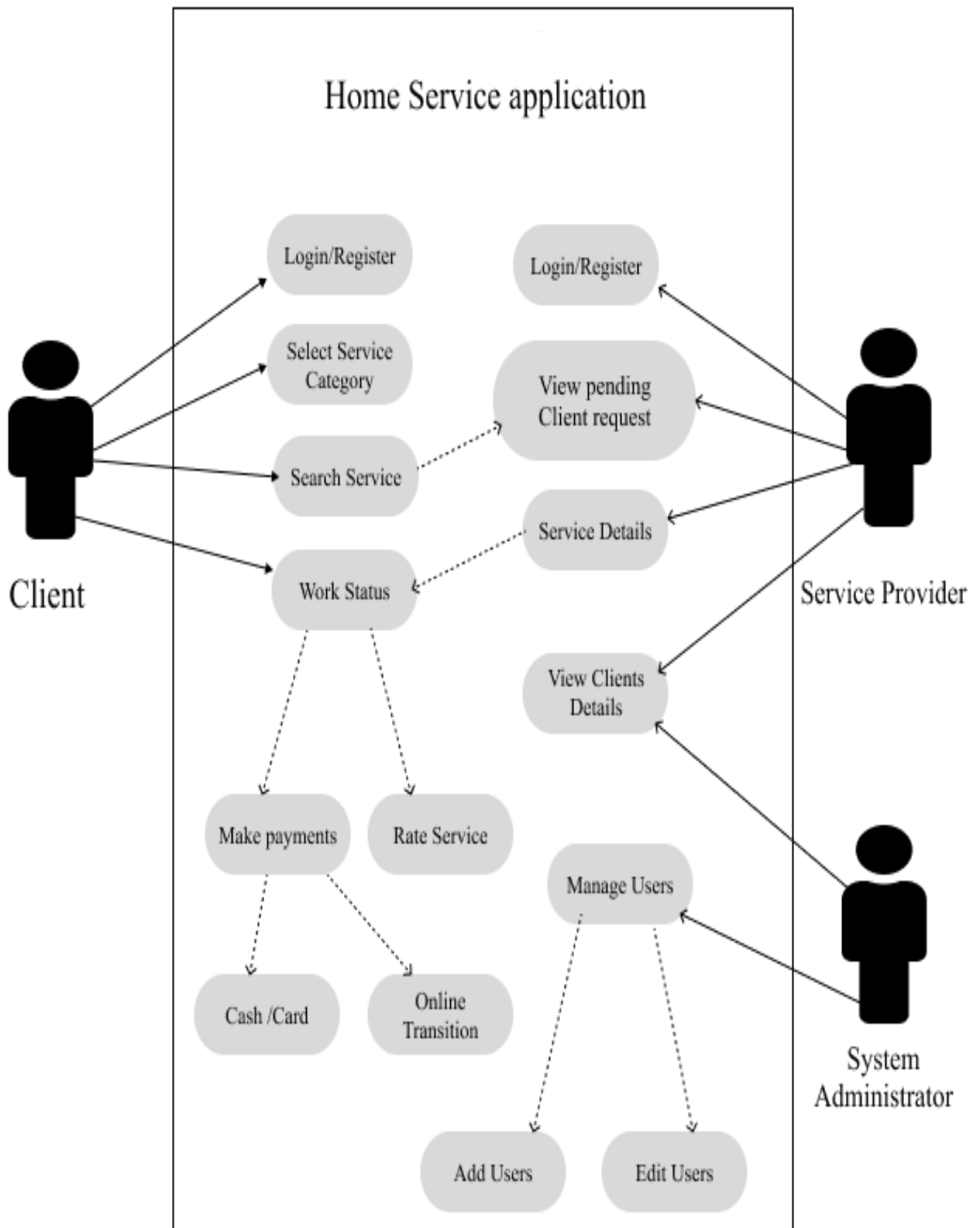
About the time frame of our project

We are going to use the agile development method.

Task ID	Task	Task owner	Start Date	End date	Duration
1	**Planning**				
1.1	Define the Purpose and Goals	Anujaya	9/13/2023	9/18/2023	5
1.2	Requirements Gathering	Jaathavan	9/19/2023	9/26/2023	7
1.3	Submit the idea	Anujaya	9/27/2023	9/28/2023	1
1.4	Get the Approval	Anujaya	9/29/2023	9/30/2023	1
2	**Analyze**				
2.1	Analze the information	Jaathavan	10/1/2023	10/10/2023	9
2.2	identify the resources	Haritha Induranga	10/11/2023	10/18/2023	7
2.3	Create a propsal	Anujaya	10/19/2023	10/23/2023	4
2.4	Submit the propsal	Anujaya	10/24/2023	10/25/2023	1
3	**Design**				
3.1	Design appopriate Diagrams	Jaathavan	10/26/2023	11/4/2023	9
3.2	Design Database	Rathnayake	11/5/2023	11/10/2023	5
3.3	Design UI/UX	Janidu	11/11/2023	11/19/2023	8
3.4	Technical and function specification	Haritha Induranga	11/20/2023	11/30/2023	10
4	**Implementation**				
4.1	Web App Development	Rathnayake	12/1/2023	12/15/2023	14
4.2	Mobile App Development	Haritha Induranga.	12/10/2023	12/25/2023	15
4.3	Preparing Interm-1	Anujaya	12/24/2023	12/28/2023	4
4.4	Database Development	Rathnayake	12/16/2023	12/30/2023	14
4.5	API Development	Jaathavan	12/12/2023	1/5/2024	24
4.6	Monitaring	Anujaya	12/10/2023	12/24/2023	14
4.7	Security and Compliance	Janidu	12/15/2023	12/21/2023	6
4.8	Deployment	Haritha Induranga	12/26/2023	12/31/2023	5
4.9	User Training & Docs	Haritha Hirushan	1/6/2024	1/12/2024	6
5	**Testing**				
5.1	Testing and QA	Haritha Hirushan	1/13/2024	2/12/2024	30
5.2	Testing and UAT	Anujaya	1/15/2024	1/25/2024	10
5.3	Find Bugs and fixing	Haritha Induranga	1/18/2024	2/8/2024	21
5.4	Launch and Release	Anujaya	2/9/2024	2/19/2024	10
5.5	Post-Launch Support	Jaathavan	2/20/2024	3/2/2024	11
5.7	Project Closure	Rathnayake	4/1/2024	4/14/2024	13
5.8	**Final Submission**	**Anujaya**	**4/15/2024**	**4/21/2024**	**6**

GANTT CHART FOR "NOKNOK" PROJECT

PROJECT TITLE	NokNock Home Service application	COMPANY NAME	NSBM
PROJECT LEADER	MAN ANUJAYA	DATE	19/10/23

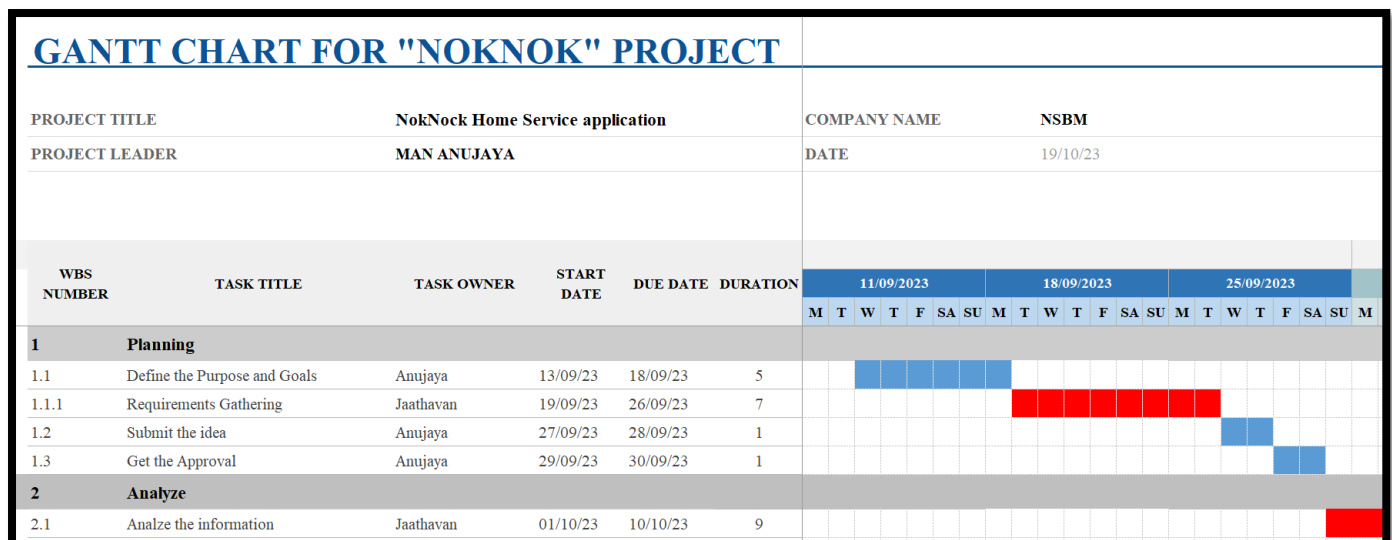| WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	11/09/2023	18/09/2023	25/09/2023
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1	Planning							
1.1	Define the Purpose and Goals	Anujaya	13/09/23	18/09/23	5			
1.1.1	Requirements Gathering	Jaathavan	19/09/23	26/09/23	7			
1.2	Submit the idea	Anujaya	27/09/23	28/09/23	1			
1.3	Get the Approval	Anujaya	29/09/23	30/09/23	1			
2	Analyze							
2.1	Analze the information	Jaathavan	01/10/23	10/10/23	9			

Figure 1:Planning Stage

- For complete overview

  https://docs.google.com/spreadsheets/d/1Ilxau7DUhhASI1JCCv6JDrsD-DoX0qWy/edit?usp=share_link&ouid=103331965586685823629&rtpof=true&sd=true

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