HOCHSCHULE
SRH HEIDELBERG
Intelligence in Learning

International Project Management

Winter Semester 2018

Project A-2: Bio Data Device

Under the guidance of
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DATE OF SUBMISSION
11/11/2018

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Table of Contents

List of Tables

List of Figures

1. Introduction

In recent times technology plays an important role in shaping the lifestyle of a person. It is prevalent in every walk of life and is being used in almost every field of study. We as an IT consultancy are going to develop a project for "Life Science and Health Technologies Company" which would help them in detecting various symptoms, parameters and anomalies in human body and provide medication as well as medical advice to the customer base of company using latest technology at our disposal. The infrastructure provided by our project would be able to store data at a secure location as well as refurbish and display it in such a way that even a common man would be able to understand it.

1.1 Initial State

The "Life Science and Health Technologies Company" require a bio data device which would be able to track different symptoms and body parameters and analyze the results to provide medication.

1.2 Target state

We as an IT consultancy company would develop a system consisting of bio data devices, application and website for "Science and Health Technologies Company". This system would help the customer base of the company to track various symptoms and body parameters of their body. The data would be transferred to the application and hub where it would be analyzed and refurbished to provide results and suggest medical advice to the customers. This data will also be available to the customer's physician and accordingly he/she can suggest medication to the customer. The app will also provide data of all the pharmaceutical shops where the prescribed medicines are available.

1.3 MoSCoW Analysis

- **Must Have**
  1. Mobile application
  2. Website with secure database
  3. User with Smart phone having wireless Bluetooth feature
  4. Devices tracking the following body parameters
     - 4.1. Step count
     - 4.2. Body mass index
     - 4.3. Sleep monitoring
     - 4.4. Heart rate
     - 4.5. Blood sugar
     - 4.6. Blood pressure
     - 4.7. Breath analyzer
     - 4.8. Blood oxygen
     - 4.9. ECG
  5. Medication tracking of customer
  6. Booking an appointment with doctor through website and application
  7. Contact emergency services in case of any incident.
  8. Secure personal data
  9. Encrypted data transfer protocol
  10. User friendly GUI

- **Should Have**
  1. The devices with body parameters mentioned below

1.1. Eye sensor
1.2. Caffeine consumption
1.3. Water consumption
2. Dietary monitoring and planning provided by application

- **Nice to Have**
  1. Doctor on video call and chat through website
  2. The devices with body parameters mentioned below
     2.1. Body odor
     2.2. Gluten test
     2.3. Nicotine consumption
  3. Comparison between different medication for the single problem
  4. Multi language functionality in application and website

2. Tasks, Roles & Responsibilities

ACTIVITIES	PERSONAGE								
	Aishwarya	Ashkan	Karamjeet	Kaustav	Rohit	Sagar	Sarang	Sreehari	Sunny
Brainstorming for requirement Analysis	R	R	R	R	R	R	R	R	R
Finance	C	C	C	C	A	C	C	C	R
Risk Management (Project Risk, Management Risk, Technical Risk)	A	C	C	C	C	R	A	C	R
Moscow Analysis	A	A	A	A	A	A	R	A	R
Stakeholder analysis	C	C	C	C	A	C	C	R	R
Project Methodology, Project plan, Work Breakdown Structure	R	A	R	C	R	C	C	A	C
Use cases	C	R	C	C	A	C	C	A	C
UX & UI Design (Prototypes)	C	R	C	R	C	C	C	C	C
Documentation	R	R	R	R	R	R	R	R	R
Marketing Analysis & strategies	C	C	R	C	C	R	C	C	R

A: Accountable R: Responsible C: Consult

Table 1: Responsibility Assignment Matrix

3. Requirement Analysis

Requirement Analysis is detailed Investigation of specific demands which are important for the Success of the Project and also to keep everyone (Customers, Users, Stakeholders) on the same page while the detailed breakdown of the requirements increases the scope of demands, wants and essentials.

In this phase the Information which is collected from the Users, Customers and Stakeholders from various Meetings, Observations, questionnaire is Validated. The validation of requirements is essential to Rectify the errors in the Earlier stages of the Project, as the cost of resolving after the execution of the Project is much more than nullifying them in the execution phase.

All the information which is gathered from the Users is divided in following dedicated Categories to ease the Analysis and study the attributes in detail.

3.1 Resource Requirements:

There will be 15 Employees working on the Project who will be divided into two Sprint Teams of 7 each with both managed by the Scrum Master

A Sprint Team will consist of

- Web Developer
- API Developer
- Mobile Developer
- Device Connection Developer
- Configuration Developer
- QA Engineer

Marketing Team also under Scrum Master.

3.2 Architectural Requirements:

The Architecture for Biodata Device Concept is integrated into 3 parts:

1. Collection of Data:
   - Bio Data Device & Remote Device

     The collection of Parameters, Symptoms, etc. from the users will be done with the help of various Bio Data devices through any medium but the data will be transferred to compatible Remote device through connectivity. A functioning Remote device and error free Biodata devices are essential for the collection to execute smoothly. Another important requirement is the data transfer rate and Battery backup for the device. As power and connectivity are priority.
2. Data Storage and Analysis:
   - Server

     After the Initial connection and collection of the data, here the server part comes into consideration where the Remote devices are connected to the Application part and database server through connectivity fidelity. At this stage Database Security is Priority.
3. Monitor and Display
   - Application where the user can see the results.

     ⇒ Smartphone/Desktop/Laptops:

     At this phase of Implementation, the data from the database will be studied and verified and here Machine Learning and Artificial Intelligence will play the part for the study of behavioral patterns as well as monitoring the data. Then displaying the users with the use of Graphical Interface at the

Application part for the Remote devices and carrying out the functions and operations.

3.3 Functional Requirements:

The system has three objects namely device, application and website. The user can download the application from Google Play Store or Apple Store. The website can be accessed from any device all over the world. The website has a registration page where the user can register by filling the details. The user can login using the mobile application using the same ID and password as that of website. The mobile application displays the data of the individual. It also displays the different parameters the devices are tracking. There is also additional feature where he can keep track of the medication suggested to him and the plan to take them on regular basis. There is also the tab where you can book an appointment with doctor for further medical advice. The website would help the customer understand the data tracked by the devices. The customer can book an appointment with the doctor also the website would have emergency contact details provided by customer. The customer can also find the medications suggested to him/her for his health improvement also certain schedule to take the medication.

3.4 Operational Requirements:

One of the essential requirements is the data anonymity of the User. It has to be validated by the Development team from implementation state to Execution state.

The app needs to work for the Smartphones, for this it is essential to check the compatibility with remote devices. There are different versions of operating systems on different devices. It should consume less power as should be able to use on Critical states.

3.5 Technical Requirements:

We aim to make use of Artificial Intelligence; via Kivy – a powerful library for mobile application development (as our target is a Mobile app) based on Python which will be used as the main software coding language, to make the HUB a self-learning platform so that it suggests the user necessary actions to be taken to maintain the standard fitness levels based on the input provided to the HUB. In addition, with Python, we also propose the use of a Cloud based database, such as Microsoft Azure SQL Database to store the collected data so that it is accessible to the users on the go.

4. Project Methodology Approach

4.1 AGILE Methodology

The Agile Method is a particular approach to project management that is utilized in software development. This method assists teams in responding to the unpredictability of constructing software. It uses incremental, iterative work sequences that are commonly known as sprints.

Principles of AGILE Methodology

- Satisfy the client and continually develop software.
- Changing requirements are embraced for the client's competitive advantage.
- Concentrate on delivering working software frequently. Delivery preference will be placed on the shortest possible time span.
- Developers and business people must work together throughout the entire project.

- Projects must be based on people who are motivated. Give them the proper environment and the support that they need. They should be trusted to get their jobs done.
- Face-to-face communication is the best way to transfer information to and from a team.
- Working software is the primary measurement of progress.
- Agile processes will promote development that is sustainable. Sponsors, developers, and users should be able to maintain an indefinite, constant pace.
- Constant attention to technical excellence and good design will enhance agility.
- Simplicity is considered to be the art of maximizing the work that is not done, and it is essential.
- Self-organized teams usually create the best designs.
- At regular intervals, the team will reflect on how to become more effective, and they will tune and adjust their behavior accordingly.

4.2 User Stories

A user story is a tool used in Agile software development to capture a description of a software feature from an end-user perspective. The user story describes the type of user, what they want and why. A user story helps to create a simplified description of a requirement.

Sprint 1 (23/07/2019 – 09/09/2019)

Use Case ID: SW001

As a	User/New User
I Want to	Launch the website
In Order to	Know more about the company

Use Case ID: SW002

As a	User/New User
I Want to	Click on the “About Us” tab
In Order to	View the Information about the company

Use Case ID: SW003

As a	User/New User
I Want to	Click on the “Contact Us” tab
In Order to	View the contact number to reach to the club

Use Case ID: SW004

As a	New User
I Want to	Register on the “Life Science and Health Technologies Company” website

In Order to	Get the membership ID from company

Use Case ID: SW005

As a	User/New User
I Want to	Redirect to Google Play store/Apple App Store from website
In Order to	Download the application

Use Case ID: SW006

As a	User/New User
I Want to	Pay Online for services
In Order to	Access the premium level

Use Case ID: SW007

As a	User/New User
I Want to	Click on the “Products” tab
In Order to	Find information and prices

Sprint 2 (16/09/2019 – 04/11/2019)

Use Case ID: SW008

As a	User
I Want to	Login to both Website and Mobile application
In Order to	Access to company services

Use Case ID: SW009

As a	User
I Want to	Logout from both Website and Mobile application
In Order to	Quit both Website and Mobile application for personal/Security reasons

Use Case ID: SW010

As a	User
I Want to	Reset my password after clicking on ‘Forget Password’ link

In Order to	Reset forgotten password

Use Case ID: SW011

As a	User
I Want to	Change the existing password
In Order to	Update the current password for personal/security reasons

Use Case ID: SW012

As a	User
I Want to	Define a target state for my body parameters with my physician
In Order to	Monitor the discrepancies, positive and negative developments

Use Case ID: SW013

As a	User
I Want to	Receive a Warning (notification) from system
In Order to	Prevent critical threshold

Use Case ID: SW014

As a	User
I Want to	Associate/Disassociate physicians
In Order to	Share my body parameters and reports

Sprint 3 (12/11/2019 – 09/01/2020)

Use Case ID: SW015

As a	User
I Want to	Add/Edit/Delete Devices
In Order to	Change my devices for personal/security reasons

Use Case ID: SW016

As a	User
I Want to	Add/Edit/Delete my parameters
In Order to	Update my parameters

Use Case ID: SW017

As a	User
I Want to	Add/Edit/Delete emergency contact
In Order to	Help me in case of emergency

Use Case ID: SW018

As a	User
I Want to	Add/Edit/Delete personal information
In Order to	Keep my profile update

Use Case ID: SW019

As a	User
I Want to	Add/Edit/Delete my medication
In Order to	Take medication on time and monitor body parameters changes

Use Case ID: SW020

As a	User
I Want to	Add/Edit/Delete ad hoc medication list
In Order to	Save the time

Use Case ID: SW021

As a	User
I Want to	Add/Edit/Delete medical reports
In Order to	Make storage on my device

Sprint 4 (16/01/2020 – 21/02/2020)

Use Case ID: SW022

As a	User
I Want to	Add/Edit/Delete my diet
In Order to	Keep tracking my diet and its influence on my body parameters

Use Case ID: SW023

As a	User
I Want to	Add/Edit/Delete hereditary diseases in family
In Order to	Update physician knowledge about my family background

Use Case ID: SW024

As a	User
I Want to	Notify Emergency and trust people by my self
In Order to	Get help in case of emergency

Use Case ID: SW025

As a	User
I Want to	Provide approval to physician
In Order to	Analyze my medical reports and suggestion of medication

Use Case ID: SW026

As a	User
I Want to	Add/Edit/Delete an appointment with physician
In Order to	Save time and have monthly check up

Use Case ID: SW027

As a	User
I Want to	Clicking on “Share it” button
In Order to	Share my reports and ask physician to analyze my report

Use Case ID: SW028

As a	Admin (member of the company)
I Want to	Insert existing users in database
In Order to	Maintain the information of existing users

Use Case ID: SW029

As a	Admin (member of the company)
I Want to	Send notification to existing users with the default password and link to download the mobile application
In Order to	Give them access for the application

Sprint 5 (27/02/2020 – 27/03/2020)

Use Case ID: SW030

As a	Developer
I Want to	Send email to respective user with membership ID and default password after registration
In Order to	Provide access to the application

Use Case ID: SW031

As a	Developer
I Want to	Send email to respective user with reset password link
In Order to	Reset user's forgotten password

Use Case ID: SW032

As a	Developer
I Want to	Notify trust people of user
In Order to	Help user in case of emergency

Use Case ID: SW033

As a	Developer
I Want to	Make a list of medications divided in two list (1- medications that need doctor's approval 2- medications that don't need doctor's approval)
In Order to	Help the user to take right medication

Use Case ID: SW034

As a	Developer
I Want to	Make an approval step for medications that need doctor's approval which means user need doctor approval after adding medications and also before editing and deleting
In Order to	prevent user from taking wrong medications

Use Case ID: SW035

As a	Developer
I Want to	make an approval step for sharing reports and body parameters for user
In Order to	Share reports and body parameters with physician

Use Case ID: SW036

As a	Developer
I Want to	Notify Emergency
In Order to	Help user in case of emergency

Sprint 6 (02/04/2020 – 15/05/2020)

Use Case ID: SW037

As a	Developer
I Want to	Make sure visualization and UX of system's client are fast and easy to understand
In Order to	Help user to get a better and easier experience of using application

Use Case ID: SW038

As a	Developer
I Want to	Make a list of all available pharmaceutical products in application
In Order to	Help user to find medications easier and more accurate

Use Case ID: SW039

As a	Physician
I Want to	Associate/Disassociate user (patient)

In Order to	See body parameters

Use Case ID: SW040

As a	Physician
I Want to	Approval/Disapproval association with the user (patient)
In Order to	Manage my time and help user to find the quickest service

Use Case ID: SW041

As a	Physician
I Want to	Add/Edit/Delete medication for user
In Order to	Help user to take right medication

Use Case ID: SW042

As a	Physician
I Want to	Approval/Disapproval user's medications
In Order to	Prevent user from wrong medications their influences on the body

Use Case ID: SW043

As a	Physician
I Want to	Add/Edit/Delete report for user
In Order to	Keep tracking of medications influences and changes on body parameters

Sprint 7 (18/05/2020 – 17/06/2020)

Use Case ID: SW044

As a	Physician
I Want to	See medical report of user as well as recorded body parameters on user's request and approval
In Order to	Define target state and monitor actual state

Use Case ID: SW045

As a	Physician
I Want to	Suggest another physician, doctor or specialist when needed
In Order to	Help user get accurate treatment

Use Case ID: SW046

As a	Physician
I Want to	Approval/Disapproval of general and critical Appointments
In Order to	Manage my time as well as user's time

4.3 Milestones

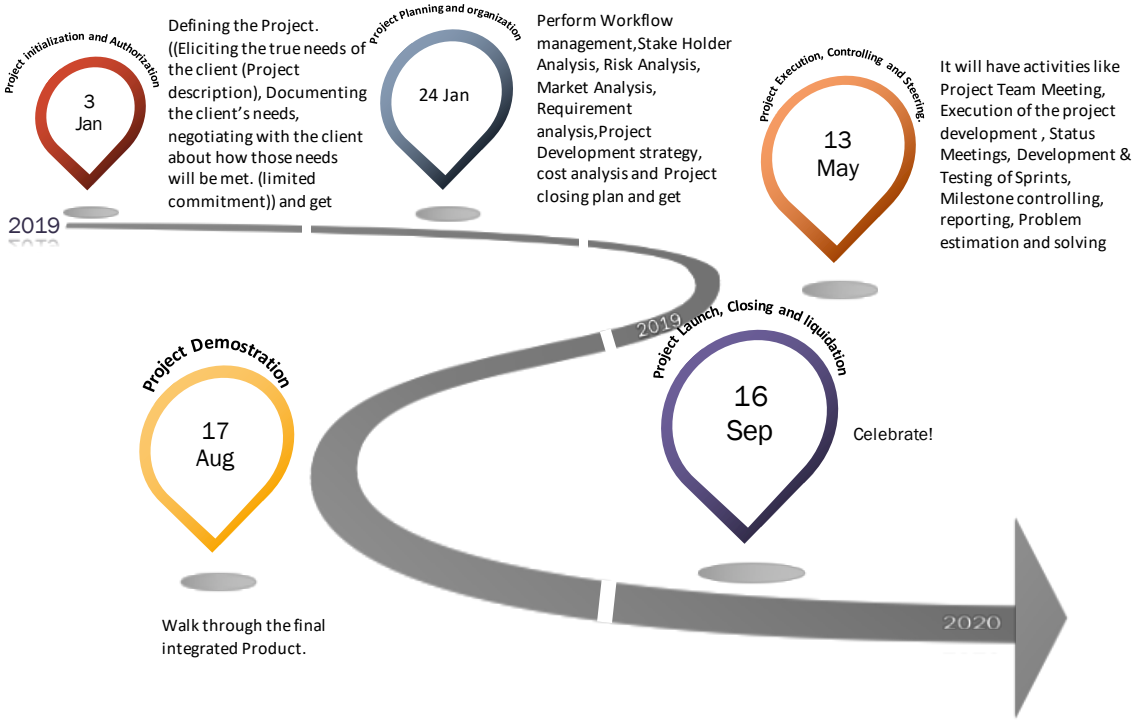

Figure 1: Infographic Timeline

Infographic Chart Data		
Date	**Milestone Title**	**Description or Activity**
23/01/2019	***Project initialization and Authorization***	Defining the Project. ((Eliciting the true needs of the client (Project description), Documenting the client's needs, negotiating with the client about how those needs will be met. (limited commitment)) and get approval to plan the project
10/05/2019	***Project Planning and organization***	Perform Workflow management, Stake Holder Analysis, Risk Analysis, Market Analysis, Requirement analysis, Project Development strategy, cost analysis and Project closing plan and get project launch approval.
14/08/2020	***Project Execution, Controlling and Steering.***	It will have activities like Project Team Meeting, Execution of the project development, Status Meetings, Development & Testing of Sprints, Milestone controlling, reporting, Problem estimation and solving strategies and Product testing.
07/10/2020	***Project Launch, Closing and liquidation***	Walk through the final integrated Product.
17/09/2020	***Project Demonstration***	Celebrate!

Table 2: Infographic Chart Data

5. Risk Analysis

Risk management consists of identification of all possible negative external and internal conditions, events, or situations as well as determining the cause-and-effect relationships between probable happenings, their magnitude, and likely outcomes. It is also application of qualitative and quantitative techniques to reduce uncertainty of the outcomes and associated costs, liabilities, or losses.

Risk Categories

- Project Risk
- Technical Risk
- Organizational Risk

		SEVERITY			
		Acceptable Little to no risk	Tolerable Effects are felt but no critical outcome	Undesirable Serious impact to course of outcome	Intolerable Could result in disaster
LIKELIHOOD	IMPROBABLE Risk is not likely to occur	Low -1-	Medium -4-	Medium -7-	High -10-
	POSSIBLE Risk is more likely to occur	Low -2-	Medium -5-	High -8-	Extreme -11-
	Probable Risk will occur	Medium -3-	High -6-	High -9-	Extreme -11-

Table 3: Risk Legend

5.1. Project Risk

- **Project Risk mind map**

Risk No.	Risk Type	Impact (L, M, H)	Probability of occurrence	Description	Effect on Project
R1.	Success rate	Low	Possible	After deployment of the Application, how many users downloaded the application will determine the success rate.	The downloads and customer's using the devices and application would generate the revenue from the project.
R2.	Competitor threat	Medium	Improbable	Another application and website with same functionality may result in loss of business in future.	We might lose some potential customer base, also we might need to increase the budget and time to add new features

R3.	**Office space**	**High**	**Improbable**	**When the workplace is not people-friendly individual productivity decreases.**	**This could effect the overall time required as well the quality of the end product.**
R4.	**Costs after the project release**	**High**	**Possible**	**Even after the project completion, there will be additional cost like application and website maintenance as well as addition of new features that would have to be considered which further adds on overall project costs.**	**This could lead to overall loss in the project as we need a strong return on investment to add new feature and provide good maintenance and support.**
R5	**Business Change**	**High**	**Improbable**	**If the company decides to go another way to attract customers instead of releasing application will affect the project.**	**The consulting company would face losses in the form of time and money spent on developing the application and website.**

Table 4: Project Risk Mind Map

- **Project Risk Mitigation strategies**

Risk No.	Risk Type	Mitigation Strategy
R1.	**Success Rate**	• **Proper marketing.** • **Easy and smooth usage of Application.** • **Interactive customer support for users of the Application.**
R2.	**Competitor threat**	• **Keep track on the changing business and add options in application accordingly.** • **Regular updates.**
R3	**Resource shortfall**	• **Recruit college interns or freelancers for less pay so that work is always balanced, and resource dependency is less.**
R4.	**Costs after the project release**	• **Providing Process Automation for maintenance support.** • **Inclusion of maintenance costs in the overall Project cost.**
R5.	**Business Change**	• **Convince the customer that the digital platform can improve business significantly.**

Table 5: Project Risk Mitigation Strategies

5.2. Management Risk

- **Management Risk mind map**

Risk No.	Risk Type	Impact	Probability of occurrence	Description	Effect on project
R1.	Scope creep (Changes in project goal)	High	Improbable	Project goal is fixed to have a hub which displays the different body parameters and provide medication advice for the same to improve health of individuals.	The changes in project goal can cause delay in project or can also result in requirement of additional resources.
R2.	In-time delivery	High	Improbable	Project has a calculated lifetime and therefore meeting the timeframe is important.	The delay in delivery can result in some competitor going ahead with the same idea which can result in loss of the project.
R3.	Resource scarcity	High	Possible	Timely delivery of the project and meeting each timeframe would be affected by any decrease in the number of developers or testers which was planned for the project.	The scarcity of resource can cause the delay in the estimated target date of project completion which can directly affect the scope of project.
R4.	Availability of stakeholders	High	Improbable	The customer must be available for every review (in a sprint meeting); every developer must be available for development.	This would result in communication gap which would in turn affect the target state of the project.
R5.	Not meeting milestones in time	Medium	Improbable	Meeting the milestone is a crucial step to keep up to the customer expectations; to gain customers trust and hence build strong relationship with the customer.	It could cause a delay in final submission of project which would eventually deteriorate the customer relationship.

R6.	**Working solo/Lack of communication**	**High**	**Possible**	**Miscommunication between the developer and manager and manager and client and vice-versa is the biggest hurdle to project success.**	**This would eventually result in decline of overall quality of product as well as very less understanding of requirements and target state.**
R7.	**Loopholes in planning of the application**	**High**	**Improbable**	**Planning should be such that it can adapt to change.**	**This could affect the overall project as well as individual roles and responsibilities in the project.**
R8.	**Intake of experienced programmers and testers for the development process**	**High**	**Improbable**	**The dependency on limited experienced programmers and testers will directly affect the overall project outcome.**	**The overall quality of the target state can be affected.**
R9.	**Rise in cost during ongoing project**	**High**	**Possible**	**The cost of the project could increase during the implementation phase of the project.**	**This could result in increase in revenue of the project which could also result in loss of the project.**

Table 6: Management Risk Mind Map

- **Management Risk Mitigation Strategies**

Risk No.	Risk Type	Mitigation Strategy
R1.	**Changes in project goal**	• **Agile project lifecycle methodology is used to provide flexibility and adaptability throughout the project lifetime.**
R2.	**In-time delivery**	• **Workflow must be optimized thoroughly.**
R3.	**Less resources like developers and testers**	• **Regulate team with guidelines, objectives and deadlines.**
R4.	**Availability of stakeholders**	• **Prior scheduling of meetings and requirement of specific stakeholder per meeting.**
R5.	**Not meeting milestones in time**	• **Regular monitoring of the progress to reach the scheduled milestones.**

R6.	**Lack of communication**	• **Reporting and Regular monitoring of each team member's tasks and attitude and behavior.**
R7.	**Loopholes in planning the application**	• **Safeguarding change management strategies.**
R8.	**Intake of experienced programmers and testers for the development process**	• **Well informed and experienced developers and testers are hired to ensure the dependency can be built on them.**
R9.	**Rise in cost during ongoing project**	• **During project planning process we can estimate all the requirements also in case of additional cost we can try to reduce the cost which would reduce overall effect on project.**

Table 7: Management Risk Mitigation Strategies

5.3 Technical Risk

- **Technical Risk mind map**

Risk No.	Risk Type	Impact	Possibility of occurrence	Description	Effect on Project
Device and Mobile					
R1.	**Network Issue**	**High**	**Improbable**	**The application and website won't function because of no network connectivity.**	**The application and website would not be able to provide data which would reduce the customer satisfaction rate.**
R2.	**Memory Issue**	**High**	**Possible**	**If the mobile device is having less storage, it cannot be installed in the first place and if RAM is running many apps at a time there is a high possibility that the Application may crash.**	**The customer won't be able to use the application which would result in losing of customer base and overall failure of project**
R3.	**Low Battery**	**Low**	**Probable**	**The application, website and devices may require battery charged to get the results.**	**The application and device functionality will be affected which would result in no detection and display of body parameters.**

R4	**Low Light**	**High**	**Possible**	**The display of result on the mobile application would be difficult to visualize.**	**The visualization of results of customer may be affected which can cause misunderstanding between customer and company.**
R5.	**No Smartphone**	**High**	**Improbable**	**The customer doesn't have a smartphone**	**The project would be a failure without the smartphone.**
Database issue					
R6.	**Database Maintenance Downtime**	**High**	**Possible**	**Database down time will impact complete working of application.**	**Database down time will impact complete working of application and website.**
R7.	**Database connectivity**	**High**	**Improbable**	**The database connectivity loss can result no storage and retrieve of data.**	**The data of the customer would not be stored which could result in errors in analysis and providing medical advice.**
R8.	**Database breakdown**	**High**	**Improbable**	**There is a crash in database storage due to some issue.**	**The display results and tracking of parameters would be affected which could overall cause dissatisfaction among the customer base.**
IT Security					
R9.	**Malware**	**High**	**Possible**	**There is some kind of malware attack on system and database.**	**Affects the overall functioning of the application and a serious threat to customer data.**
R10.	**Cloud storage**	**High**	**Possible**	**Database are vulnerable and can be hacked.**	**The data of the customers is not private which could cause overall failure of project and customer dissatisfaction.**
R11.	**Data transfer security**	**High**	**Possible**	**The data transferred from device and mobile application to hub should be secured.**	**The data should be protected or the privacy of the customer is affected indirectly affecting the overall target state.**

Table 8: Technical Risk Mind Map

- **Technical Risk Mitigation Strategies**

Risk No.	Risk Type	Mitigation Strategy
Platform		
R1.	Network Issue	• Always use a mobile network with good connectivity.
R2.	Memory Issue	• Application would be low size, also it would use less RAM and have old data files transferred to the hub.
R3.	Low battery	• Show battery warning to user. The application can work on power saver mode.
R4	Low Light	• We would provide low light display results for better recognition.
R5	No Smart phone	• To cater the customer base with smart phones • To redirect the customers without smart phone to website portal.
Database issue		
R6.	Database Maintenance and up gradation	• Having proper replication factor of the nodes in cluster and enabling rolling update.
R7.	Database connectivity	• Make sure the database connectivity is tested and checked at regular intervals.
R8.	Database breakdown	• Make sure a database support team is available to check for any occurrence of such issues and proper maintenance of database.
IT Security		
R9.	Malware	• Have a proper secure database.
R10.	Cloud storage	• Database can be TLS/SSL configured.
R11.	Data transfer security	• Have a proper encrypted data transferred to the data storage.

Table 9: Technical Risk Mitigation Strategies

6. Stakeholder Analysis

Stakeholder	Importance (Low, Medium, High)	Contribution to the Project	Expectation from the project	Strategy to enhance the support of stakeholder
Project Sponsor	High	To provide proper requirements and inputs, also have meetings and discussion to inform any changes during the project.	To have a system which would be able to cater to customer needs as well as generate good ROI.	the requirements and create a quality product within the given deadline.
Project Manager	High	To facilitate smooth functioning and proper management of the project.	The scope of the project should be achieved in the given deadline within the least amount of resources.	Make sure to meet all the milestones within the given deadlines.
Project Team	High	The team will be responsible for all activities from initial state to target state	To achieve the target state of the project within the given deadline without any loss in quality of product and resources.	Arrange meetings and discussions at regular intervals. Make sure every team member is on the same page with the progress of the project.
Developers	Medium	The development of the application and website and further updating it as per request	Good workplace, pay scale and clear understanding of requirements	Have a good working atmosphere and catering to the needs as and when required.
Q & A Team	Medium	The quality testing of the product before delivering it to the customer	To provide proper understanding of what is required and friendly working environment	Have a friendly working environment and good pay scale.
Marketing Team	Medium	The marketing of product to increase the sales of the product	The appropriate knowledge of the product as well as the budget and time to market the product	Have team building exercises and provide all the requirements on time to the team.
Customer	High	The actual user of the product	To have a product which	Understand the needs of the

			can cater the needs and provide best usability.	customer and create the best quality of product. Have the best marketing techniques which would attract the customer.
Doctor	High	The physician for the customer using the product, i.e. Secondary User	To have a product which can give the biological details of his patient.	Understand the needs of the doctor to give proper medication to the patient.
Local Pharmaceutical Shop Owners	High	Shop owners who will provide list of all medication available with them.		

Table 10: Stakeholder Analysis

M: Monitor KS: Keep Satisfied MC: Monitor Closely KI: Keep Informed

Figure 2: Stakeholder Analysis

7. Technical Process

7.1 System Architecture

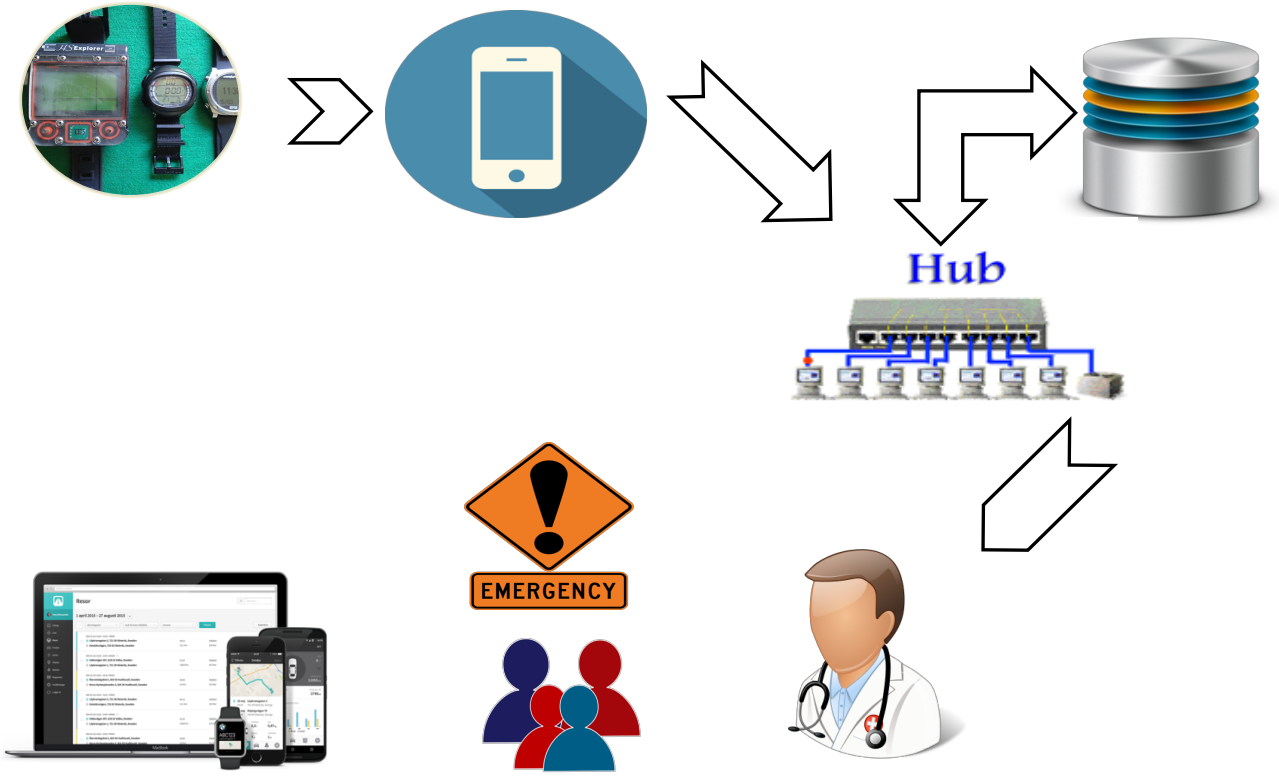

Figure 3: System Architecture

There will be multiple parts of the proposed system. Firstly, there will be the Biometric devices, e.g. a smartwatch, a vest, a Holter monitor, etc. which will be used to measure various biological parameters of the user like his heartbeat rate, ECG, Blood Sugar, Blood oxygen, etc. These devices will be connected to the user's smartphone via Bluetooth, so we need some modifications in the existing devices to support Bluetooth connectivity. The smartphone via our mobile app will send all the data to our hub which will first store the data in the database and then run the data through various algorithms and calculations to present desired data. After this the data is made available to the user on the smartphone app which he can view in different ways, e.g. trend charts showing comparison with historical data, simple numbers in the form of cards, or just as phrases stating whether they need medical attention for it or not.

The user's doctor will have access to this data and can see the historical data also in order to gain a better understanding of the user's current conditions and accordingly can prescribe medications to the user.

Based on the medication prescribed by the doctor, the user can get a list of all the pharmaceutical shops in the locality which have the concerned medicines available with them. List of the medicines available with the pharmaceutical shops is stored in the database beforehand. As per the dosage prescribed by the doctor the app will also send reminder to the user to take his medicines.

Input from the biometric devices will be taken continuously and whenever any medical parameter is crossing the defined threshold by the system, a notification will be sent to the user's doctor and his emergency contacts.

7.2 Software Overview

Our target is to make the HUB self-learning so that it can recognize the medical prescriptions and can notify the user accordingly, so that he doesn't miss the dose at any time. Another advantage of a self-learning HUB will be that in case of Diet monitoring the HUB can identify the calories intake by the user. If it's less than the average threshold, then based on the user's food habits it can suggest some steps to fulfill the deficiency.

We propose to use Python to code for our Hub which will take input from the smartphones and then store them in the database after encrypting the data using the AES algorithm.

Why Python?

- Python is Versatile, Easy to Use and Fast to Develop.
- Its power is flexibility and ease of use in both cases. The learning curve is very mild, and the language is feature-rich.
- Python is chosen by the best in the world, companies like Google, Facebook or Microsoft, and it's growing very fast.
- Developers love its features.
- Python is simple, approachable, versatile and complete. This language is an obvious choice for machine learning, data analysis and visualization.

For database we will be using Microsoft Azure SQL Database, which is a cloud-based database. We'll be storing the user data in it after encrypting it using AES algorithm.

Why Microsoft Azure SQL?

- Multiple user access 24 hours a day 365 days a year
- Azure SQL Databases User Level Access and Security
- Lower development costs
- Faster software development
- No expensive software to buy
- No hardware to purchase
- You only pay for the services you use
- Secure Data Storage at a Microsoft Secure Data Center
- Data Loss Prevention by Microsoft's redundant backups and Failover protection

7.3 UI Overview

For mobile application UI, we'll be using KIVY, which is a framework written in Python to make multi-touch applications (so KIVY and Python always go together). KIVY language is a language used to give the syntax of the kivy program a better view by representing the all the elements in the program like classes, the other classes it is inheriting, widgets and their properties and configurations etc. in a tree form.

Why KIVY?

- Combining .py +. kv language will enable you to create complex applications using many algorithms because you can use functions, regular expressions, etc., to make your application.
- The biggest feature of Kivy is the ability to write code once and deploy that code to many platforms.

- Kivy has a robust module for input, allowing for multitouch and gestures.
- Kivy comes with a number of widgets and controls that are beautifully designed. This can be a real benefit to your project if you're trying to prototype quickly, and don't yet have access to a designer.
- Because Kivy has access to OpenGL, it can perform a large array of visual effects and do quite a bit of rendering.

7.4 Hardware Overview

There are variety of hardware devices which we will be using along with the smartphone to track the biometric parameters of the user. Some of the biometric devices which we will be using are as follows:

⇒ **Smart Vest –** It will be used for monitoring respiratory rate of Chronic Obstructive Pulmonary diseases (COPD). In addition, it can also predict cardiac arrests.

⇒ **Holter Monitor** – It is a small, wearable device that keeps track of your heart rhythm.

⇒ **Athelas** – It is a lens which can be used for blood imaging and analysis from your smartphone through predictive cell counting. User should take a drop of blood with the use of lancid and a test strip and get a picture of it via the lens attachment on the smartphone.

⇒ **Smartwatch** – One of the most common biometric devices available in the market. It can be used to measure daily step count, heart rate, daily calories burnt, blood oxygen, stress level, sleep tracking, etc.

In addition, with the biometric device parameters, there will be some manual tracking functionalities where the user has to feed in the details manually. Such monitoring is required for functionalities such as diet monitoring, water consumption, weight tracking to calculate BMI, adhoc medication the user is taking, etc. The hub will be smart enough to recognize these manual inputs and suggest the user accordingly to take necessary actions.

8. Project Plan

No.	Activity Name	Start Date (dd.mm. yyyy)	End Date (dd.mm. yyyy)	Duration (No. of working days)	Predecessors	Assigned to
1	***Project initialization and Authorization***	***03.01.2019***	***23.01.2019***	***13***		
	a) Recruiting the project manager	03.01.2019	04.01.2019	1		Project management team
	b) Defining the Project. *((Eliciting the true needs of the client (Project description), Documenting the client's needs, negotiating with the client about how those needs will be*	07.01.2019	15.01.2019	7		Project management team

	met. (limited commitment))					
	c) Define target state of the project *(Create one-page description of the project and the target state)*	16.01.2019	18.01.2019	3		Project management team
	d) Gaining senior management approval to plan the project	21.01.2019	23.01.2019	2		Project management team
2	***Project Planning and organization***	***24.01.2019***	***10.05.2019***	***71***	***1 d)***	
	a) Create project organization structure.	24.01.2019	30.01.2019	5		Project management team
	b) Workflow management. *(Defining all the work of the project, Milestones and Activities)*	31.01.2019	11.02.2019	8		Project management team
	c) Sequencing the work *(create work breakdown chart)*	12.02.2019	15.02.2019	4		Project management team
	d) Stake Holder Analysis *(Perform stake holder analysis and create report)*	18.02.2019	22.02.2019	5		Project management team
	e) Risk Analysis *(Perform risk analysis and create its report)*	25.02.2019	08.03.2019	10		Project management team
	f) Market Analysis *(perform market analysis and create its report)*	11.03.2019	13.03.2019	2		Project management team
	g) Requirement analysis *(Elicit and analyze the requirement, define functional and non-functional, hardware aspects of the project, create user stories, use cases. Create requirement analysis report and feasibility report)*	14.03.2019	10.04.2019	20		Project management team + Technical Team

	h) Project Development strategy *(create project development strategy, document the technical resources required, technical architecture of the project, client demo, client approval for UI. and technical architecture)*	15.04.2019	23.04.2019	5		Project management team + Technical Team
	i) Project Budget *(perform cost analysis and create its report)*	24.04.2019	30.04.2019	5		Project management team
	j) Project closing plan *(create project closing plan, define project approval criteria, planning and installing deliverables and User acceptance criteria.)*	02.05.2019	03.05.2019	2		Project management team + Technical Team
	k) Document the Project Plan *(create the project plan with all reports like stake holder analysis, risk analysis and cost analysis report)*	06.05.2019	08.05.2019	3		Project management team
	l) Gaining senior management approval to launch the project.	09.05.2019	10.05.2019	2		Project management team
3	***Project Execution, Controlling and Steering.***	***13.05.2019***	***14.08.2020***	***317***	***2 l)***	
	a) Project Team Meeting *(Recruiting the different teams of the project, establishing team operating rules, conduct team orientation and Assign roles/responsibilities)*	13.05.2019	14.05.2019	1		Project management team + Technical Team

	b) Execution of the project development strategy. *(Development of UI. Server -end, Database and mobile application, creation of test suite, test case for Sprint 1)*	15.05.2019	19.07.2019	46		Technical Team
	c) Status Meeting 1 *(UI. Design, technical Architecture testing strategy approval from client)*	22.07.2019	22.07.2019	1		Project management team + Technical Team
	BUFFER if any changes are suggested by the client in 3c)	23.07.2019	26.07.2019	4	3c)	Technical Team
	d) Development & Testing of Sprint 1	23.07.2019	09.09.2019	35		Technical Team
	BUFFER for development and testing of Sprint 1	10.09.2019	13.09.2019	4		Technical Team
	e) Status Meeting 2 *(Sprint 1 Demonstration)*	13.09.2019	13.09.2019	1		Project management team + Technical Team
	f) Development & Testing of Sprint 2	16.09.2019	04.11.2019	35		Technical Team
	BUFFER for development & testing of Sprint 2 & backlogs from Sprint 1	05.11.2019	08.11.2019	4		
	g) Status meeting 3 *(Sprint 2 Demonstration)*	11.11.2019	11.11.2019	1		Project management team + Technical Team
	h) Milestone controlling, reporting.	12.11.2019	13.11.2019	2		Project management team + Technical Team
	i) Problem estimation and solving strategies	14.11.2019	15.11.2019	2		Project management team + Technical Team
	j) Development & Testing of Sprint 3	12.11.2019	09.01.2020	35		Technical Team
	BUFFER for development & testing of Sprint 3 &	10.01.2020	14.01.2020	3		Technical Team

	backlogs from previous Sprints					
	k) Status Meeting 4 *(Sprint 3 Demonstration)*	15.01.2020	15.01.2020	1		Project management team + Technical Team
	l) Development & Testing of Sprint 4	16.01.2020	21.02.2020	27		Technical Team
	BUFFER for development & testing of Sprint 4 & backlogs from previous Sprints	24.02.2020	25.02.2020	2		Technical Team
	m) Status Meeting 5 *(Sprint 4 Demonstration)*	26.02.2020	26.02.2020	1		Project management team + Technical Team
	n) Milestone controlling, reporting	27.02.2020	28.02.2020	2		Project management team + Technical Team
	o) Problem estimation and solving strategies	02.03.2020	03.03.2020	2		Project management team + Technical Team
	p) Updating of Project plan and project document	04.03.2020	06.03.2020	3		Project management team + Technical Team
	q) Development & Testing of Sprint 5	27.02.2020	27.03.2020	22		Technical Team
	BUFFER for development & testing of Sprint 5 & backlogs from previous Sprints	30.03.2020	31.03.2020	2		Technical Team
	r) Status Meeting 6 *(Sprint 5 Demonstration)*	01.04.2020	01.04.2020	1		Project management team + Technical Team
	s) Development & Testing of Sprint 6	02.04.2020	15.05.2020	29		Technical Team
	t) Development & Testing of Sprint 7	18.05.2020	17.06.2020	21		Technical Team
	u) Product integration & testing	18.06.2020	17.07.2020	21		Technical Team
	v) Compatibility & Performance testing *(Mobile and Web base application performance testing, compatibility testing*	20.07.2020	31.07.2020	10		Technical Team

	and End- to- End testing)					
	w) Security Testing	03.08.2020	14.08.2020	10		Technical Team
4	***Project Closing and liquidation***	***17.08.2020***	***07.10.2020***	45	3u, 3v, 3w	
	a) Project closing plan execution. *(Perform UAT testing)*	17.08.2020	11.09.2020	20		Project management team + Technical Team
	b) Gaining client approval of having met project requirements.	14.09.2020	15.09.2020	2	4a	Project management team + Technical Team
	c) LAUNCH (Planning and installing deliverables.)	16.09.2020	17.09.2020	2	4b	Project management team + Technical Team
	d) Writing the final project report.	18.09.2020	02.10.2020	11		Project management team + Technical Team
	e) Conducting the post-implementation audit.	05.10.2020	07.10.2020	10	4b, 4c	Project management team

Table 11: Project Plan

9. Application Flow

Customer

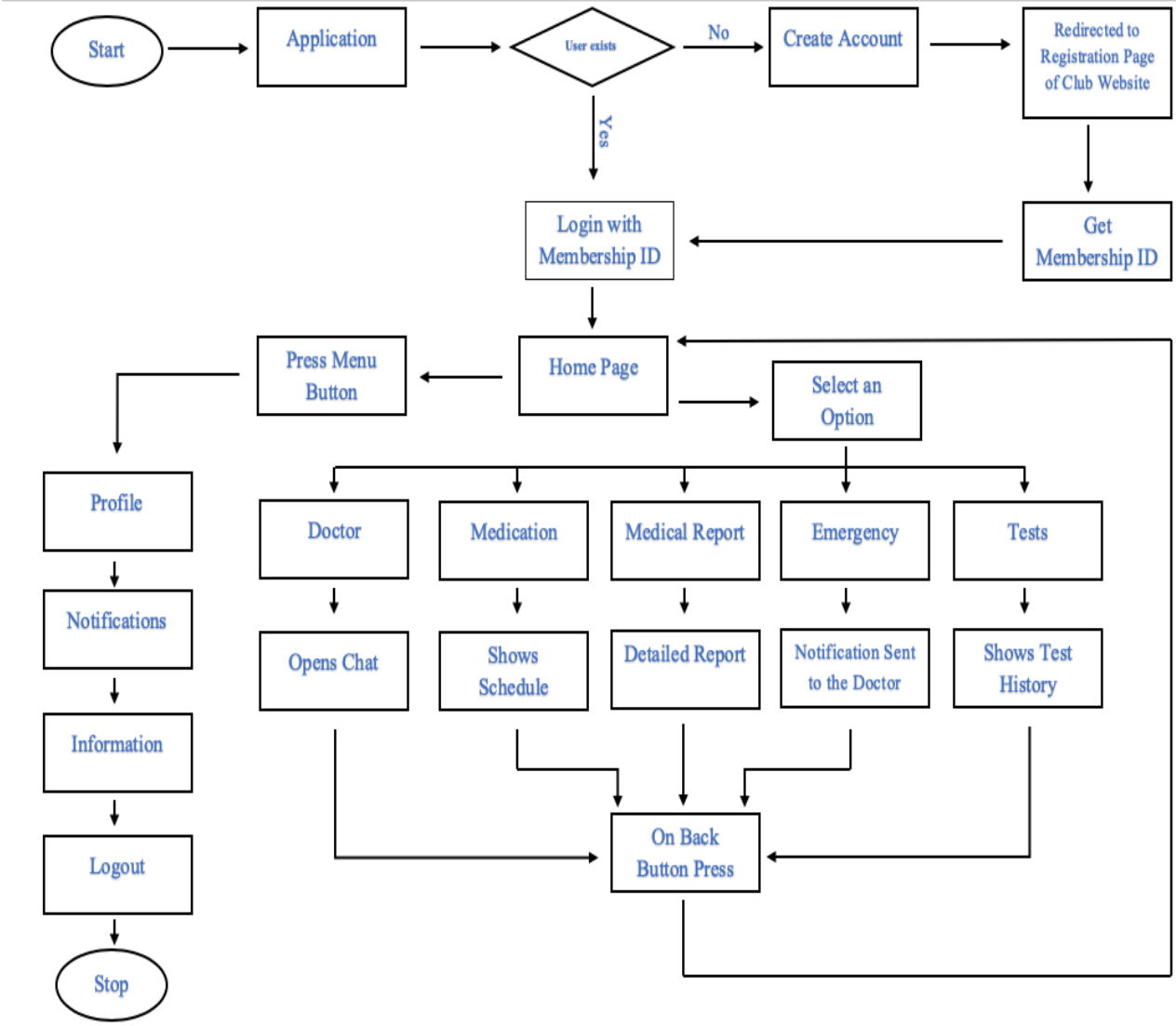

Figure 4: App Data Flow for a customer

Physician

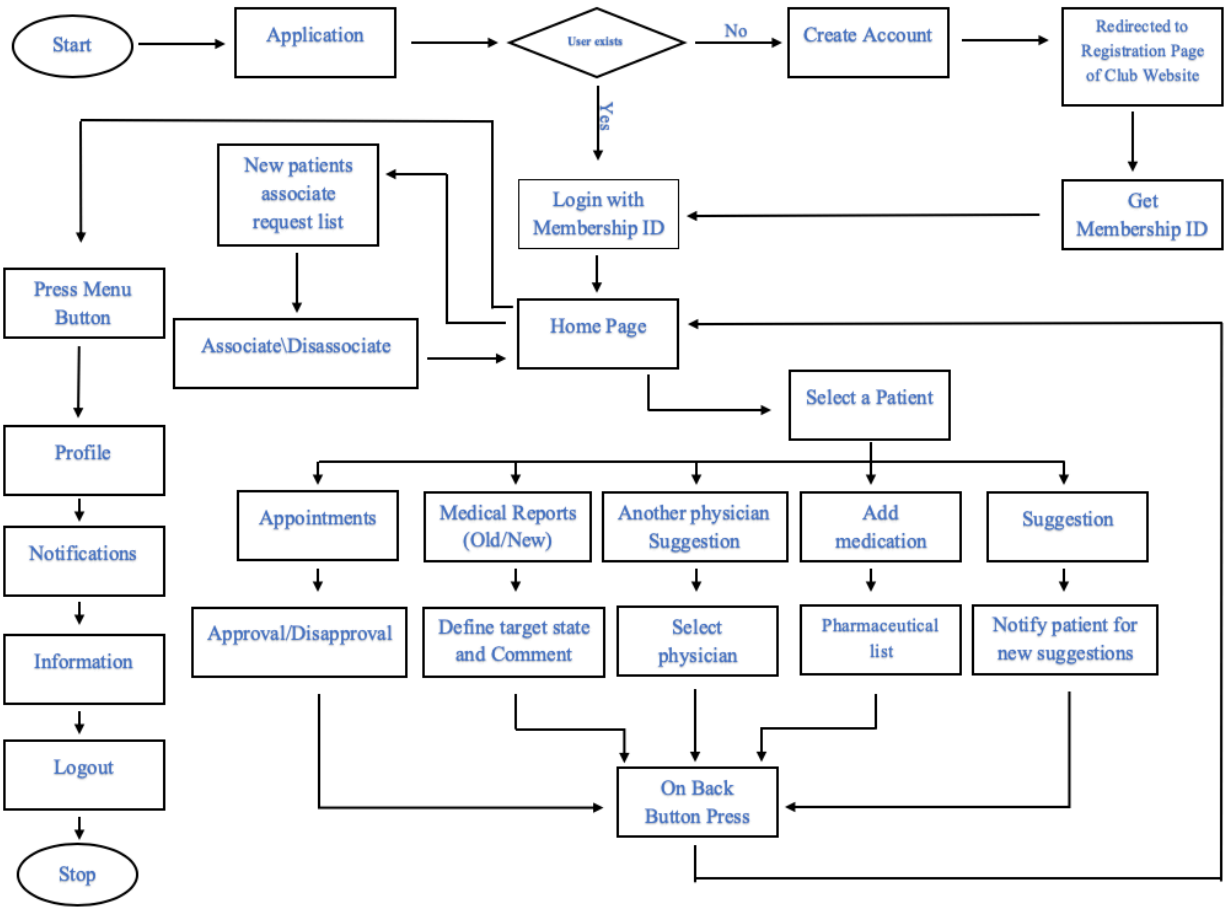

Figure 5: App Data Flow for a Physician

10. Cost Estimation

The budget of the project decides the cost estimation required in the project. This helps us to analyze the project on whole and accordingly market the product to have better sales and earnings. The more precise your estimation the better is managing the funds available for project. It also helps you get an idea regarding the amount required and take proper steps to keep the project within available funds. There are different techniques available to determine the budget of the project. We have used bottom-up approach for estimating the budget of the project. This technique provides the most accurate results. The cost of each and every resource is calculated with very precise detail which helps us determine the precise cost of whole project. The budget of the project is distributed among the below three categories

1. Human Resources
2. Hardware and Software requirements
3. Other costs

Below is the table which provides the budget of overall project.

	Number of resources	Estimation (In Euros)
Human Resources		
Developer Team	2	1,00,000
Q&A Team	2	54,000
Tester	2	40,000
Marketing Team	3	40,000
Lawyer	1	20,000
Business Analyst	1	48,000
Server maintenance team	1	50,000
Accounting Team	2	60,000
Hardware and Software		
Licensing cost		1,00,000
Database cost		1066(once) + 1603(per year)
Hardware requirements		40,000
Other Costs		
Contingency Cost		10,000

Table 12: Budget Table

11. App UI Design Sample

11.1 Desktop UI samples:

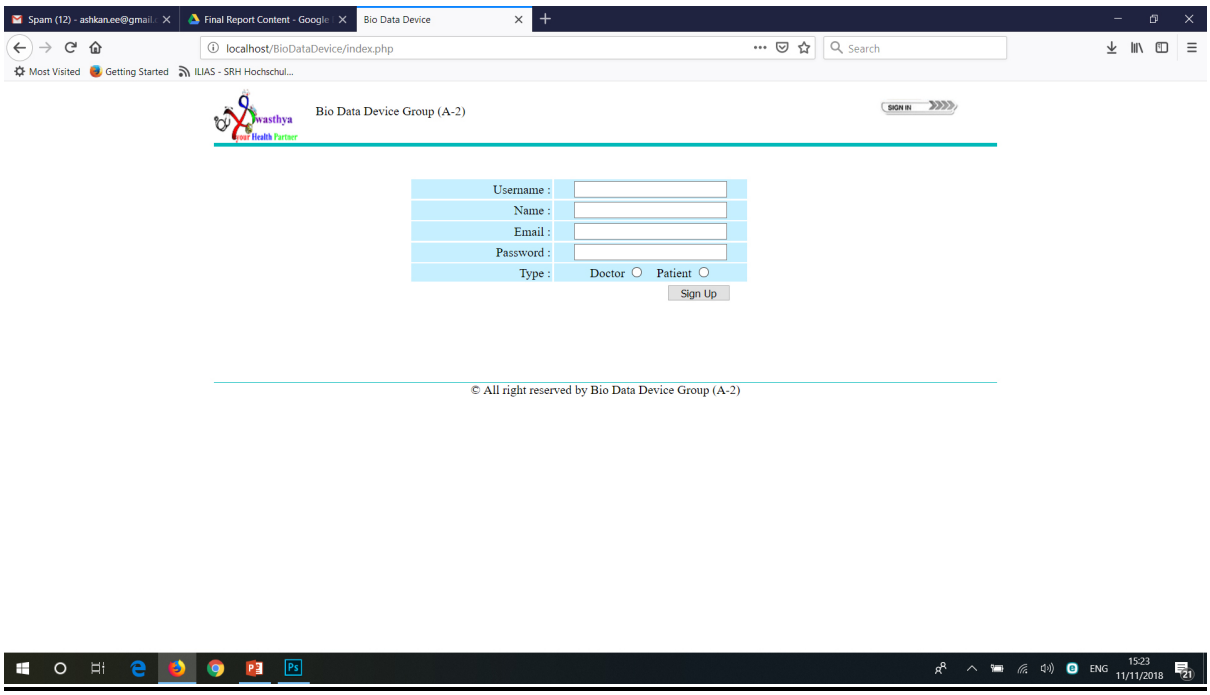

Figure 6: Sign Up Page

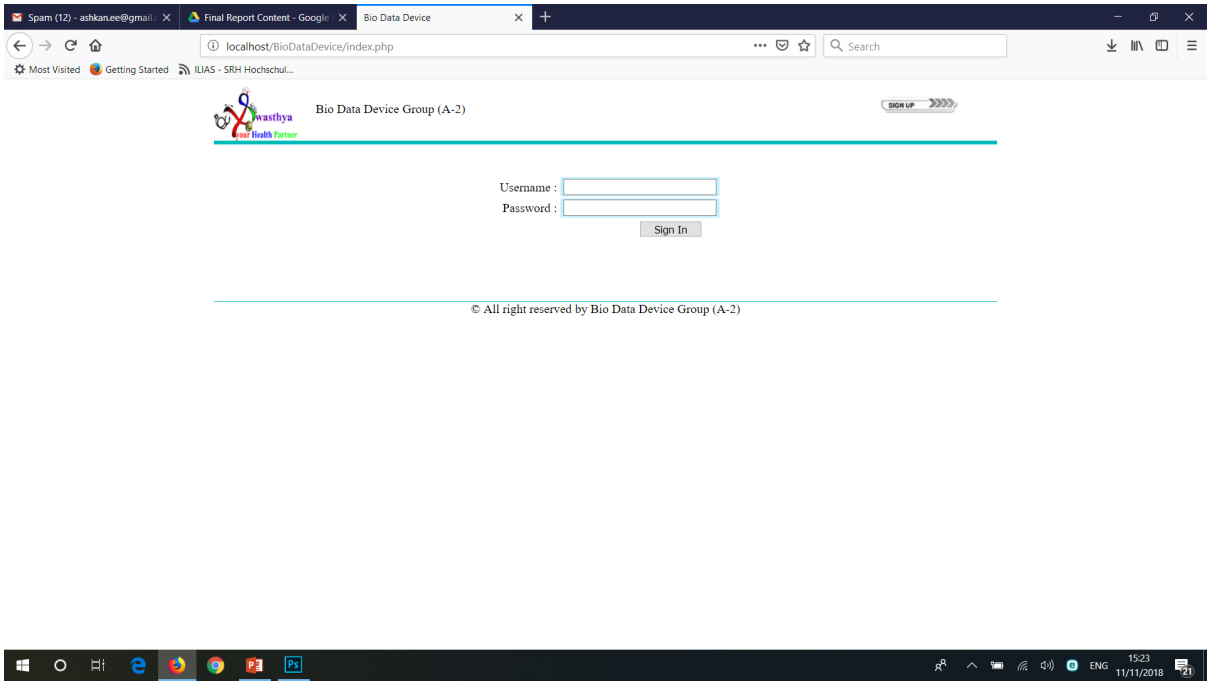

Figure 7: Sign in Page

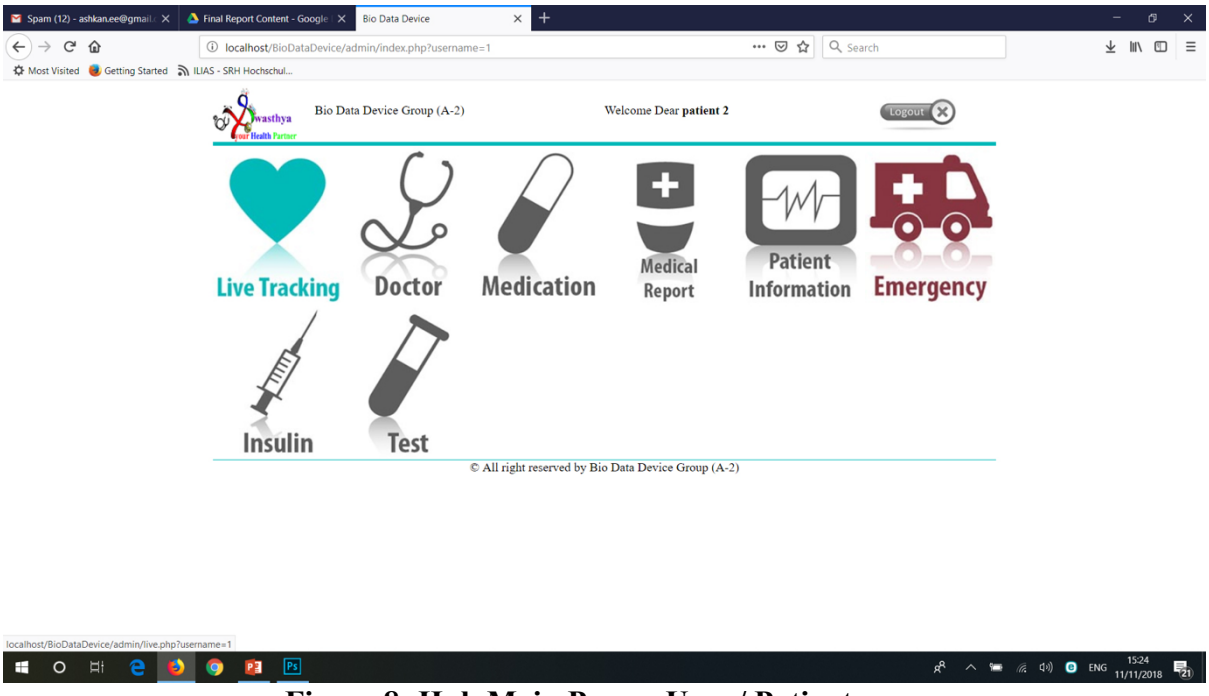

Figure 8: Hub Main Page – User / Patient

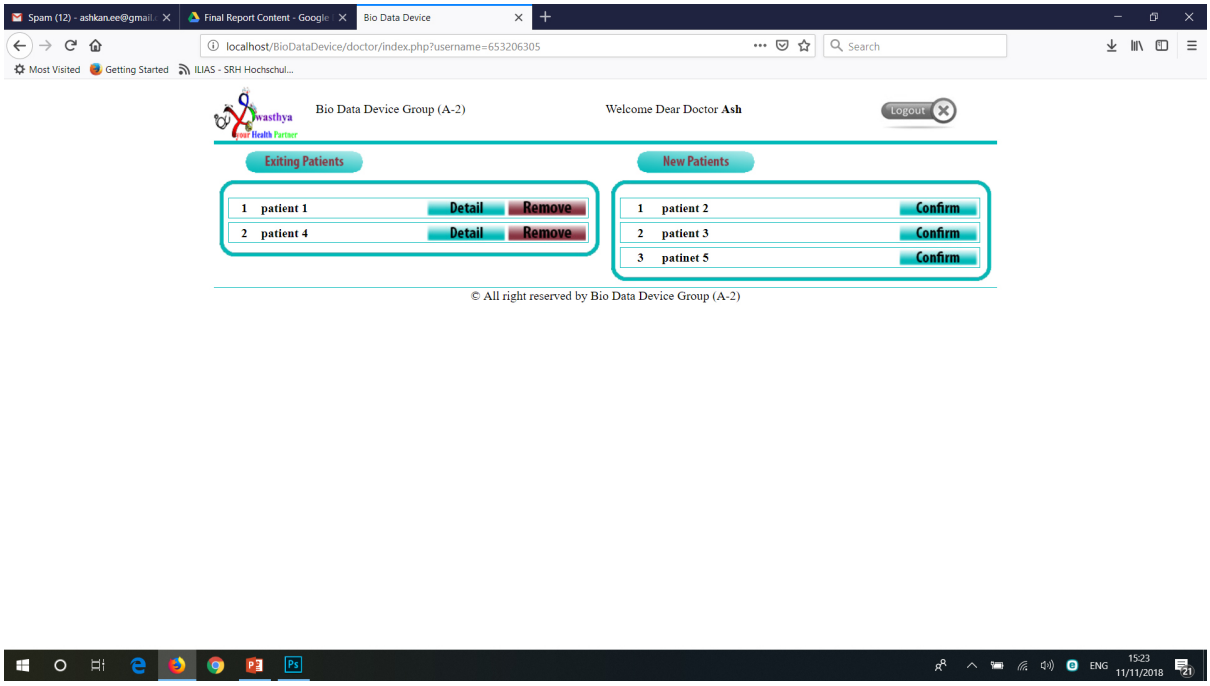

Figure 9: Hub Main Page – Doctor / Physician

11.2 Mobile UI samples:

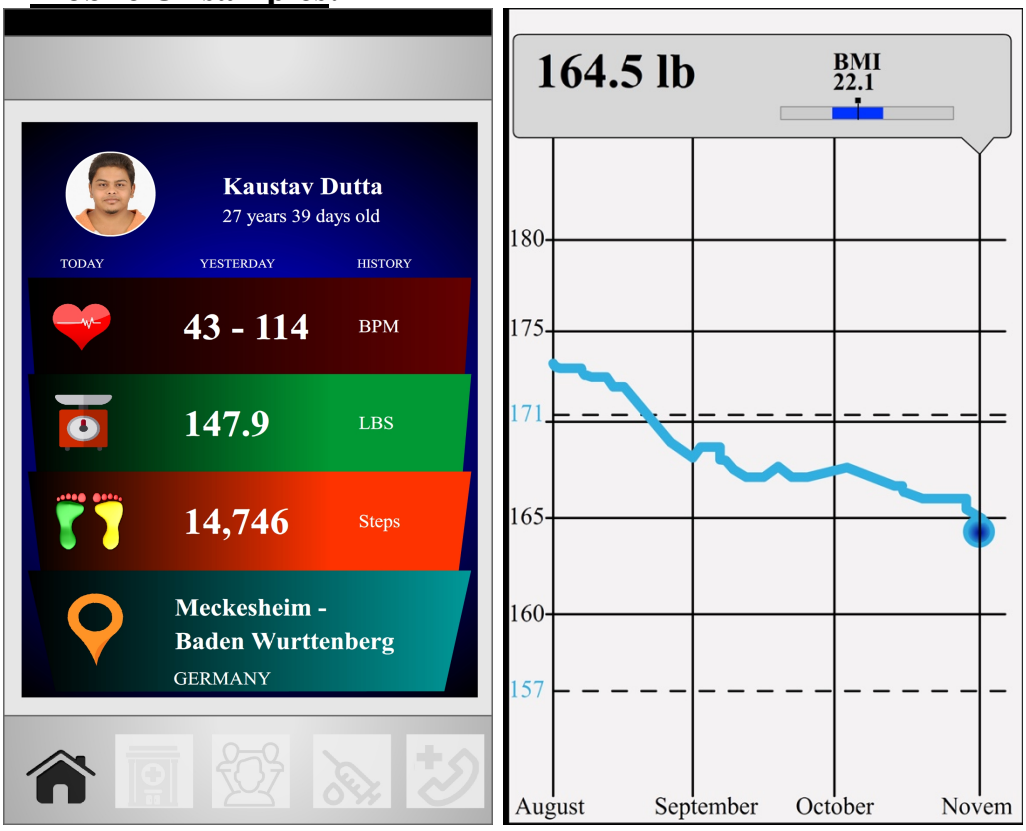

Figure 10: Patient Home / Detials UI

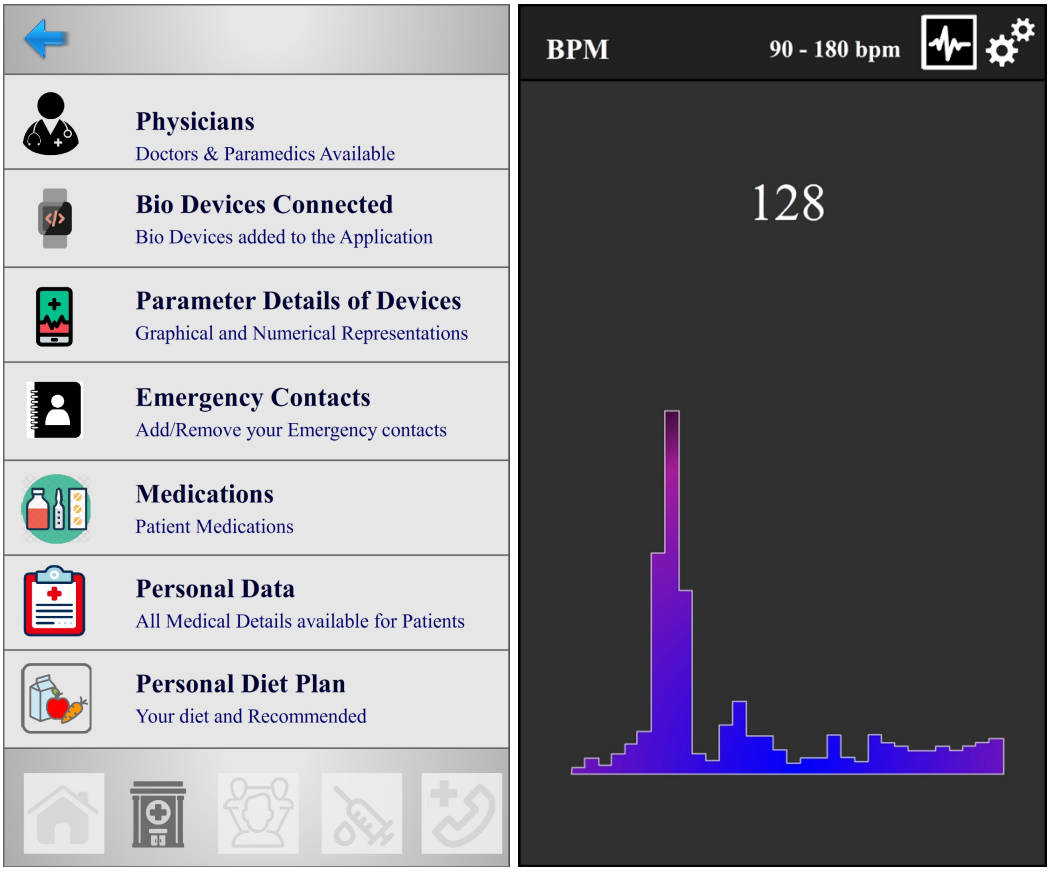

Figure 11: Patient Details UI

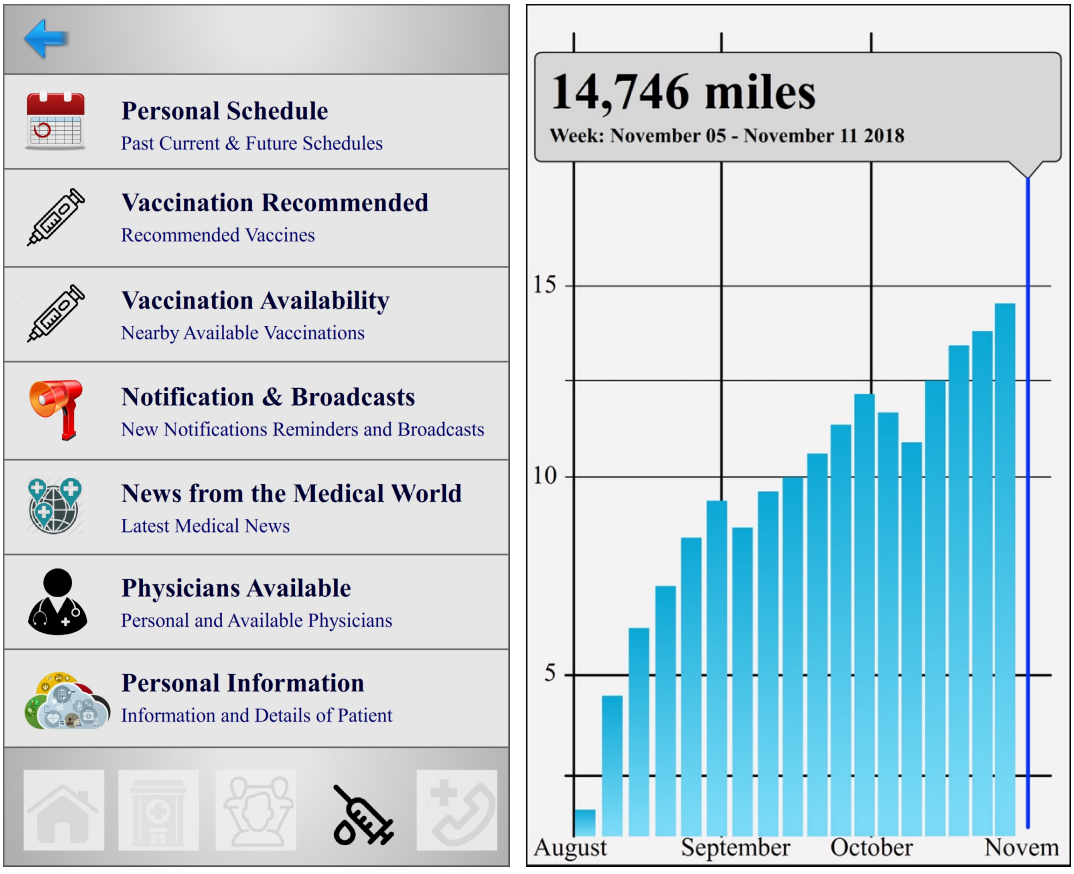

Figure 12: Patient Vaccination / Step Count UI

Figure13: Patient Emergency UI

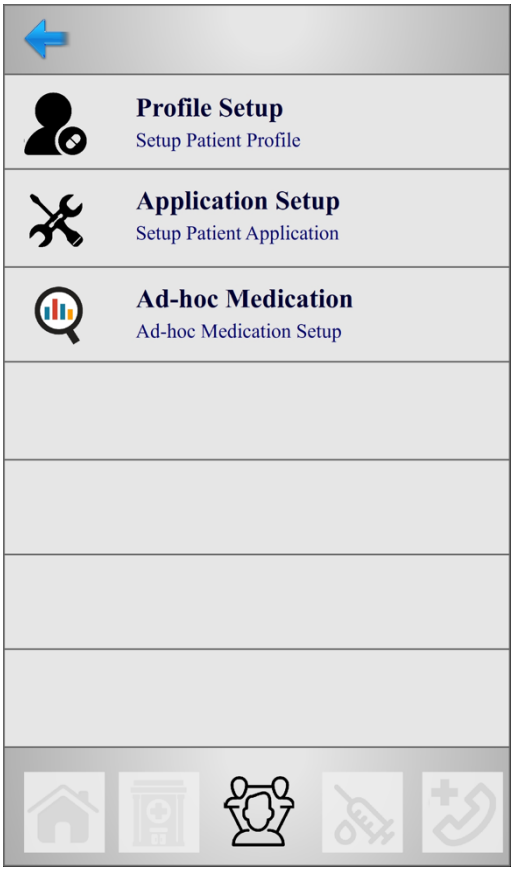

Figure 14: Patient Profile UI

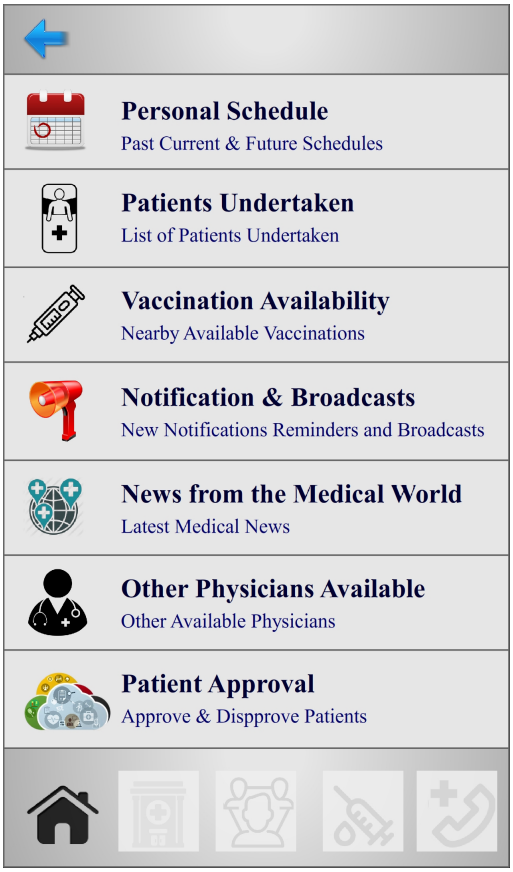

Figure 15: Physician Home UI

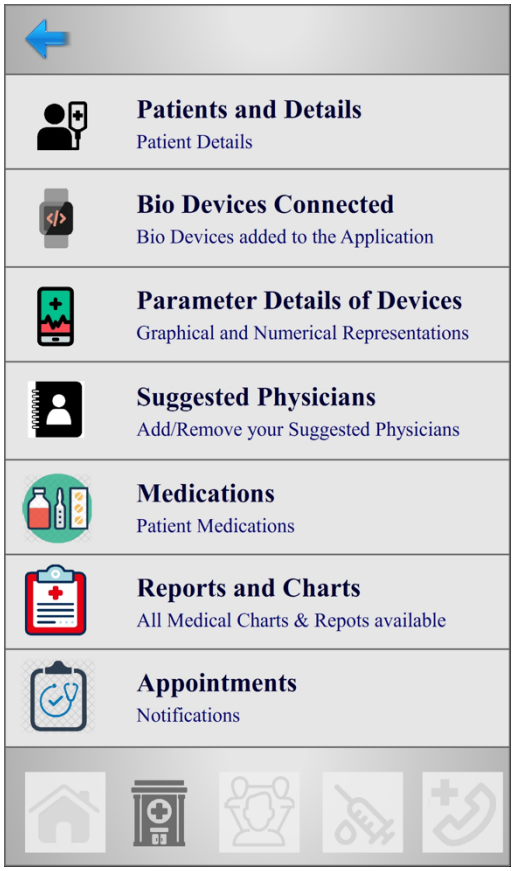

Figure 16: Physician Details UI

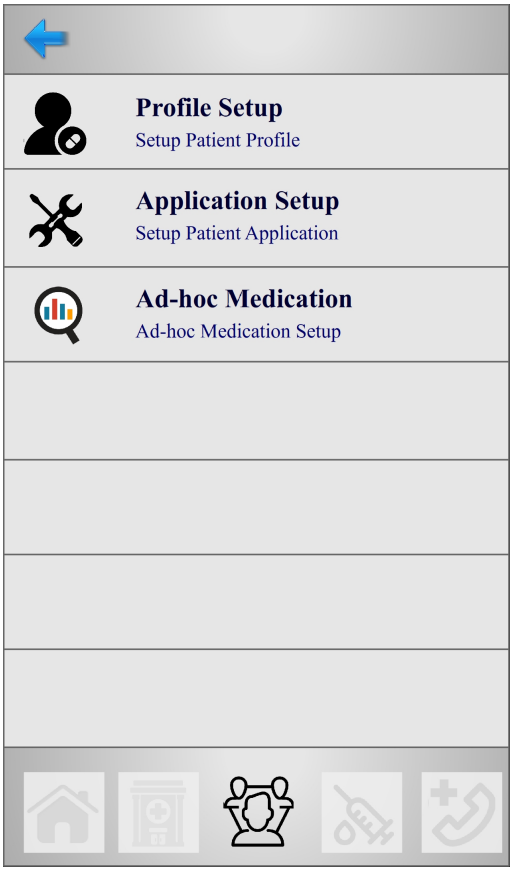

Figure 17: Physician Profile UI

Figure 18: Physician Emergency UI

12. Marketing Analysis & Strategies

Survey and Health Trends

As technology is progressing day by day there needs to be a system which can help user in tracking different symptoms and body parameters and provide medication for the same. But in order to get a solution for such a problem we need to understand proper needs of market. Market analysis uses different research techniques to understand the current market trends and necessity of the customer base for such a system. For understanding the customer needs we have used the traditional methods of survey and market research. Below results would give us a brief overview of recent health trends.

1.) CVD accounts for 45% of all deaths in Europe
2.) Each year cardiovascular disease (CVD) causes 3.9 million deaths in Europe and over 1.8 million deaths in the European Union (EU).

3.) Cardiovascular disease (CVD) causes more than half of all deaths across the European Region.
4.) CVD causes 46 times the number of deaths and 11 times the disease burden caused by AIDS, tuberculosis and malaria combined in Europe.
5.) 80% of premature heart disease and stroke is preventable.
6.) Diabetes is a major risk factor and trigger for cardiovascular disease.
7.) Study on Adult Health in Germany (Studie zur Gesundheit Erwachsener in Deutschland, DEGS1, 2008–2011) of the Robert Koch Institute] is 8.6 % for asthma.

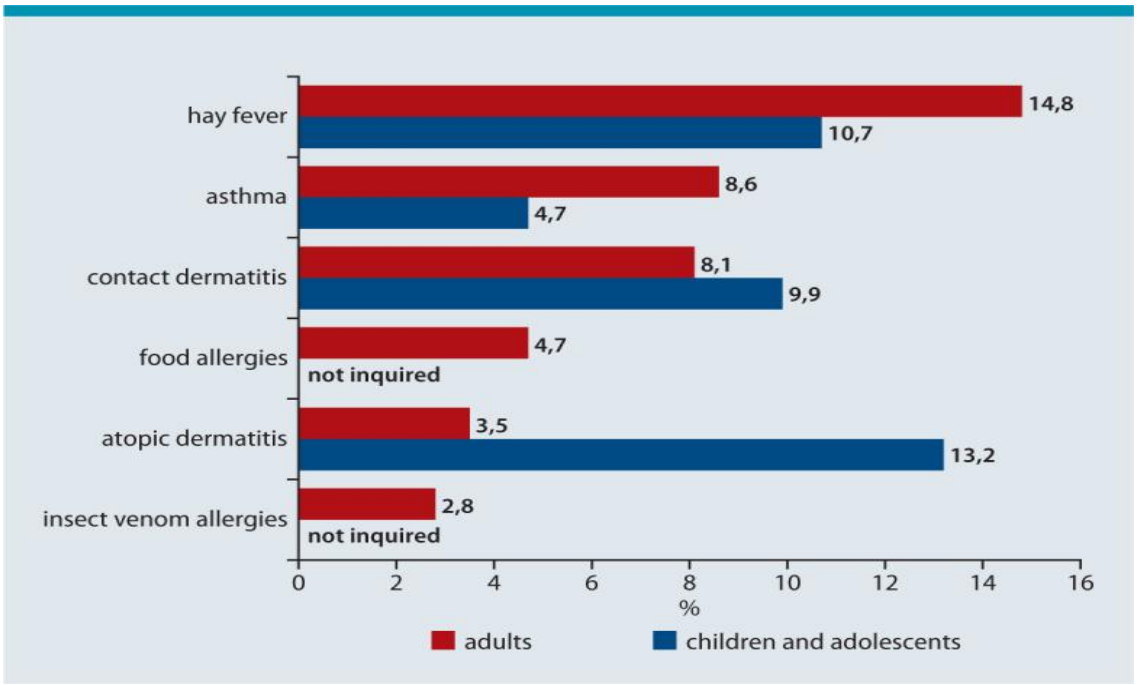

Figure 19: Breathing Problem Analysis

Competitor Analysis

There are a lot of devices for fitness and health tracking. The devices can track different body parameters such as blood oxygen, blood pressure, heart monitoring, sleep monitoring etc. The devices can display results on application and have proper monitoring system. Below is the list of few devices along with tracking parameters.

- Apple smart watch: Calorie count
- Samsung application: Blood pressure, Sleep monitoring
- BioAsthama: Asthma tracker

These devices track individual parameters and display the result. Our system is based on collecting parameters from different devices and displays them on a single application. The system would also suggest medication for the different health problems. The user can also book appointment to the doctor if required. The doctor can study the reports of patient and suggest medical advice accordingly. The system can alert emergency contacts in case of any incident. These features would make the whole project standout from already existing products in the market.

The existing companies are using one single parameter for marketing of the device. The target is a particular set of audience which is currently having that disease. Some devices use healthy lifestyle as a way to sell the product. They use digital marketing and online promotion for selling the device and attract the customers. The customer base is basically the ones looking out for healthier lifestyle. There are also some companies which provide discounts and combo offers with their other high selling products. The sales of devices with more health tracking features is high, still there is lot of untapped market in case of other body parameters or combo of all parameters which we are going to explore through our project.

Marketing Sales & Strategies:

1. Target Consumers:
    1. Existing Customers of the Company:
       These are existing customers of the Life Science and Health Technology Company.
    2. Consumers with Critical Illness:
       The Consumers which are suffering from any critical illness.
    3. Consumers with Illness:
       A Consumer which accesses the device in case of an illness or monitoring his data.
    4. Lifestyle monitoring Consumers/ Fitness Freaks:
       A perfectly fit consumer who access the Application for Monitoring Daily lifestyle and health.
       An athlete or a fitness conscious consumer comes under this category.
    5. Medical Consultants:
       All the Doctors, Physicians, Dieticians etc. are in this category of consumers.
    6. Medical Institutions:
       All the Hospitals, Clinics, Community centers etc. are grouped under this Category.
    7. Pharmaceuticals:
       The Pharmacists as well as large scale and small-scale Industries are the consumers.

2. Packages:

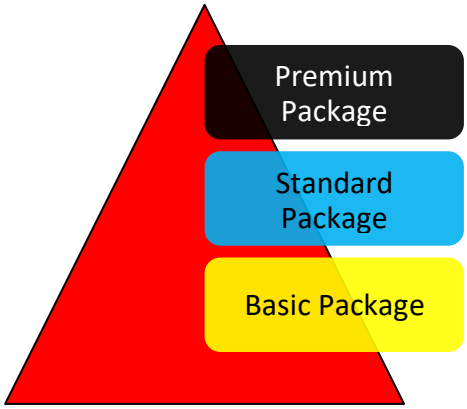

Figure 20: Package Type Pyramid

1. Premium package:
   - ➢ This category of Premium package involves:
     - Application
     - Hub
     - Notification Services
     - Medication Services
     - Pharmacy
     - Emergency Services
     - Existing Services if any
   - ➢ 15% Waiver to Senior Citizens for registration month/year/tenure.
   - ➢ 10% Waiver to Pregnant Women & Critically ill Patients for registration month/year/tenure.

2. Standard Package:
   - ➢ This category of Premium package involves:
     - Application
     - Hub
     - Notification Services
     - 5 Times Usable Medication Services
     - Emergency Services
   - ➢ 10% Waiver to Senior Citizens for registration month/year/tenure.
   - ➢ 5% Waiver to Pregnant Women & Critically ill Patients for registration month/year/tenure.

3. Basic Package:
   - ➢ This category of Premium package involves:
     - Application
     - Hub
     - Notification Services
     - 2 Times Usable Medication Services
     - Emergency Services

- ➢ 10% Waiver to Senior Citizens for registration month/year/tenure.
- ➢ 5% Waiver to Pregnant Women & Critically ill Patients for registration month/year/tenure.

Another Category which doesn't include in our packages but still exists is the 'Free Version' which includes

- ➢ Application + Notification Service + 1 Time Usability of the Hub Part Services and Functions for the overview.

3. Packaging Based on Consumers:
   1. Existing Customer Base:
      - ➢ Premium Package free for first 3 months without any hindrance as the perks of being the Customers of the Client Company.
   2. Customers with Critical Illness:
      - ➢ Premium Package Trial version free for First month after the access and Verification of the Customer in the Critically ill category.
      - ➢ Package will expire due to inactivity as Critically Ill person will use it on the regular basis.
   3. Customers with Illness Monitoring:
      - ➢ 25 days Standard package Free Trial + 5 Days Premium Package.
      - ➢ Inactivity Threshold Increased to a week.
   4. Customers with Lifestyle Monitoring/Fitness Freaks:
      - ➢ 30 Days Free Trial of Application Including 5 Days of the Hub side.
      - ➢ Special Notification Service to Motivate Users.
      - ➢ Various Charts and Fitness Analysis
      - ➢ Includes health tips from trusted Dietician in the 5 days of the Hub side.
      - ➢ Money building Customer Base will have fancy features and prices.
   5. Medical Consultants:
      - ➢ 25 days of Application & Hub + 5 days Of Premium in the Free Trial
      - ➢ Free Application for a year once registered as a trusted partner.
      - ➢ Important Customer as will help in increasing Database.
      - ➢ A variant UI to this type of customer as data fields will be different from other customers.
   6. Medical Institution:
      - ➢ Application part over the Desktops/Laptops or dedicated devices as this will help to

      Increase the customer base from the Institutions.
      - ➢ Free application over Hub for the Institution for 6 months as a part of verified Partner scheme.
   7. Pharmacy:
      - ➢ Basic Sales based Customer line. Single base Ui varients for the Customers
      - ➢ Mostly exclusive of the Delivery domain, but if included in the delivery domain as per the company policy further Fees will be applied.
      - ➢ Standard Package suggested as the prime business will be for the enlargement of the customer base through contact and suggestions as well will be helpful in Money making for the **Life Support part** of the Project.

4. Product Promotion Strategies:

Following are the core Promotional strategies

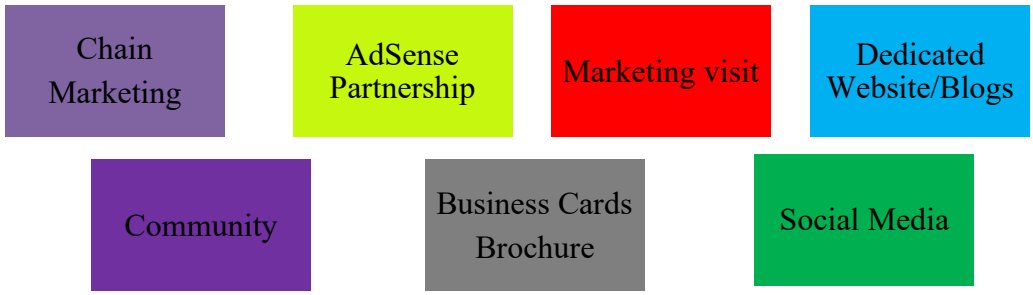

Figure 21: Promotional Strategies

1. Chain Marketing:

A traditional but fruitful way of marketing which involves growing the customer database with the help of present customer base with many attractive offers.

➢ Refer& Earn

Refer the Application to other users and earn in terms of Package.

➢ Active Customer bonus

A Prime customer will get free extensions in terms of plans for loyalty.

➢ Various Exclusive Offers depending on the trends.

2. AdSense Partnership:

Sticking to the present trends of the lifestyle the AdSense partnership over the social media is an option where we can market our product with ease,

3. Marketing Visit:

A dedicated part of Marketing team which will have visits at

- Medical Institution
- Old Age Home
- Community Centre
- Medical seminars
- Colonies

4. Dedicated Websites/ Blogs:

A website which promotes the project and the benefits involved for the customers which will be interactive and will also have various links to applications and the prime website.

5. Community:

Start a community which will promote the project over the scope and increase Product name.

6. Brochure/ Business cards:

Unlike the traditional brochure or business cards this is an innovative way for promotion as having A Suggestion Clause which will affect the customers of type Medicines and Pharmacy (not to be messed up with normal customers) which will

customize a business links and suggestions of our product on their sites as well as in their customer base dependent blogs, brochures etc.

7. Social Media:

The use of various social sites for the promotion with the links assigned over there, ads over these sites and A small teaser of the Product in case for the customer to have an overview of the Product.

SWOT Analysis

Strengths, Weaknesses, Opportunities, and Threats Analysis				
Strengths	**My Company**	**Competitor 1(Fitbit)**	**Competitor 2(Biodata devices)**	**Competitor 3(Biodata Corporation)**
What are your business advantages?	The company focuses on providing better health solutions to various diseases and improving the health of customer	The company makes health monitoring device which is used to track different health parameters such as steps,calories burned etc.	The company provides medical solutions for chronic care and social assistance services	The company provides equipment, accessories and software for hemostatis and platelate function.
What are your core competencies?	The company has system which not only tracks the different body parameters but also provide medical advice to the patient. It also helps in maintaining track of different medicines of user.	The company tracks the fitness level of the user as well as provides daily results to help in improvement of fitness of user.	The core business of company is provding medication and succesfull tracking of chronic diseases.	The company is leading manufacturer of thrombosis,hemostatis and platelate function.
Where are you making the most money?	The money is generated mostly on customers with heart and breathing diseases.	The company earns most of its money on customer base with more concern for fitness.	The company earns most of its profit from cutomer base with chronic diseases.	The company's major share of profit comes from biotechnology and pharmaceutical companies.
What are you doing well?	The main idea of system to support customer with different diseases is the are in which company is doing well.	The product which helps in improving the fitness of customer	The company is doing well by supporting customer's with a particular set of diseases	The focus of company to manufacture products for major companies in biotechnology.
Weaknesses				
What areas are you avoiding?	Improvement of lifestyle of person by diet and fitness monitoring.	To provide suggestion to improve health of cutomer	To provide medications for customer's whith diseases detected by the system	The regular user which can benefit from the services.
Where do you lack resources?	The expansion budget of project to ad more body parameters and symptoms to track.	The improvement and upgradation of already exsisting technology.	The marketing of product to cater proper audience.	To explore and expand in medicine market.
What are you doing poorly?	Focusing more on customer base with heart and blood problems and less on rare diseases	Appealing more to modern crowd and marketing less to older generation.	More focus on technology and less on marketing the product.	Focus more on large companies and less on regular population.
Where are you losing money?	On maintenance of the whole system	Marketing of product	Enhancement of already exsisting technology	Maintenance of already exsisting technology.
What needs improvement?	The overall GUI which could cater elderly audience.	The overall GUI which could cater elderly audience.	Addition of new medical tracking parameters.	To bring regular population benefits of the product.
Opportunities				
Any beneficial trends?	The sudden increase in use of technolgy in market for all daily needs.	The sudden increase in use of technolgy in market for all daily needs.	The sudden increase in use of technolgy in market for all daily needs.	The sudden increase in use of technolgy in market for all daily needs.
Niches that competitors are missing?	Having better understanding of customer needs	Focus on particular customer base.	Single device for particular body parameters.	Focus on larger companies
New needs of customers?	Add more body tracking parameters.	Add more fitness tracking parameters.	Add more body tracking parameters.	Create new medication parameters.
Threats				
Obstacles to overcome?	Having proper customer feedback for further improvement in system	The previous records are not stored on device. Also no backup for application failure.	No application available for enhanced user experience.	No application available for enhanced user experience.
Aggressive competitors?	N.A.	Yes	Maybe	Yes
Successful competitors?	Biodata devices	Apple smart watch, Samsung gear	Biodata corporation, Hollister monitoring	Biodata devices
Negative economic conditions?	No	No	No	No
Government regulation?	For tracking of some diseases and suggestion of medication.		For tracking of some diseases and storage of user data.	For providing certain medication
Changing business climate?	No	No	No	No
Vulnerabilities?	Hacking of data, Bug hit and Database downtime	Carry watch everywhere for tracking,Android phone required.	Hacking of data, Bug hit and Database downtime	Hacking of data, Bug hit and Database downtime

13. Executive Summary

Project Description

Technology has become the backbone of human life. Almost entire population relies on technology for their daily activities. The progress of IT sector for the last few years has been phenomenal. So, we as an IT consulting company are going to develop a system for "Life and Science Company" wherein the users of the company can use different bio data devices which track body parameters and symptoms as well as provide medication and medicinal advice to patient which would help in improving the health of the patient.

Target State

The target system has three part namely bio data devices, mobile application and web-based portal. The devices would be able to track different body parameters such as blood sugar, blood pressure, step count, WBC's, blood oxygen, heart rate etc. The results would then be sent to mobile application and hub where it would be refurbished and displayed in such a way that even a common man could understand it. The web-based hub portal would also be able to suggest medication as well as provide option to book an appointment with doctor in case of any emergency.

Time cycle of project

21 calendar months

Target Audience

Customers of "Life Science Company" and population of Germany.

Competition

Any other IT consultancy with project of similar kind.

Risks

The major risk is to get user accustomed to the system as well as get proper rights and regulations to store and secure user data.

Opportunities

The system developed is one of a kind which can track different body parameters as well as suggest medication to the user without any visit to the physician. This could have a larger audience appeal. We have a GUI which can be used by all demographics. This could help a lot of citizens in improving their lifestyle and health as well as generate a great ROI.

Conclusion

The project report developed helps us get an overview of the system developed by our company. It improves the overall health of the consumers as well as provides tracking of different body parameters. The timelines and plan provided give the scope of the project. The long-term benefits to consumers make the project standout among others. With proper funding, the project plan developed would become reality and would be beneficial to consumers as well as the company.

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