

## Maternal Healthcare

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**Abstract** - Here we want to create a Mobile application named Maternal health care which will be well accessible to the general public. Maternal health is one of the most important thing during pregnancy and it is essential that all pregnant women have access to high quality obstetric care throughout their pregnancies. This application has been taken as a protective and safety based application for women. This application provides an easy way to the users to learn about the maternal health of the women and to consult the doctor and health counsellor online. Physically going and looking out for a doctor, counsellor can be really time consuming but with the help of this application people can consult to the doctor and counsellor from their home. They just need a mobile phone and internet connection. This application provide the digital platform to the people to make people aware about the maternal health.

**Key Words:** Maternal health, Pregnancy, etc.

### 1. INTRODUCTION

Maternal health refers to the health of women during pregnancy, childbirth and the postnatal period. Each stage should be a positive experience, ensuring women and their babies reach their full potential for health and wellbeing. But many women does not know about the maternal care and as a result of this many women died every year. The most common and direct causes of maternal injury and death are infection, lack of awareness about maternal health care, obstructed labour, irregular checkups during pregnancy. Due to these reasons many women lost their lives every year. So, we just need to agree that maternal health should be a priority if we want to ensure that pregnancy and childbirth are safe for every mother. One of the biggest challenge in the maternal health of a woman is the lack of knowledge. This application provides the facility to learn about the maternal health and to consult the doctor for any physical problem and to health counsellor

for any mental problem. Once a women is pregnant, she must have the knowledge of maternal care like a women must be aware of going to the hospital for her regular checkups, during pregnancy a women must follow a proper and a healthy diet. But some women take this issue of maternal health care very lightly. Maternal and child health is an integral part of the woman and child's life. So, to improve the availability of and access to quality health care we introduce a new system "MATERNAL HEALTH CARE" which is a mobile application. In this application, we provide an easy access to the users to understand the importance of maternal care during pregnancy. This application proves useful to identify existing health risks in women and to prevent future health problems for women and their children.

### 2. MODULES

In this system there are different interface:

- First is admin having complete watch over the whole application. Admin can add the doctor or health counsellor. Admin can register the doctor or health counsellor requesting over the application so that doctor or health counsellor can help the users about their health. Admin can see the registered users, doctors and health counsellor.
- Next we have user module. This module involves the user registration and login. To consult the doctor or health counsellor a user have to register on the application. At the time of registration user have to fill up the personal details on the system. After registration, a user can login with the email and password stored in database and can view her profile and can edit her own profile. User can search the doctor and counsellor according to their city. For example, if user write panipat in the search option then it will show the list of all the doctors available in panipat then user can view the profile of all the doctors or health counsellors and by reading the reviews of all the doctors or heath counsellors user can decide

which doctor or health counsellor she wants to consult. Then, there is a chat box between user and doctor through which whole process takes place between user and doctor. User can see the prescription or solution given by the consulted doctor or counsellor later on by logging into her account.

- Then, we have doctor module, doctor can register himself/herself if he/she wants to help someone by filling up their personal details on the application. After registration, a doctor can login with the email and password stored in database and can view the users consulted them according to their location. He/she can view their profile and medical history and provide the medication to the user according to their problem and medical history.

- At last we have health counsellor module involves the counsellor registration and login. A counsellor can register himself/herself if he/she wants to help someone by providing counselling and by providing information regarding mental health by filling up their details. After registration a counsellor can login with the email and password stored in database and can view the users consulted them by learning them about their health and can provide the necessary counselling to the user which consulted them.

### 3. PURPOSE OF THE SYSTEM

The main aim of developing the online Maternal health care system is for the welfare and safety of the pregnant women. Some women do not prefer regular checkups during their pregnancy because of the issue of going to the hospital regularly. So, this application will reconstruct the bridge between the two – the women and the doctor respectively. So now with the help of this application pregnant women can consult their doctor for regular checkups during their pregnancy easily from their home. Aim of this system is to make everyone aware about the maternal health of women during pregnancy.

#### 3.1 Scope

As the technologies evolves, we can update the application by adding new functionalities. We can also make the application more secure by adding the new security features. With the time, one can add new modules and the functionalities. In future, this application can improves the balance between the doctor and the patient. It is simply accessible by any user. This application will provide user with a profile under where user can consult with the doctor and the counsellor. This application prevents overheads and saves time. This application is a very easiest way to consult doctor and counsellor. This application provides a user-friendly environment, where user can easily learn about the maternal health and various ways to improve maternal health by consulting doctor. Also in future this mobile application can

be improved like by implementing video chat option between the user and the doctor.

### 4. FEASIBILITY STUDY

Feasibility Study is the complete study of project in a technical, operational and economical manner so that we can come up to a conclusion whether the software is feasible in all ways or not. In case the project is not feasible, we try to make changes or recommend changes that are to be undertaken so that the project is made feasible and is useful for users. Feasibility study mainly includes testing the technical, operational and economic feasibility of a project or software. Feasibility studies are undertaken under many circumstances.

#### Operational Feasibility Study:

A software/project is operationally feasible if it supports any number of users. Any action performed by the user do not undermine the advantages of system.

“**Maternal Healthcare**” is a kind of software wherein any number of users, doctors and counsellors can be registered and it does not alter the functioning or benefit of the software in any way. Hence, the software is operationally feasible.

#### Technical Feasibility Study:

A software or project is said to be technically feasible if –

- The technology/tool used is easily available.
- The technology can be easily upgraded to a newer version.
- The tools used in the project and hence, the project can perform the required actions.
- The project can provide immediate responses to queries.
- The technology and software assures security in all ways

“**Maternal Healthcare**” has been made using java, android and Sqlite all are easily available, are upgradable and are known for security purposes. Also, the project provides immediate answers and all the necessary actions that a user may require.

#### Economic Feasibility Study:

A software is said to be economically feasible if it can be viewed as a good investment for the user/company.

“**Maternal Healthcare**” is made in Android which is easily available, and allows the code to run without recompilation which saves both time and money. Once purchased, this software can be used for long. Hence, it is economically feasible.

### 5. SYSTEM ANALYSIS

Analysis specifies what the system should do. Analysis was done by keeping in mind all the modules of the project. Here, we mainly focused on our design which had to be simple and user-friendly. Here, we also keep in mind that the registration must be totally secured and confidential. In system analysis appearance of the system is also important therefore, it had to be made pleasant and easy to understand to attract the users. This system is useful in present times and can be extended or updated in future as per the requirements. In system analysis privacy is also important so, we keep privacy during registration and also during the accessing of system.

Lastly, we will give the proper information to the administration and how this application will work. User must complete the validation and verification process completely only then the registration form completes.

#### Use Case Diagrams:

The Use Case Diagram represents the methodology employed in system analysis to determine, clarify and organize system needs on maternal healthcare application.

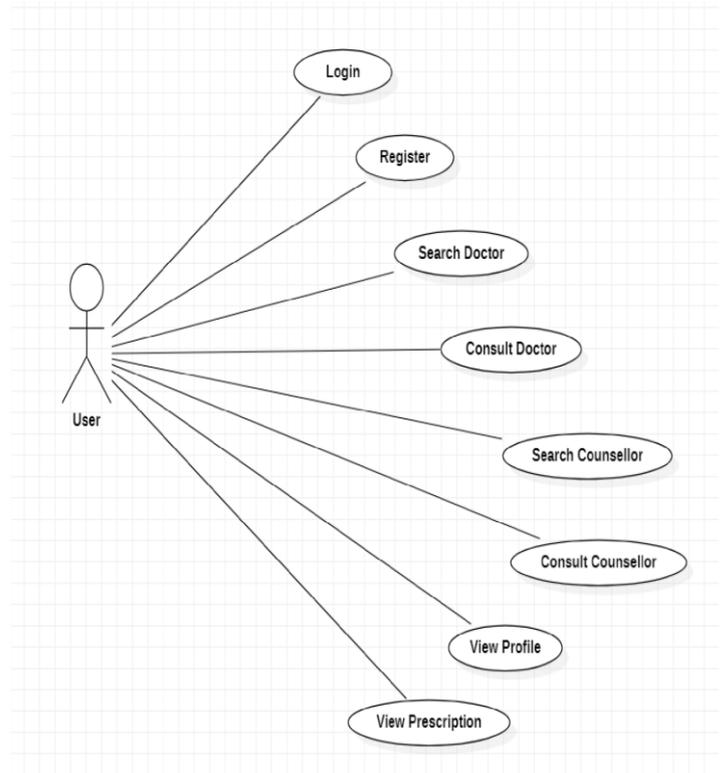


Fig – 2: Use Case Diagram of User Module

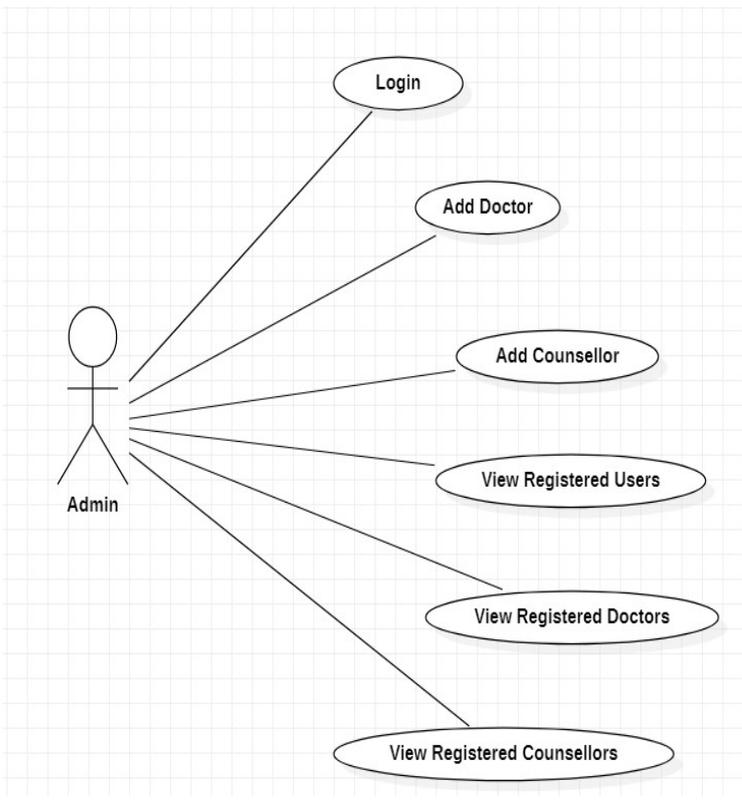


Fig – 1: Use Case diagram of Admin

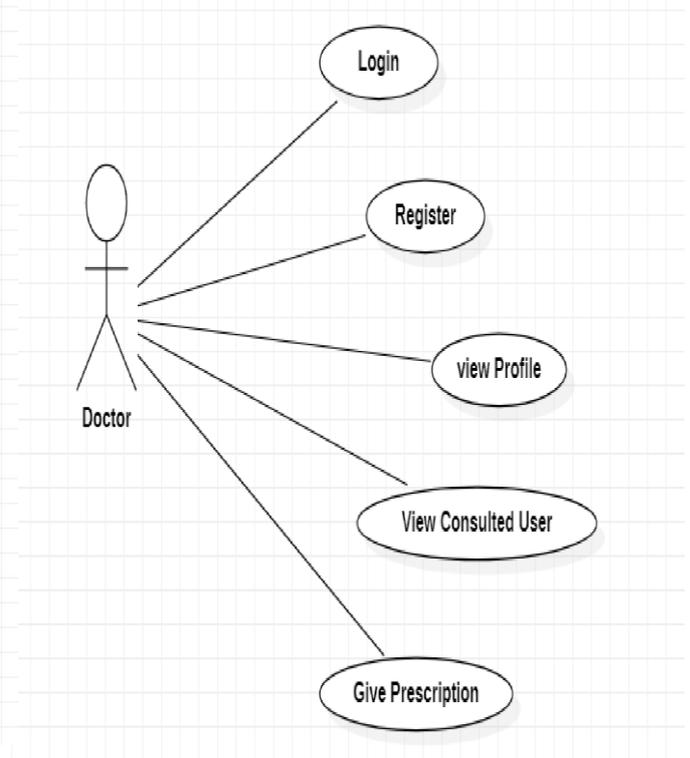


Fig – 3: Use Case Diagram of Doctor Module

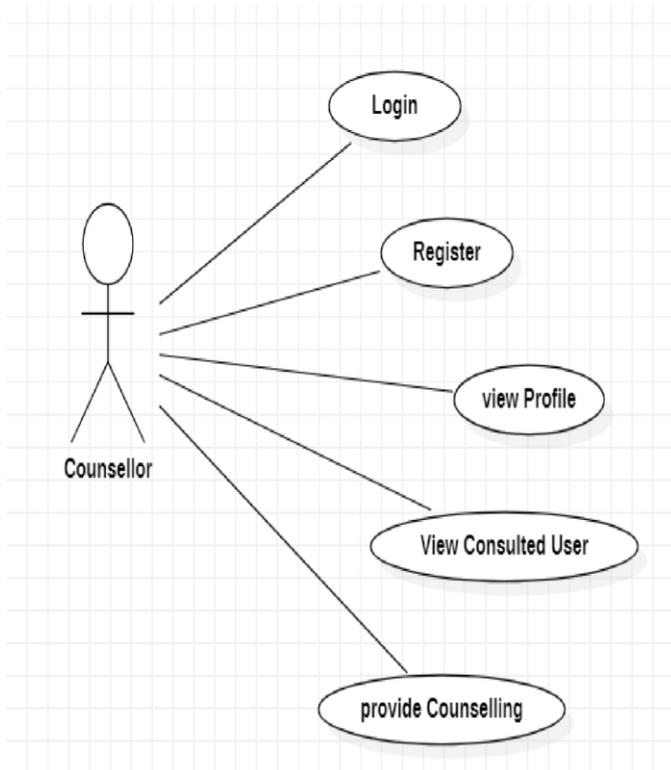


Fig – 4: Use Case Diagram of Counsellor Module

### 5.1 Risk Management

During the analysis of our whole system we discover some risks that could affect our system.

These are those risks:

#### Project Risks:

Project risk is associated with poor project planning and poor use of recognized project management process. On analyzing our whole system we realize that there is no such kind of risk as we made our project with proper planning and with proper implementation so there is no chance of project risk.

#### Economical Risks:

There is no issue regarding budget of users as user need only a mobile phone and internet connection so there is no economical risk in this system.

#### External Risks:

There is no need to worry about External risk because it is just a mobile application so it has nothing to deal with external risks like new rules and regulations, changes in weather, changes in ownership, any natural disaster like earthquake, tsunami, etc.

### 5.2 Testing

Software system testing is performed so as to examine the system software for errors and make it bug free.

#### Compatibility Testing:

It is a non-functional testing to determine whether the software is proficient enough to run in different browsers, databases, operating system, mobile devices and networks. This is done to test the interface of program with different operating system to guarantee 100% coverage. It also checks that developed system is to be compatible with other software also. Maternal Healthcare is compatible with all platforms.

#### Performance Testing:

This type of testing verifies the following aspects:

- Speed
- Scalability and Stability
- Reliability

Main goal of this testing is to verify the performance of system according to the requirements of user.

According to our survey regarding this mobile application, we found that it is able to fulfill all the requirements of the user.

#### User interface testing:

UI Testing, also known as GUI Testing is basically a mechanism meant to test the aspects of any software that a user will come into contact with. This usually means testing the visual elements to verify that they are functioning according to requirements – in terms of functionality and performance.

Our application is developed according to the requirements of the user.

## 6. RESULT

This mobile application is very useful for every pregnant women. It provides a digital platform to the people to make them aware about the maternal health. It saves time as user can consult to the doctor from their home. This also help lower class people without much money to consult the doctor without fees. With the help of this application pregnant ladies can consult to the doctors regarding their diet of every month as it is very important to take proper diet during pregnancy so, this application make it easy for every pregnant women. This Maternal health care application could be a resolution to all the issues related to maternal care. Lack of access to health care is the major reason of slow progress in maternal care and this application will help everyone in gaining knowledge about maternal care. And this project gave a wonderful

experience to the developer and also provides a great experience regarding time management.

## 7. CONCLUSION

Maternal health care is a mobile application which provides a user friendly environment and is too much helpful for all the women. It has proved to be significantly useful for the end user as it meets all the requirement of the user as well as fulfils the entire criterion that judge the quality and success of the system. This is based on a very simple and noncomplex approach. This has been created as a safety measure for all the pregnant women. Maternal health care system is a success with satisfaction from all the pregnant ladies. This has been tested and is a success, so this make it much more efficient. This application involves enough privacy as every user has to register before consulting to any doctor and health counsellor. Without registration user cannot access all the features. This application provides an easy way to user to learn about the various ways to improve the maternal health by consulting the doctor and health counsellor. Overall, this application is very beneficial for every women as women can consult to the doctors and counsellors easily from their home during their pregnancy and also after their pregnancy.

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