**A**

**Project Synopsis**

**On**

**“Smart Health Monitoring App”**

**Submitted By**

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**SMART HEALTH MONITORING APP**

**Introduction:**

Whether you're pregnant for the first or fifth time, you'll want to have the best tools at your fingertips to stay on top of each trimester in a personalized way. Not only can certain pregnancy apps provide informative entertainment, like scrolling through thousands of baby names for inspiration or tracking the stage of your baby's development in utero, but there are also tools within different pregnancy apps for Mom to track various appointments, vitamin schedules, timelines regarding prepping for baby's arrival, and even check in with a doctor remotely.

Not to mention, more women than ever before are deferring to pregnancy apps to meet other pregnant women to relate to. Using apps to build a community of support and social relief through humor, shared experiences, encouragement, and communication can be a game-changer, specifically for women who feel like they're dealing with pregnancy on their own.

So, if you're pregnant and dying to know what apps you'll really want to have on your phone for the duration of your pregnancy, read on and set aside some time to download and play with your new apps! Here are our top picks.

**Abstract:**

The proposed solution will be an online mobile based application. This app will contain information regarding pre and post maternal session. The app will help a pregnant lady to know about pregnancy milestone and when to worry and when to not. According to this app, user needs to register by entering name, age, mobile number and preferred language. The app will be user friendly making it multi-lingual and audio-video guide to help people who have impaired hearing or sight keeping in mind women who reside in rural areas and one deprived of primary education. The app will encompass two sections pre-natal and post- natal.

In case of emergency i.e. when the water breaks (indication) there will be a provision to send emergency message (notification) that will be sent to FCM (Firebase Cloud Messaging), it then at first tries to access the GPS settings in cell, in case the GPS isn’t on, Geolocation API will be used. Using Wi-Fi nodes that mobile device can detect, Internet, Google’s datasets, nearby towers, a precise location is generated and sent via Geocoding to FCM, that in turn generates push notifications, and the tokens will be sent to registered user’s, hospitals, nearby doctors, etc. and necessary actions will be implemented, so that timely help will be provided.

**Scope:**

This app is also suitable for students, researchers, resident, doctors, Anatomy and physiology specialists, nurses and medical professionals and of course Medical lecturers, teachers and professors.

***1] Pre-natal***

The app will guide about all the precautions required for pre-natal session. It will guide about good food habits required for proper nutrition to mother. The proper guide on yoga and exercises will be available in order to ensure good health. As women in rural areas are mostly vulnerable of risk of illness and death associated with pregnancy and childbirth, so the app will list out all the diseases and problem related to pregnant women and will advise a proper solution to overcome it. It will provide the images and videos demonstrating suitable posture to avoid the chance of risk in future.

***2] Post-natal***

Children are vulnerable primarily because they depend on a nurturing adult particularly their mothers to survive because of their low immune system. So it will provide knowledge to mothers about the nutritious food to be taken and their quantity. The app will help new mother to know how to carry a new born child and considering how much the child is sensitive to the external environment and is likely to suffer from diseases if not proper vaccinations are not given at right time, it will pop-up notifications regarding post natal vaccination and baby feeding habit that needs to be taken care for starting 6 months.

**Modules:**

**Existing Modules:-**

1. Registration: The user has to register into the system with his basic details.
2. Login: The user has to login into the system keeping the data secure.
3. Profile: The user can see his profile and can update his physical attributes which also reflects on other things.
4. BMI: The system shows the user about his BMI level and status.
5. Diet Monitoring: The System calculates the daily take of the user in 3 criteria’s; Proteins, Fats and Carbohydrates. The User has to enter his daily intakes which helps him how much he has consumed and how much he should take.

**Proposed Modules:-**

**● Registration:** It will register the age of woman and time of maternity and the app will give user the related information that will be mostly helpful to her at that time.

**● Good food habit:** It will provide the user the list of foods that should be taken by women during or after the time of maternal to maintain their and the child health nutritious.

● **Yoga and exercises:** It will give

● **Vaccination remainder**: It will give notification to mother about the correct time and need of vaccination to protect the child from future problem diseases.

● **Health Problem**: If any problem is faced by women or child during or after delivery it will give them the right solution to be preferred and should consult with doctor.

● **Videos**: We have provided the video regarding all the related topics to pregnancy.

● **Images**: It will provide the images of posture related to women which should be followed by her during

and after the pregnancy to avoid the future problem or complication.

● **Emergency messaging service**: When the water breaks (indication) there will be a provision for women to send emergency notifications to gain timely help by the doctors, hospitals, etc.

**Software Requirements :**

• Windows XP, Windows 7(ultimate, enterprise)

• Android Studio

• SQL Server/Visual Studio

**Hardware Requirements:**

• Processor – i3

• Hard Disk – 5 GB

• Memory – 1GB RAM

• Android Phone with kitkat and higher.

**Advantages:**

• The User has to Login to use the app features.

• The system guides the user about his diet intakes.

• The System shows the bar of his intake level to let the user know about his limit.

• System also suggests the user about the food he should have.

• The system also acts as a Pedometer.

• System lets the user know about his water and sleep intake.

• Data Changes when the user updates his physical attributes.

**Disadvantages:**

• It requires an active internet connection.

• The user should provide correct information to get the right output.

* The results are not that accurate.

**Applications:**

* This system can be used by anyone, young or old who needs to keep a track and monitor their diet.
* This system helps you to monitor your health according to your daily routine which is entered by the user.

**Conclusion:**

This current designed system provides low complexity, low power consumptions and highly portable for health care monitoring of patients and it can eliminate the need of utilization of expensive facilities. The doctor can easily access the patient’s information at anywhere with the help of android web server.

In future, we can develop a big data base of all the patients of any hospital and the health parameters can be monitored continuously, and also the information is uploaded to the hospital server. These servers keep the information of the patients in the data base, and doctors can have the access of patient’s history, when any further consultancy happens with the doctor.

**References:**

* <https://www.researchgate.net/publication/277557018_Android_Based_Health_Care_Monitoring_System>
* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4029126/>