MEDOCS

AN EMOTIONAL BASED DIGITAL HEALTH TECHNOLOGY

PROBLEMS FACED BY THE MEDICAL INDUSTRY

- ACCORDING TO THE GOOGLE SEARCH

PROBLEMS FACED BY THE MEDICAL INDUSTRY

- These remains as a main problems in our medical society. Due to these problems doctors are not able to look after every patient.

- Even though there is an emergency ward, due to time inefficiency the doctors are unable to provide the required treatment to patients.

EMOTIONS

- We classify the emotions of the human into two ways.

EMOTIONS

PHYSICAL

MENTAL

SOLUTION THROUGH EMOTIONAL INTELLIGENCE

- According to the census of 2013 more than 590000 of the people have been visiting hospital. In which more than 50+ of the people are coming under the categories like normal health check-up, minor problems like fever cold headache etc.

- So the problem can be solved if we have personal doctors for this 50+ people. But having doctors for every individual is impossible. So we use MEDOCS here.

- MEDOCS is an Emotional Intelligent based app cum wearable. It can absolutely reduce and vanish this problem as it acts as a good personal health advisor.

ACTIONS PERFORMED BY MEDOCS

- Maintaining the medical report by tracking the health condition using MEDOT (the wearable gadget of the MEDOCS).

- Notifying the regular health condition.

- Alerting the symptoms of a particular problem or a disease

- Suggesting the medicine according to the health condition of the users.

- By detecting the location, the medicine can be ordered in medical shops as per the Doctor cum customer suggestions.

NORMAL WEARABLES VS MEDOT

- The main and great advantage of the MEDOT is that it runs with an   EMOTIONAL INTELLIGENCE technology.

-     We can calculate the heartbeat and walking distance.Along with   that it has a Skin sensors which collects the maximum information of our body.

MEDOCS APP

- The health report is managed in the server of MEDOCS for the MEDOCS account holders.
- The MEDOT settings are done by MEDOCS app.
- There are several features in MEDOCS APP such as

      ρ.MANUALITY

      ρ.CRUNCH MODE

      ρ.MEDICINES

      ρ.CONSULTANTS

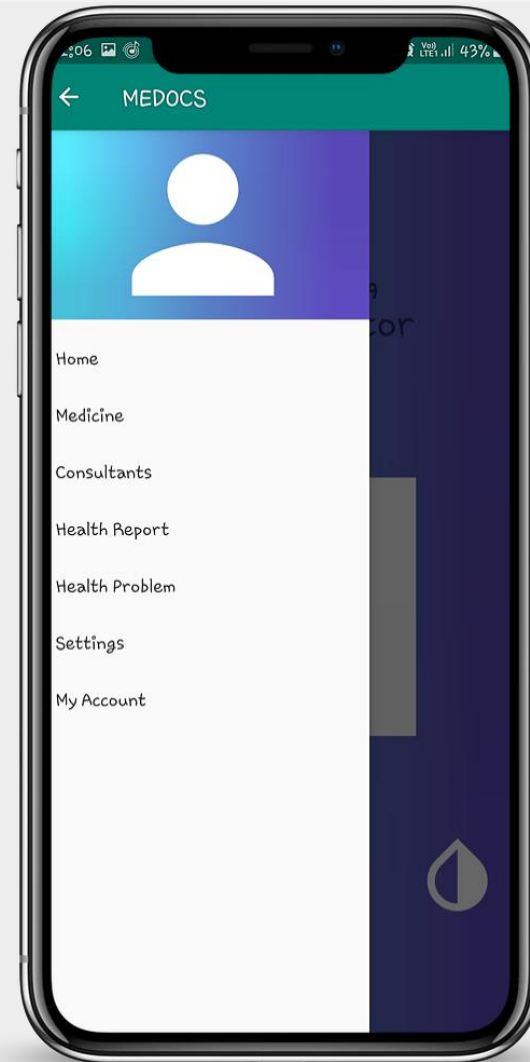# FEATURES IN MEDOCS APP

A
MANUALITY

B
CRUNCH MODE

C
MEDICINES

D
CONSULTANCY

PROTOTYPE
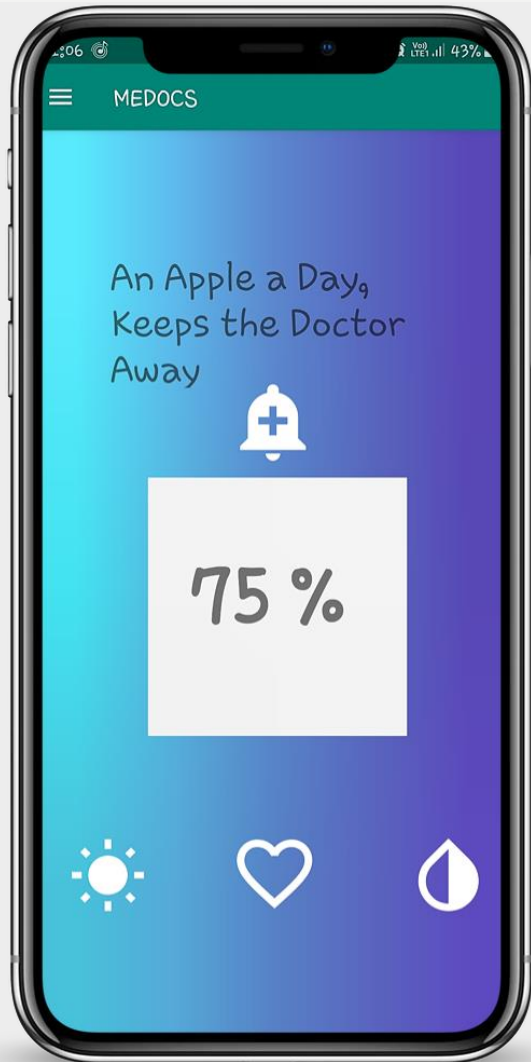
PROTOTYPE

GSR SENSOR WITH ARDUINO

Module connection diagram

BT TRANSRECIEVER

SKIN RESPONSER

MANUALITY

- Manuality is a prior way against the Demerits of MEDOCS.
- When the MEDOCS couldn't recognize the problem(When the charge of the MEDOT is down), then we can use the MANUALITY option in the MEDOCS app to manually select our problems in our body.
- So this works in the prior emergency condition.

CRUNCH MODE

- By the CRUNCH MODE feature MEDOCS boots to crunch mode.

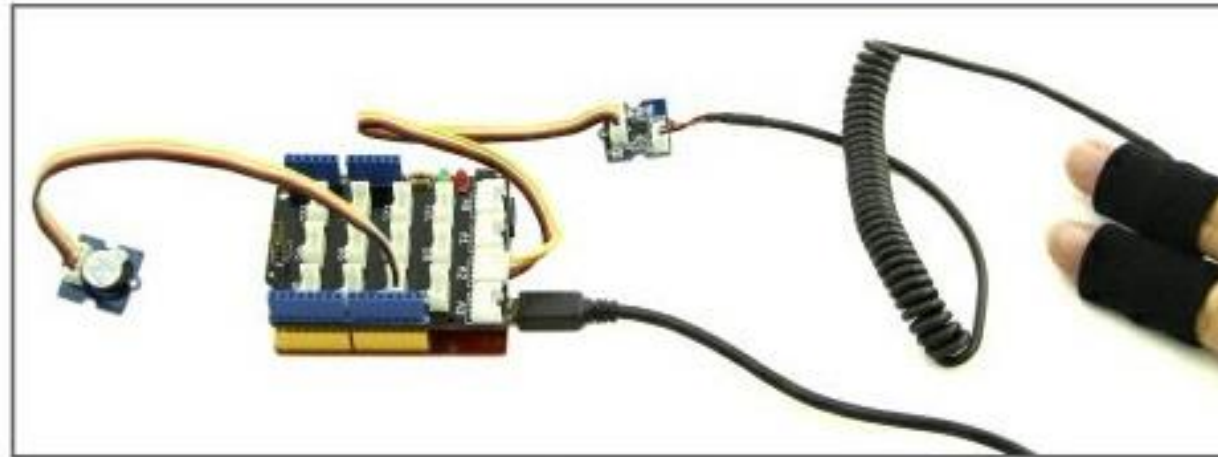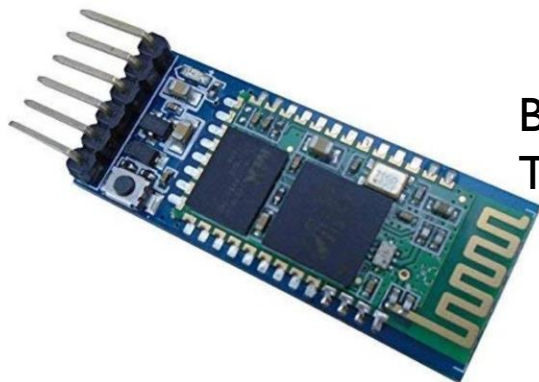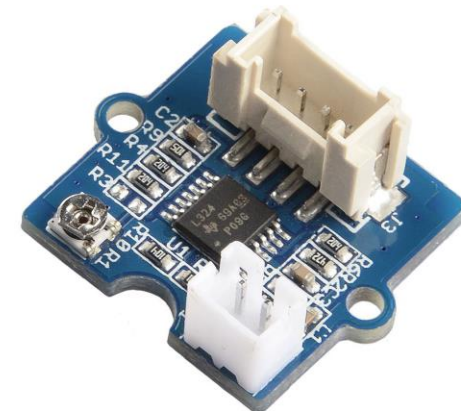- In which, when a same minor as well as major problems continuous for more than one or two day even after taking the medicines suggested by MEDOCS, it goes to the crunch mode and now the app doesn't allow the option of purchasing medicine.

- It is because the major problems in human health has a common problem such as fever, cold headache. So when this mode gets booted there will be only the symptom option and the consultancy option.

- For e.g. when a person suffers from headache for a couple of days, that would be a symptom of primary stage for BRAIN TUMER or any other major disease. So this would allow the patients to know about their serious health conditions.

ROUTINE FOOD INTAKE

- As today,most the people are preferring to eat organic food,we would also like to add an important feature in our product.

- The purpose of this feature is to inform the users about what organic food should they a eat based on their calories, blood pressure and fat based on their regular basis.

- This helps them to maintain a good health on a day-to-day basis.

MEDICINES AND CONSULTANTS

- The medicine option in MEDOCS helps us to order the medicine either according to the symptoms by the MEDOTS or from the consultancy.

- The consultant option in MEDOCS allows the user to get a consult from the youth doctors (trainees).

- This consultant feature of MEDOCS behaves as a citizen service by promoting the youth and trainee doctors to have two-way advantage i.e., for the trainees and users.

SOFTWARE IMPLEMENTATION

- **XML [EXTENSIBLE MARKUP LANGUAGE]** is used to describe DATA. The **XML** standard is a flexible way to create information formats and electronically share structured data via the public Internet, as well as via corporate networks.

- **JAVA** safeguards the native code from memory leaks and each platform in the **Java language is used** to compile for different functionalities in the Android development.

- **CLOUD COMPUTING** is used to store data in the virtual memory where we store all the medical information in the **encrypted format**. This will help us to create a secured collection of data in the cloud.

- **ENCRYPTION TOOL : RSA** [Rivest-Shamir-Adleman] **encryption algorithm** is one of the most powerful forms of **encryption**. It supports incredibly key lengths, and it is typical to see 2048- and 4096- bit keys. RSA is an asymmetric **encryption algorithm** which is used to store the data in a encrypted format.

- **ANDROID STUDIO** is the tool used to create **MEDOCS** app which connects with the **MEDOT.**

HARDWARE IMPLEMENTATION

- SWEAT SENSORS — SWEAT RECOGNITION

- INTERNAL SWEAT SENSORS — FOR TEMPERATURE RECOGNITION

- PPG SENSOR — DETECTING HEART BEAT

- PHOTOPLETHYSMOGRAPH — MEASURING HEART BEAT

TOOLS USED IN MEDOTS

- **MEDOT** bridges the gap between Chemicals and Electrical engineering.

- **Sweat** provides the wealth of information about our body condition. Our body provides the wide spectrum of different chemicals which helps us to find the health conditions of each persons.

- **Array of sensors** that can detect and analyse multiple different chemicals simultaneously in a real time.

- **Microprocessor[1]** is the important tool that helps in all the computation with the database and passes the digital signals to the mobile apps which acts as a receiver

- **Flexible printed sensor** helps to detect the temperature and the chemicals secreted by our body.

WORKING PRINCIPLE

- When the **Sweats** are produced by the **Sweat gland**. The flexible printed sensors present in the **MEDOT** detect the Sweats along with the Temperature of the body. This pass the information to the **microprocessor[1]** to get the computation which then passes this information to the connected device (MEDOCS app) through signals.

- In microprocessor it checks the chemical signals passed by our sweat glands

CHEMICAL PROCESS

- **CHEMICALS:**
- SODIUM
- POTASSIUM
- LACTATE
- GLUCOSE (METABOLISM)
- **COMBINATION OF CHEMICALS:**
- Using the concentration of **SODIUM+POTASSIUM electrolyte** we can able to find **dehydration.**
- **GLUCOSE** can be found using the metabolism secreted by our body.
- **LACTATE chemical** is used to find the **muscle fatigue.**

FUTURE UPGRADE

- The future MEDOCS app will be socio concerned app by bringing the facility of donation in it.

- When government approves it can be given to all the public people through the government with approval.

- By the MEDOCS app the face recognition and image recognition technology once emotions are easily recognised.

- By the users permission, MEDOCS access the camera of the smart phone and recognize the images and bring it to heat map values. So that the MEDOCS works according to the mindset of the persons.

COVERTING THE EMOTIONS INTO DIGITAL SIGNALS

- The emotions that are recognised by MEDOCS where we convert our image into a useful Heat map using image recognition.

- These heat maps reveal where we feel love, anger, shame & sadness on our bodies.

- Example of heat maps that describe the mental emotions.

- Six "basic" emotions and seven "complex" emotions, as well as a neutral state.

- Yellow indicates the strongest amount of activity, followed by red, black, dark blue and light blue at the bottom, for a deadening of emotion.
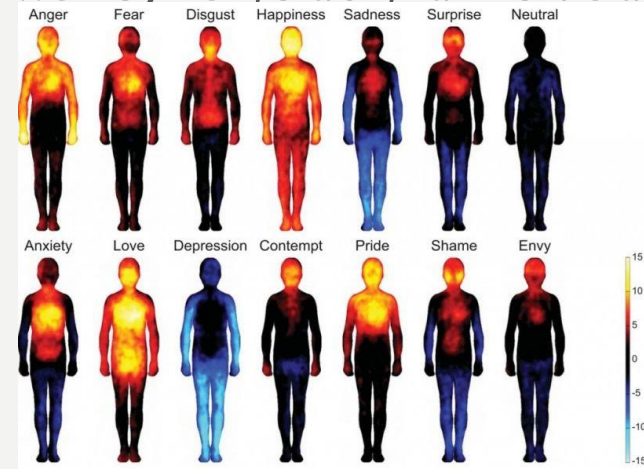
CONCLUSION

- The major **use** of **MEDOCS** is **Bio-sensing** which is a **personal sensing** used to collect all the information about the human health.

- The other major use of **MEDOCS** is, it could be used by the **ASTRONAUTS** to know about their health details while they are in Space mission.

- The solution by using MEDOCS is a great one to solve the problem of medical society.

- We choose EMOTIONAL INTELLIGENCE because even though the technology changes the emotions of the people doesn't change.

    "ITS JUST STEP AHEAD FOE A SMALL CHANGE IN ORDER TO BRING OUT HUGE BENEFITS FOR THE MEDICAL SOCIETY"

    "WE MEDOCS! THE HEALTHY LOCKS!"

MEDOCS