

# Multidisciplinary Online Service

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**Abstract** - “Multidisciplinary Assistance Service”, also known as “MAS”, it is a system that has a function of emergency assistance. One can get emergency assistance by using the application. Emergency assistance can be triggered manually. MAS has the function of locating nearby hospitals, pharmacy and specialist doctors. It has one of the main features that is to alert the family members. That emergency message has the exact location of the user so that help could be sent immediately. This system has been deployed using the fresh technology i.e. android smartphones. It is well known that the world is becoming increasingly digital and everybody uses a smartphone these days. So, this system is feasible to deploy on these smartphones. Moreover, smartphones have various advantages as these phones have a lot of advanced features which are beneficial to the Multidisciplinary Assistance Service like location and internet.

**keywords** - Geo-location, medical emergency, family alert, emergency assistance, First-Aid.

## I. INTRODUCTION

The Multidisciplinary Assistance Service (MAS) is the system for coordinating and organizing the health and care services i.e. to meet the individual need in respect of emergency. MAS is an android developed application. The MAS is a system that is developed to deal with the emergency services like locating optimal hospitals, optimal pharmacy, and connect to different specialist doctors. The person in an emergency or anybody at the emergency site can use the MAS application to avail of the emergency services. The system which is developed has three main functions: locating optimal emergency assistance (medical emergency, doctors, and pharmacy), alert family members, and First-Aid. Emergency assistance can be availed with the help of GPS. Users must have GPS in their smartphones and it should be enabled. Users can find the nearest doctor to contact with. Even users can find the nearest hospital in case of emergency. The Alert Family member will send the emergency message to the user’s family members. And the emergency message includes the user’s location in the form of latitude and longitude. So, the user’s family member could find the exact location of the user in case of an emergency. The First-Aid feature has some in-built suggestions, in case of emergency user can follow that, like what a person should do in case of animal biting or catch fire, etc. We have included one more feature called Emergency services which provides the National Emergency Number in-built in the application includes Police assistance, ambulance, women helpline, and so on. We have developed this application for people who need emergency assistance in case of an accident or panic attack. This application makes the emergency assistance process easy. The user gets all essential emergency assistance on a single platform.

## II. PROPOSED APPROACH

MAS is an emergency assistance provider. We developed this mobile solution that addresses certain user’s needs. The application feature pack is individual for every user, corresponding to a specific doctor need as per the health condition, such as:

- Cardiologists
- Obstetrician
- Dermatologists
- Allergists
- Dentist
- General Surgeon

MAS has a User friendly interface.  
Cross platform availability.

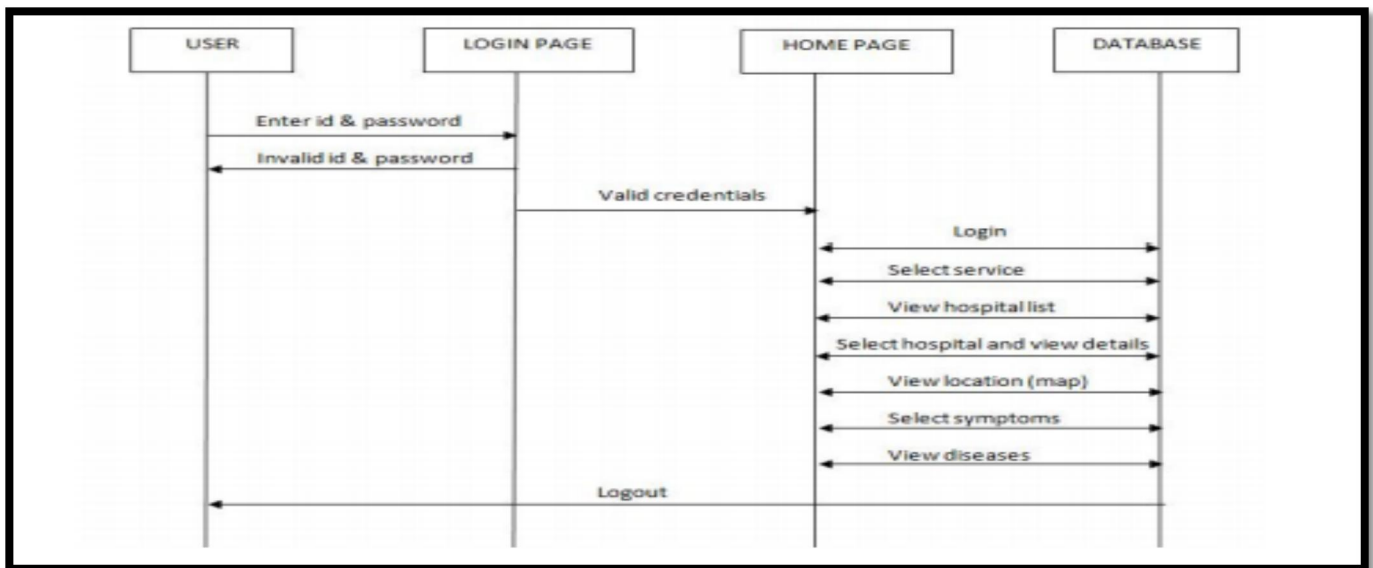


Fig. 1: Sequence diagram of Multidisciplinary Online Service

**III. FEATURES**

Before The user has to download the android application. Before opening the application, the user must ensure to activate location and internet. When the user opens the application he/she will be asked to log in and register. User can register himself/herself and after getting the login credentials, User can log in. Then the user will be able to use the facilities provided by the application, such as:

1. Emergency services - User will find the National Emergency Number, User has to tap on the numbers and it will redirect to the dial pad.
2. Doctors - The user will find the category of doctors. After choosing the category, it will redirect the user to the nearby doctors.
3. Alert family Member - User can share their location with the family members by using latitude and longitude.
4. First Aid - Here, user can find the First-Aid suggestions.
5. Medical assistance - The user can find the optimal hospital location.
6. Pharmacy - The user can find the optimal pharmacy nearby.

**IV. LITERATURE RIVIEW**

**AN EMERGENCY MEDICAL SERVICE SUPPORT SYSTEM FOR PATIENTS IN RURAL AREAS**

- It helps to reduce the time required for people to reach hospitals and other emergency services and also helps to prevent death.
- GPS help to reach the ambulance, police, etc. to the relay station. And also it helps to identify the patient location by the system.
- It helps to reach the emergency services by just one click like if we click on ambulance then 102 will automatically dial from our cell phone.
- It helps to reach the emergency patients in rural areas to hospitals. It consists of an emergency support center and a patient rescuing unit.

**EMERGENCY MEDICAL AND HEALTH PROVIDERS**

- L. Attack L J. Maher has studied in depth to gain views on significant issues to patient safety from the administrator, educator, medical service practitioners, and doctors.
- It shows that Emergency Medical Service is not well-aligned health sector demand; therefore he told that changes are must be needed in Emergency Medical Services education to build more efficient EMS. Hence he started research on past pieces of literature and found that operation search, decision making, and IT tools make a system for better use of EMSs. After that, he came with their views and comments.

**SMARTPHONES AND MEDICAL APPLICATION IN THE DAILY PRACTICE OF EMERGENCY DEPARTMENT**

- The author showed that using smartphones saves time and accelerates both pre-hospital and hospital setting decision-making and treatment.

- In this paper, the author determines the extent to which smartphones and medical apps are integrated into daily practice.
- Most interns and residents used medical apps in this study to find information about the drugs and treatment. The time they spent finding the necessary information has been studied, it is believed that such critical condition could harm the outcome of patients.

**AUTOMATED ALERT FROM INTENSIVE CARE UNIT TO SMARTPHONE USING GPS**

- An automated smart alert system is a dynamic alert system from an intensive care unit to GPRS-based smartphones.
- Smart warning generation systems send the location of the patient to the parent/guardian in the form of Longitude and Latitude.

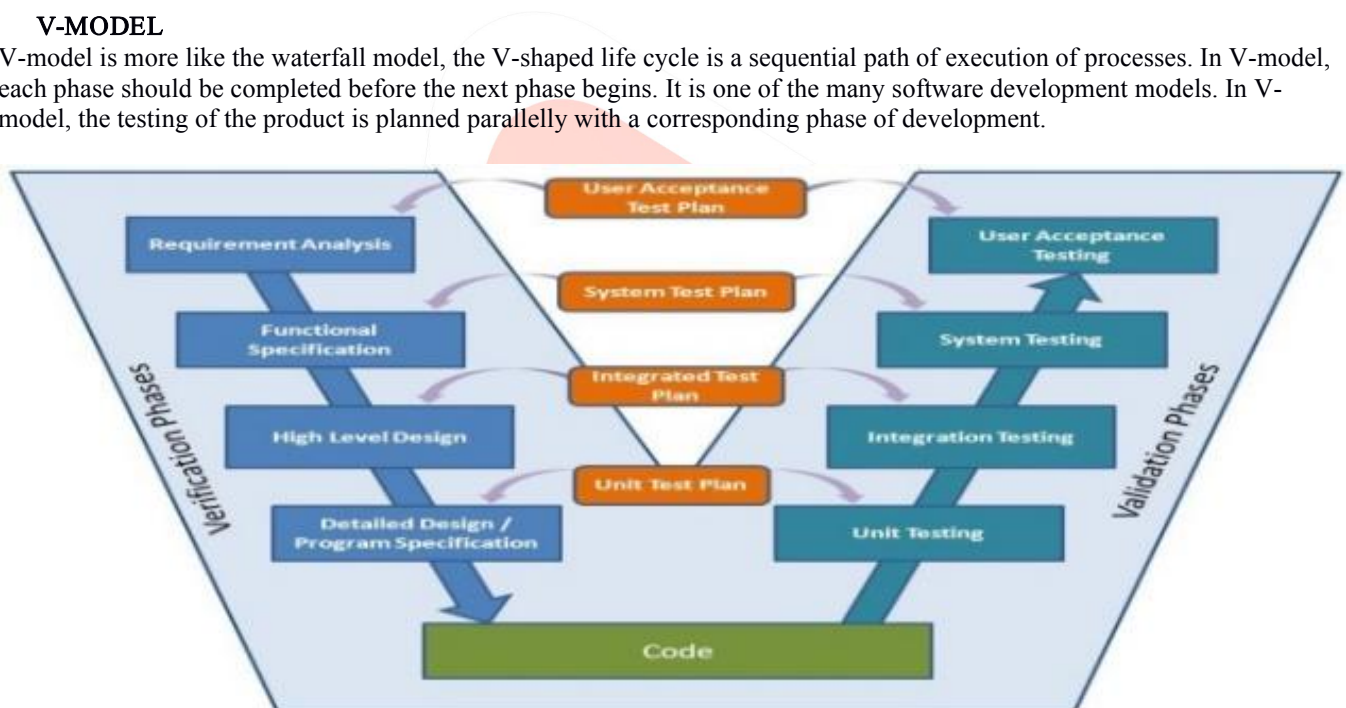
**INAPPROPRIATE DISPATCHER DECISION FOR MEDICAL EMERGENCY SERVICES**

- Fourny Metal found that the decision of the initial dispatcher was not appropriate for approx. 30% of Emergency Medical Services users with STEMI (ST-Elevation Myocardial Infarction) and there was a delay in the timing of reperfusion therapy and also it improving the correctness of the telephonic triage patients to mobilize the response.
- The fundamental requirement for applying the research technique is to identify variables that affect the decision-making for Emergency Medical Services (EMS).

**V. DESIGN AND TEST STEPS**

**V-MODEL**

V-model is more like the waterfall model, the V-shaped life cycle is a sequential path of execution of processes. In V-model, each phase should be completed before the next phase begins. It is one of the many software development models. In V-model, the testing of the product is planned parallelly with a corresponding phase of development.



**Fig. 2: The various phases of the V-model shown in the above diagram.**

**ADVANTAGES:**

1. Verification & Validation model
2. Testing planned parallel to development
3. Extension of waterfall
4. Bug detection in early phases
5. Easy to manage
6. Well defined goals

**DISADVANTAGES:**

1. No prototype of software is produced
2. Midway changes are tough
3. Resource and cost/money

FEATURE	WATERFALL MODEL	V - MODEL
Requirement Specification	Beginning	Beginning
Guarantee to Success	Low	High
Simplicity	Simple	Intermediate
Flexibility	Rigid	Little flexible

Reusability	Limited	To some extent
User involvement	Beginning only	Beginning only
Change incorporated	Difficult	Difficult

**Fig. 3: Compare the features of Waterfall model and V-model.**

## CONCLUSION / SCOPE OF THE STUDY

This paper's scope is to improve the availability of emergency services. As we know that with the vast development in technology and the advent of smart phones, the people are getting more involved into these gadgets. So, it is the time when we could modernize the approach to medical care and emergency. The proposed system does it so effectively by incorporating the latest android development technology.

With the help of Multidisciplinary Online Service, we want to contribute our hand to the society. The people who are in need of an emergency can avail the features of this application. As this application provides most type of emergency services on a single platform.

Looking at the current pandemic scenario, this application would be useful to the user as they can consult to the doctor just being at their place in case of any emergency. Even user can avail other emergency services by just clicking on the application.

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