

# Motivation

• Many death situations happens around the world everyday due to the delay of the hospital emergency team arrival to the scene.  
 • For that reason we want to minimize the number of death situations caused by that using a smart system which will detect the emergency situation as fast as possible.

### System Description

The system consists of two parts: the smartphone application and the server. The server will be used to store the user information and the location of the user.



### Research Objectives

• Design and enable an emergency response system to be used by healthcare services.  
 • The purpose is to enable the user to call for medical help in case of an emergency, while minimizing the time taken to survey this call. It's well as reducing the effort on the user's part using smart technology.

### System Description

The main goal of the system is to detect the location of the user in case of an emergency and send the location to the nearest hospital. The system will be used by healthcare services.



### System Description

The system will be used to detect the location of the user in case of an emergency and send the location to the nearest hospital. The system will be used by healthcare services.



### Block Diagram



### Research Features

- Fast system response
- User-friendly interface
- Sending the patient location via WiFi or SMS
- User-friendly medicine reminder
- Tutorial for new users
- Application custom options (Phone number, records, etc)



### Research Video



### Conclusion

The system was tested successfully to detect various emergency situations, and send the location to the nearest registered hospital in the database.

### Future Work

• Add more features to the system like sending the location to the nearest hospital in case of an emergency. Also, adding more features like sending the location to the nearest hospital in case of an emergency.



### Research Results

The system was tested successfully to detect various emergency situations, and send the location to the nearest registered hospital in the database.

### Any Questions?

### Originality & Significance

- Emergency Situation Detection:
  - Pressing the volume button in the smartphone
  - Using the smart watch (Moto 360)
  - Using the technology of E-Health bag, which will detect the status of the patients by measuring their life signs using sensors

# HEALTHCARE EMERGENCY RESPONSE SYSTEM

• **Done by:** Diao Abdelmoti, Omar Haider, Mohammed Noman & Wessam Ghassan  
 • **Supervised by:** Prof. Mustahsan Mir  
*Ajman University of Science and Technology*

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The research was successful in detecting the location of the user in case of an emergency and sending the location to the nearest hospital. The system will be used by healthcare services.

### Future Work

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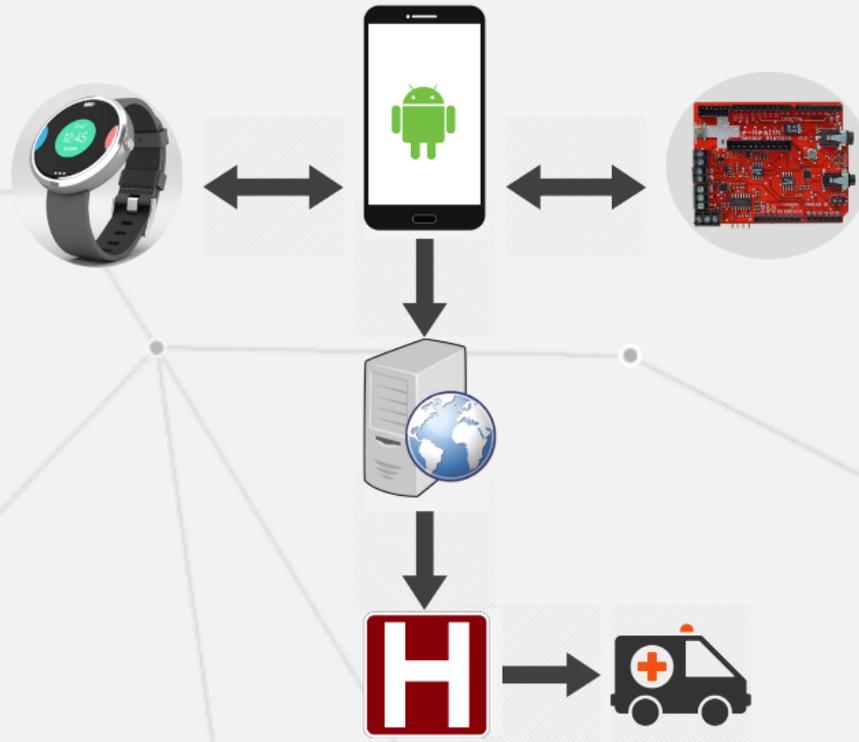
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# Research Objectives

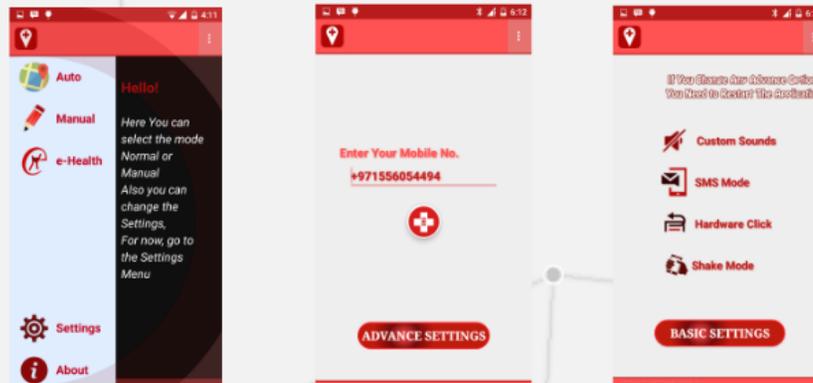
- Design and create an emergency response system to be used by healthcare services.
- The purpose is to enable the user to call for medical help in case of an emergency, while minimizing the time taken to convey this call, as well as reducing the effort on the user's part using smart technologies.

# Block Diagram



# System Description

- The system consists of four parts; the first part is the Android-based smartphone application where the user will send the latitude and longitude of his/her location when he needs help.



# System Description

- The second part is the web server, where all the data of the patients are saved in database and the process of calculating the shortest root to the nearest registered hospital will be done.

The screenshot displays the ETEAM web application interface. At the top, it says "ETEAM save lives on a click!". Below this is a navigation bar with "Home", "Registration", "Hospital1", and "Hospital2". On the right, it says "Welcome Administrator, Logout". The main content area is split into two parts: a map on the left and a list of routes on the right. The map shows a city street grid with a blue route highlighted. The routes list on the right contains the following information:

- Route: 1**  
Al Fahh Street - Abu Dhabi - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
3.8 km in 10 mins
- Route: 2**  
Fahima Bin Mubarak Street - Abu Dhabi - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
2.1 km in 5 mins
- Route: 3**  
S B Street - Dubai - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
149 km in 1 hour 31 mins
- Route: 4**  
Unnamed Road - Dubai - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
147 km in 1 hour 28 mins
- Route: 5**  
Unnamed Road - Sharjah - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
172 km in 1 hour 45 mins
- Route: 6**  
Hessa بنت Mohamed Street - Abu Dhabi - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
162 km in 1 hour 38 mins
- Route: 7**  
2311 Street - Abu Dhabi - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
25.4 km in 27 mins
- Route: 8**  
Al Zahra Street - Sharjah - United Arab Emirates to Sultan Bin Zayed the First Street - Abu Dhabi - United Arab Emirates  
168 km in 1 hour 47 mins

Below the routes list is a table with the following columns: Mobile, Name, D.O.B, Gender, Height, Weight, Marital, E-contact, Address, Check, and Blood Group. The table contains one row of data:

Mobile	Name	D.O.B	Gender	Height	Weight	Marital	E-contact	Address	Check	Blood Group
9797638942	Abdullah	1991-05-25	M	180.0	75.0	S	+9797638942	UAE Sharjah	2015-04-05	

At the bottom of the screenshot, it says "© Emergency 2015".



# System Description

- The third part is informing the nearest hospital the location of the patient and what he/she might have.

**ETEAM** Save lives on a click !

Home Patients Registration Welcome Hospital\_1, [logout!](#)

Mobile	Name	D.O.B	Gender	Height	Weight	Marital	E-contact	Address	Check	Illness Surg.	Allergies	Fam illness	Med.
+97503146667	Ahmed Ismail	1992-12-01	M	154.6	42.3	S	+97507656123	UAE Abu Dhabi Khalifa A city	2014-06-02	N/A	N/A	N/A	N/A
+97503255667	Nono	1981-05-28	F	100.0	36.0	S	+97503478526	UAE RAK	2015-03-29			Blood Pressure, Diabetes	
+97504566335	Sarah Walker	1989-06-04	F	158.6	52.7	M	+97506071234	UAE Dubai Business Bay	2015-04-12				
+97506584215	Omar Ali	1995-10-23	M	169.7	85.2	S	+97502348569	UAE Abu Dhabi Khalifa street	2015-02-01	N/A	N/A	N/A	N/A

© Emergency 2015

# System Description

- The fourth part is smart technologies that will help detecting the emergency situation such as:
  - Smart watch (Moto 360)
  - E-Health bag

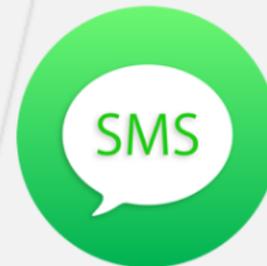


# Research Video



# Research Features

- Fast system response
- User-friendly interface
- Sending the patient location via Wi-Fi or SMS
- User-friendly medicine reminder
- Tutorial for new users
- Application custom options (Phone number, sounds, etc)



## Originality & Significance

- Emergency Situation Detection:
  - *Shaking the smartphone*
  - *Pressing the volume button in the smartphone*
  - *Using the smart watch (Moto 360)*
  - *Using the technology of E-Health bag, which will detect the status of the patients by measuring their life signs using sensors*

# Research Results

- The system was tested successfully to detect various emergency situations, and send the location to the nearest registered hospital in the database.

# Future Work

- Include more sensors to the E-Health technology to enhance the efficiency, speed and reliability in detecting emergency situations using this system.



# Conclusion

- The developed research has achieved all the pointed objectives. In addition, we introduced more reliable solution which can be used to enhance the system efficiency and reliability in real life.



**Any Questions?**

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### System Description

The system consists of two parts: the smartphone application (mobile application) and the server software. The server software is responsible for the location of the user's location.



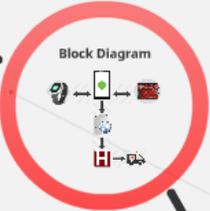
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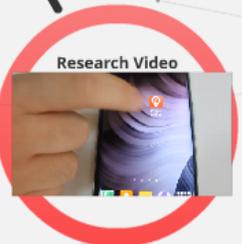
### System Description

The system will be used to detect the location of the user in case of an emergency and send the location to the nearest hospital as fast as possible.

### Research Features

- Fast system response
- User-friendly interface
- Sending the patient location via WiFi or SMS
- User-friendly medicine reminder
- Tutorial for new users
- Application custom options (Phone number, records, etc)

### Conclusion

The research has shown that the system is effective in detecting emergency situations and sending the location to the nearest hospital as fast as possible.

### Future Work

Future work will be to improve the system by adding more features and making it more user-friendly.



### Research Results

The system was tested successfully to detect various emergency situations, and send the location to the nearest registered hospital in the database.

### Any Questions?

### Originality & Significance

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  - Pressing the volume button in the smartphone
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