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# GREAT MOSQUE OF MECCA 'UMRAH MODEL

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# OVERVIEW

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## PURPOSE

The model is designed to organize performing 'Umrah during the holy month of Ramadan to avoid accidents that are a result from overcrowding.

## ENTITIES, STATE VARIABLES, SCALES

There are the following entities in the model:

- 'Umrah performers → Men and women who have variety in age, tongue and nationality and come to perform 'Umrah. They are wearing Ihram dress and having the 'Umrah permit.
- Regular Inhabitants → locale people who came to the Kaaba to pray only. They are wearing normal clothes and have no permit for 'Umrah. They just enter to pray and/or doing regular Tawaf.
- Civil defense men → who are responsible for the security of both people and installations. They are wearing formal authority clothes. Have the authority to:
  - Organizing the entry to Kaaba, including restricting entry upon certain conditions.
  - Respond to any incident that might happen to the guests of Allah.
  - Isolate any area that might have an accident.
  - Protect the installments.
  - Resolve any conflict that might happen.
- Organizers → who are responsible for guiding the guests of Allah, and answering any needed questions for them. They are wearing special cloths. They are ought to guide guests of Allah during 'Umara process.
- Paramedics → who are responsible for any health emergency for the guests of Allah. They are wearing regular paramedics cloths. They ought to provide immediate medical care when is needed to guests of Allah.
- Maintenance workers → who are responsible for cleaning the area, refill water tanks, spread Iftar meal on the guests of Allah. They are wearing maintenance cloths.

All agents are located inside the great Mosque and distributed all over the place to do their jobs except for:

- 'Umrah performers and local inhabitants who are waiting to enter.
- Civil defense men who are organizing the entry/exit process on the great Mosque doors.

On the other hand, there are doors for entry and doors for exit only. Moreover, there are signs everywhere to guide the guest of Allah.

## PROCESS OVERVIEW, SCHEDULING

The process is started from entry doors as following:

- Civil defense men allow 'Umrah performers to enter at any time
- Civil defense men allow local inhabitant to enter at any time, except after Tarawih

- 'Umrah performers will do the following in chronological order:
  - Performs Tawaf of 'Umrah
  - Prays two rak'as of Tawaf
  - Go to Al Multazam – Zamzam
  - Performs Sa'y of Umrah
  - Leaving
- Local inhabitants will do the following:
  - Praying
  - Perform Normal Tawaf
  - Leaving
- The actions above will be increased in time of breakfasting (Iftar) as both of them will do Iftar.
- Civil defense inside the great Mosque are safety watchers and interact with the guests of Allah only if there is an accident
- Organizers will ease the 'Umrah process and interact with the guests of Allah in case of any help is needed to Do 'Umrah or know the right directions.
- Paramedics will interact with the guests of Allah only in case of any medical help is needed.
- Maintenance workers will only interact with the guests of Allah only during the Iftar distribution, except that they are either cleaning or filling water tanks.

## DESIGN CONCEPTS

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### BASIC PRINCIPLES

The following hypothesis are taken into consideration:

- The time frame of the model is the holy month of Ramadan
- The great mosque is open 24 hours
- There are 4 shifts of civil defense men, organizers, paramedics and maintenance workers
- The 'Umrah performers can enter the great mosque at any time
- Local inhabitants cannot enter the great mosque after Taraweeh until Al-Fajr (The dawn pray)
- There are doors for entry only and others for exit only

### EMERGENCE

The flow of people who is entering/exiting and between these two operations should work normally based on the guidance of the organizers and the guiding signs inside the great mosque. Any accident or surprising incident will be handled by non-guest agents.

### ADAPTATION

- 'Umrah performers agents seek guidance from organizers agents if they lost to correct their path.
- 'Umrah performers agents seek paramedics agents help and cease 'Umrah rituals until they are ok.

- 'Umrah performers agents seek help from civil defense agents and cease 'Umrah ritual in case of accident until they are ok.
- Local inhabitants agents enter mosque only in their allowable time.

## OBJECTIVES

- 'Umrah performers agents' objective is to finish the 'Umrah rituals and leave.
- Local inhabitants agents' objective to pray and/or do normal Twaff and leave.
- Other agents stay inside the great mosque until their shift is over.

## LEARNING

Umrah performers agents' once they know what to do they are in no need to interact with the organizers agents any more.

## SENSING

- Individual civil defense agents can signal each other's in case of emergency
- Individual civil defense agents can signal paramedics agents, organizer agents or worker agents to help the guest of Allah.
- Individual paramedics agents can signal each other's in case of emergency
- Maintenance workers agents are working collectively

## INTERACTION

There are the following interactions:

- The civil defense agents interact with 'Umrah performers agents to allow them to enter the great mosque in all times.
- The civil defense agents interact with local inhabitants to allow them to enter the great mosque in their allowed time.
- The civil defense agents interact with other agents in case of accident.
- The paramedic agents interact with the guests of Allah agents in case of medical situation.
- The organizer agents interact with the guests of Allah agent in case of their seek of guidance.
- The workers agents interact with the guests of Allah in distributing food in Iftar

## OBSERVATION

Observe the following:

- The most crowded time, is it still ok?
- The most crowded place, is it still ok?
- Is the response of civil defense, organizers, paramedic and works agents enhance the flow or decrease it?

## DETAILS

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### INITIALIZATION

At dawn, there might be from 100,000 guest to 500,000 to enter the great mosque