CMM:
Crowd Movement Management

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Crowd Movement Mangment

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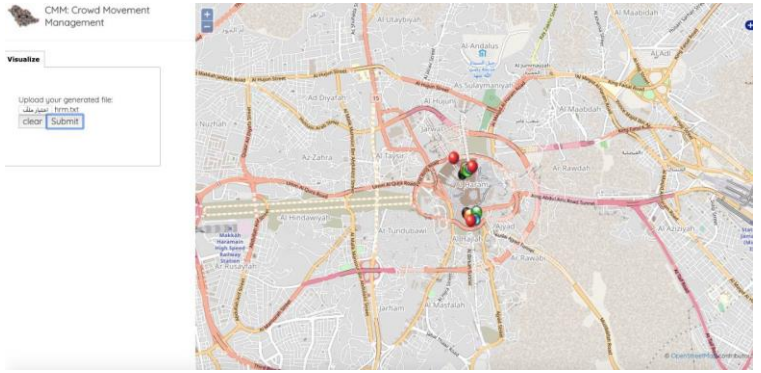
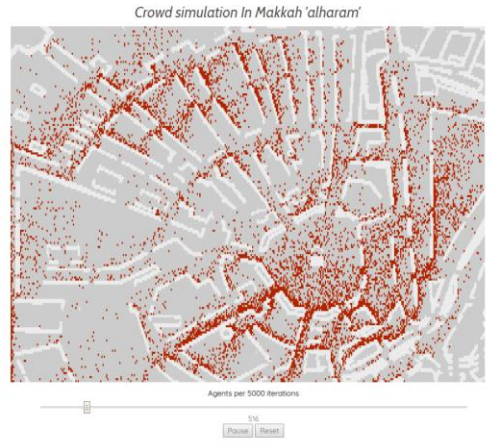
The Main Aspects

- Project Idea and Project Description
- Objectives
- Existing Systems
- Methodology
- Sprint 1
- Sprint 2
- Future Plans
- Difficulties
- Output

Project Idea and Project Description



- Our system Crowd Movement Management (CMM) is a website for make virtual crowds on Ascii maps by taking the user specified region either Al-Haram in Makkah or Al-Haram in Al-Madinah and generate a crowd data.
- And also CMM provide to the user to make visualization in OpenStreetMap.



Objectives

1- finding innovative solutions.

2- provide data and simulate virtual crowds .

3- It will help the researchers, field experts and authorities responsible for crowd .

The main difference

MNTG

The existing website MNTG(Minnesota Web-based Traffic Generator) that generate traffic data movement.

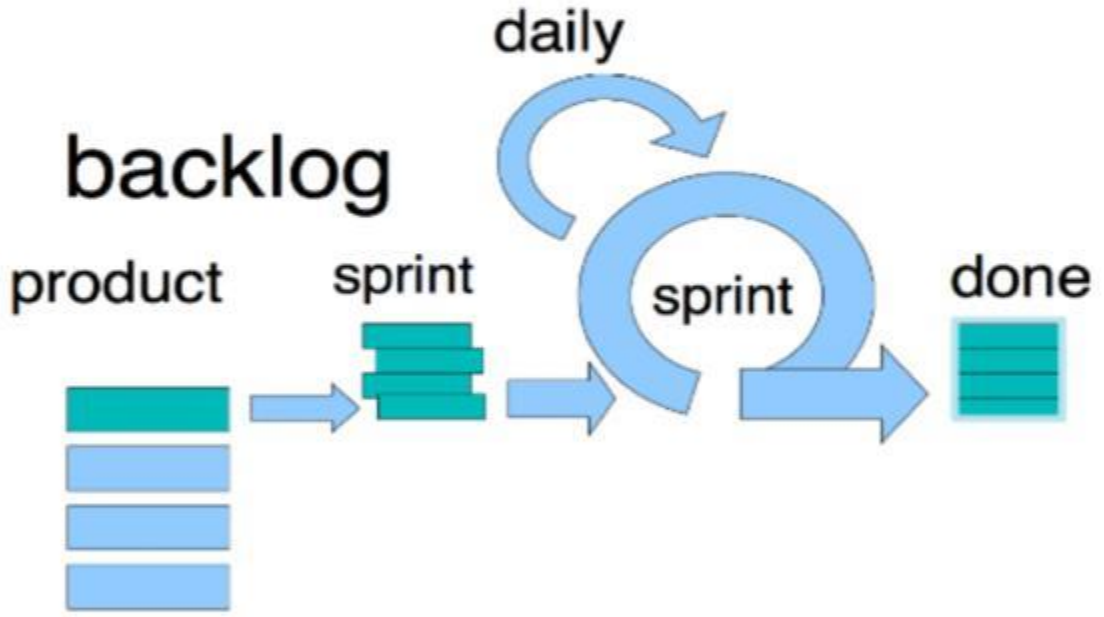
variation

In our website CMM(Crowd Movement Management) will generate simulated crowds movement from people.

Comparison table

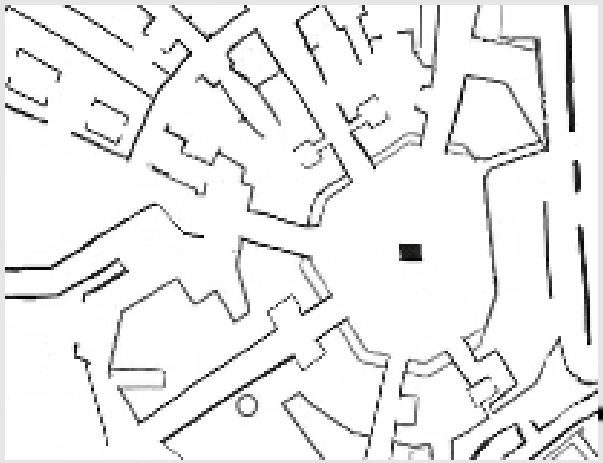
App	data	Low cost	Supported region	available
MNTG	Simulate (Traffic data)	Yes	Whole world	**All browsers**
	Simulate (Crowd data)	Yes	Holy Mosque (Expandable to whole world)	**All browsers**

Methodology



Sprint 1:

-Image Processing to allow us to use it on the CMM system



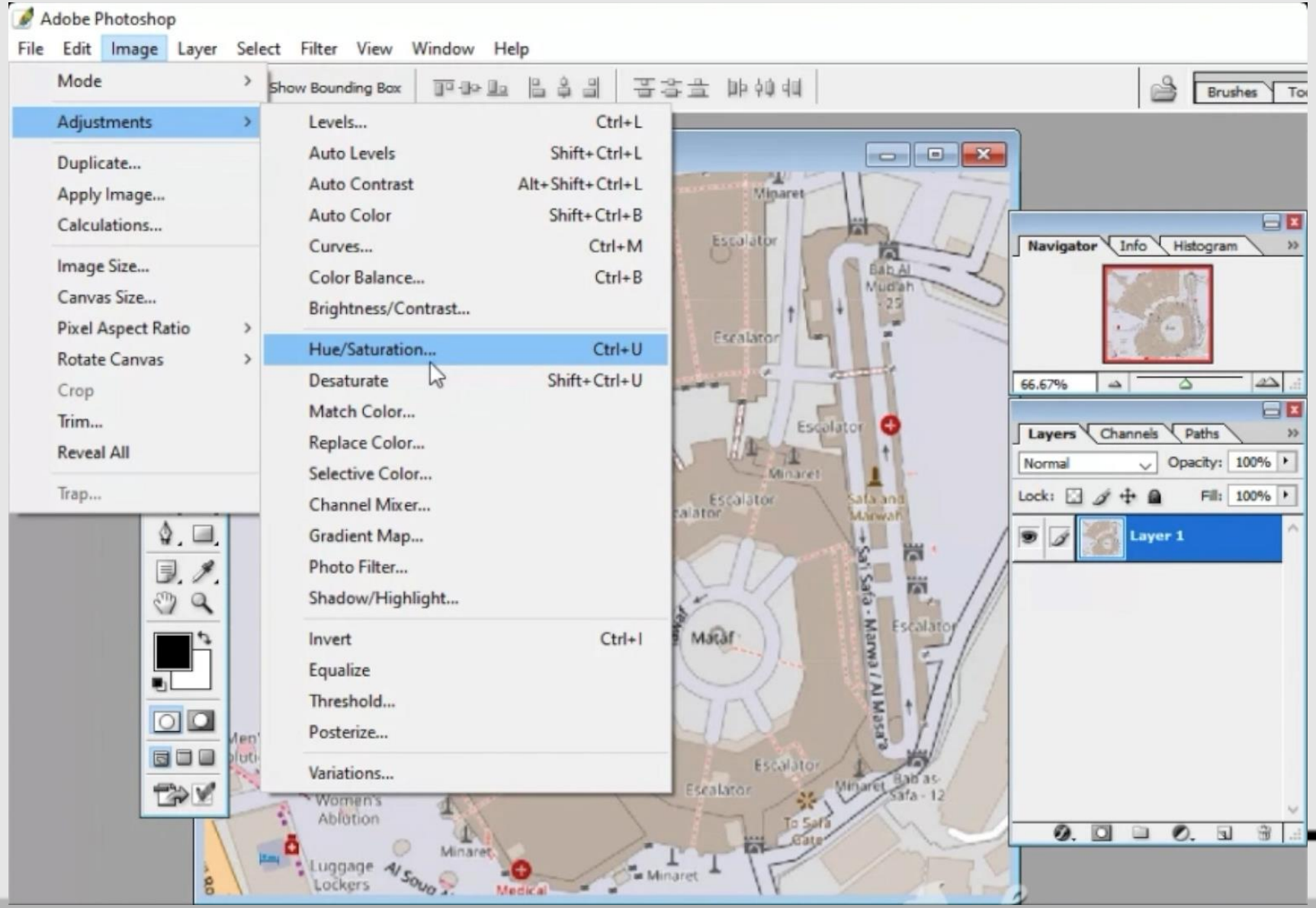

Adobe Photoshop
File Edit Image Layer Select Filter View Window Help
Mode
Adjustments
Duplicate...
Apply Image...
Calculations...
Image Size...
Canvas Size...
Pixel Aspect Ratio
Rotate Canvas
Crop
Trim...
Reveal All
Trap...
Levels... Ctrl+L
Auto Levels Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Curves... Ctrl+M
Color Balance... Ctrl+B
Brightness/Contrast...
Hue/Saturation... Ctrl+U
Desaturate Shift+Ctrl+U
Match Color...
Replace Color...
Selective Color...
Channel Mixer...
Gradient Map...
Photo Filter...
Shadow/Highlight...
Invert Ctrl+I
Equalize
Threshold...
Posterize...
Variations...
Show Bounding Box
Brushes
Navigator Info Histogram
66.67%
Layers Channels Paths
Normal Opacity: 100%
Lock: Fill: 100%
Layer 1
Escalator
Minaret
Marwah
Safa - Marwa / Al Masaa
Women's Ablution
Luggage Lockers
Al Souq
Medical
To Safa Gate

Photo processing by Photoshop and clarify the borders

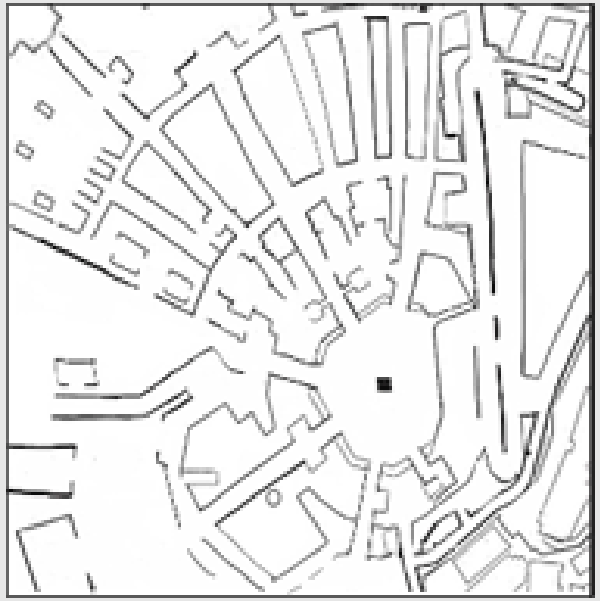
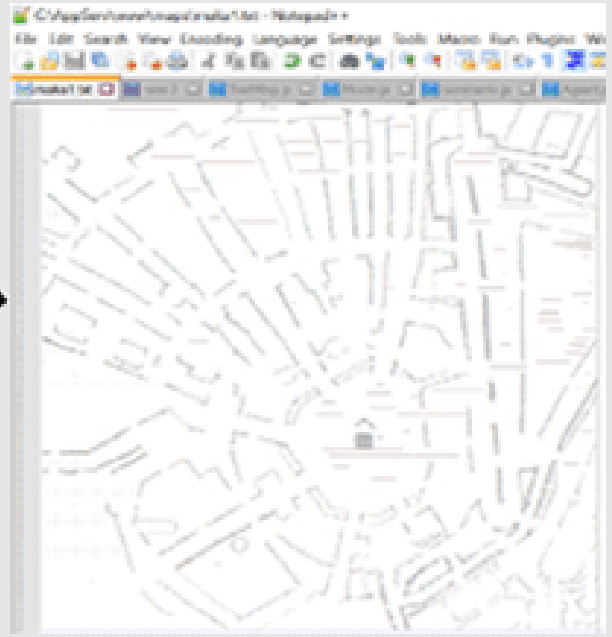
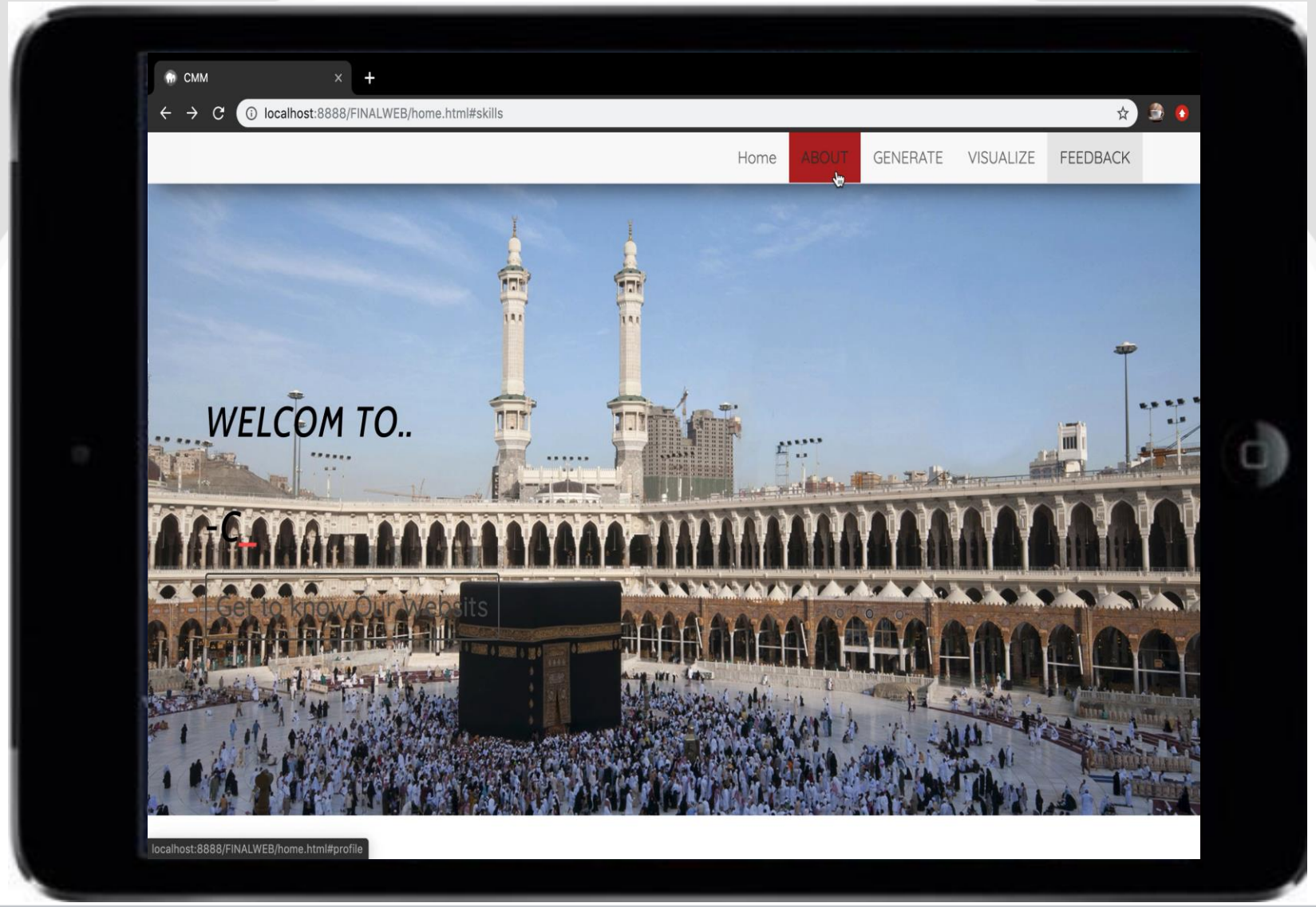


Photo processing by web converted to ASCII



Sprint 2:

1. In sprint2 we first designed the format of our website

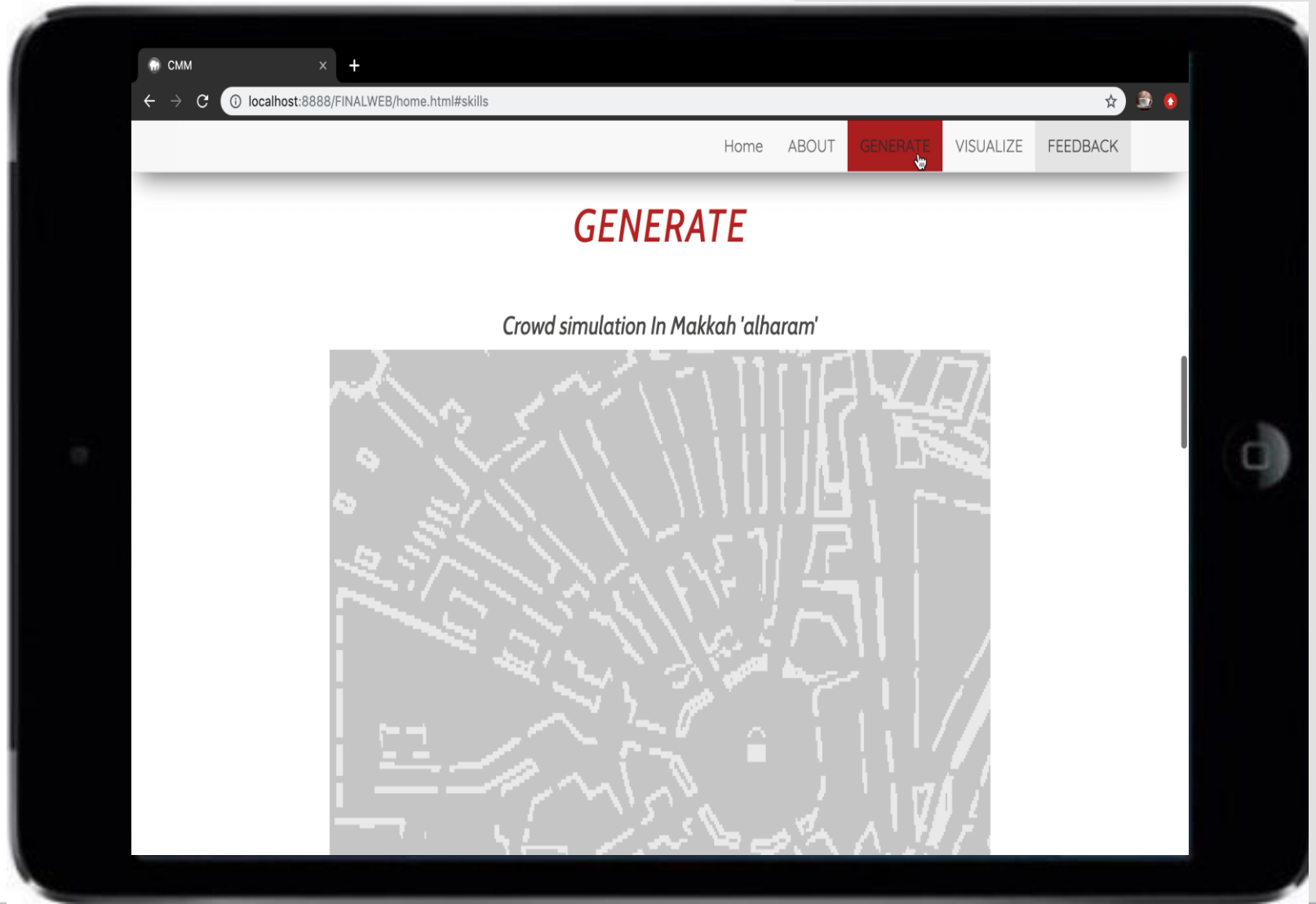


2. Adding Ascii map that we made it in (sprint1) to our website CMM

The result of using the ASCII code on our site.

ASCII map from s1.

Adding ASCII map on our site.



- The gray color boundaries will show us that they are the crowd path, The white border is the boundary of the place where the crowd will not be able to walk on it.

The empty place in ‘ASCII text file’ is the same gray color in 'our site’.

Figure from 'our site'

Figure of ’ASCII text file’

ASCII text letter in in ‘ASCII text file’ is the same white border in 'our site’.

3. Modify the ASCII code to generate crowds

- We have modified the ASCII code by adding the "=" in the place where we want the crowds to be flow and generate it

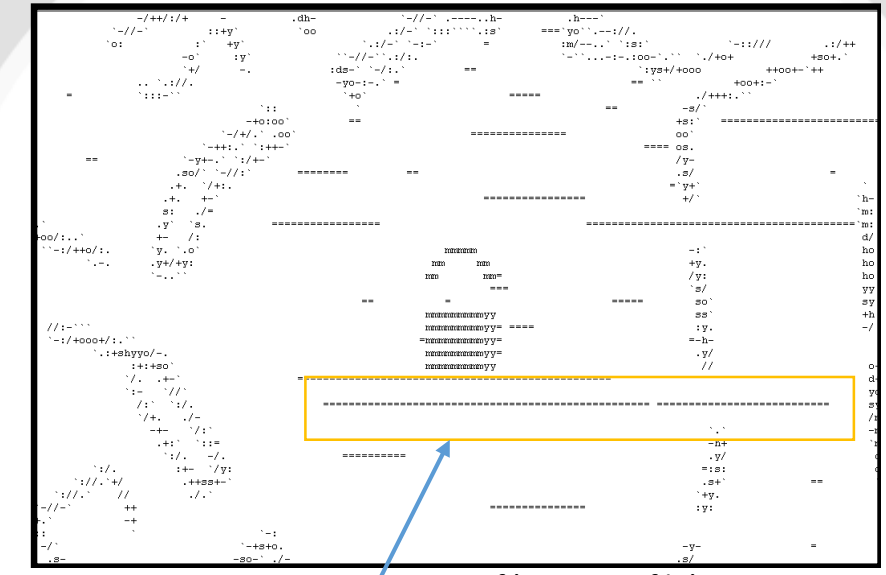
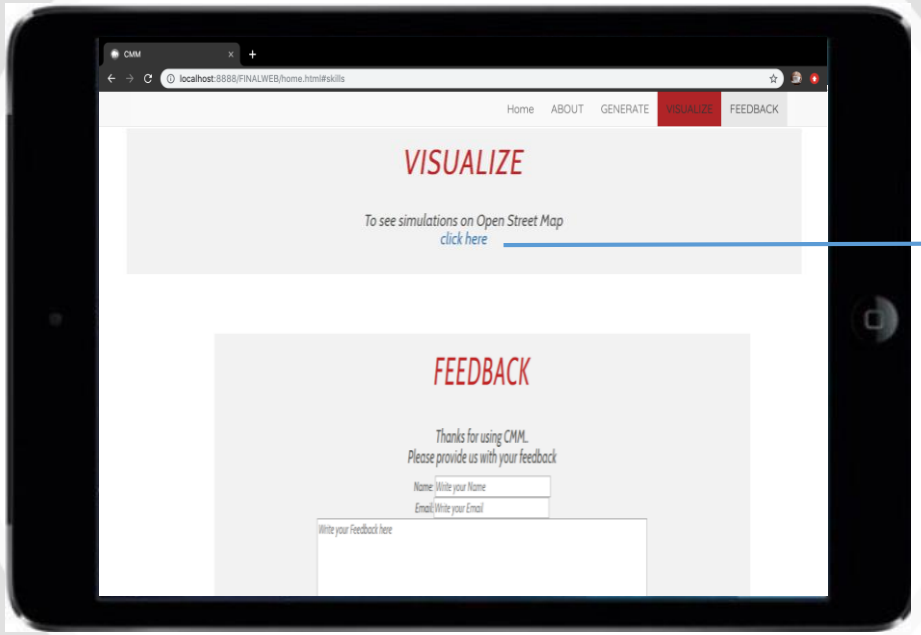


Figure of 'ASCII text file'

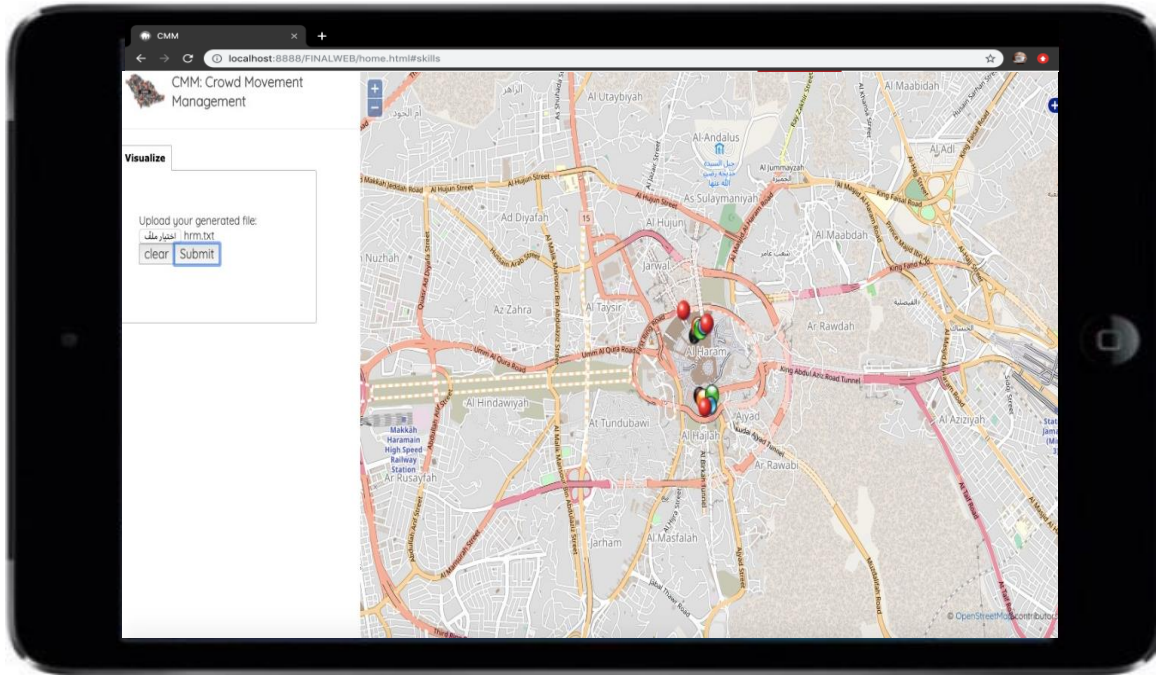
The "=" in ASCII code to generate flowed crowds

4. Visualization in CMM.

- As shown in the figures user will be able to do visualization by clicking on "click here" , then browser will transfer the user to another page then user will uploads a constant file and then click on "submit"Then he will see the crowds moving on OSM in AL-Haram area

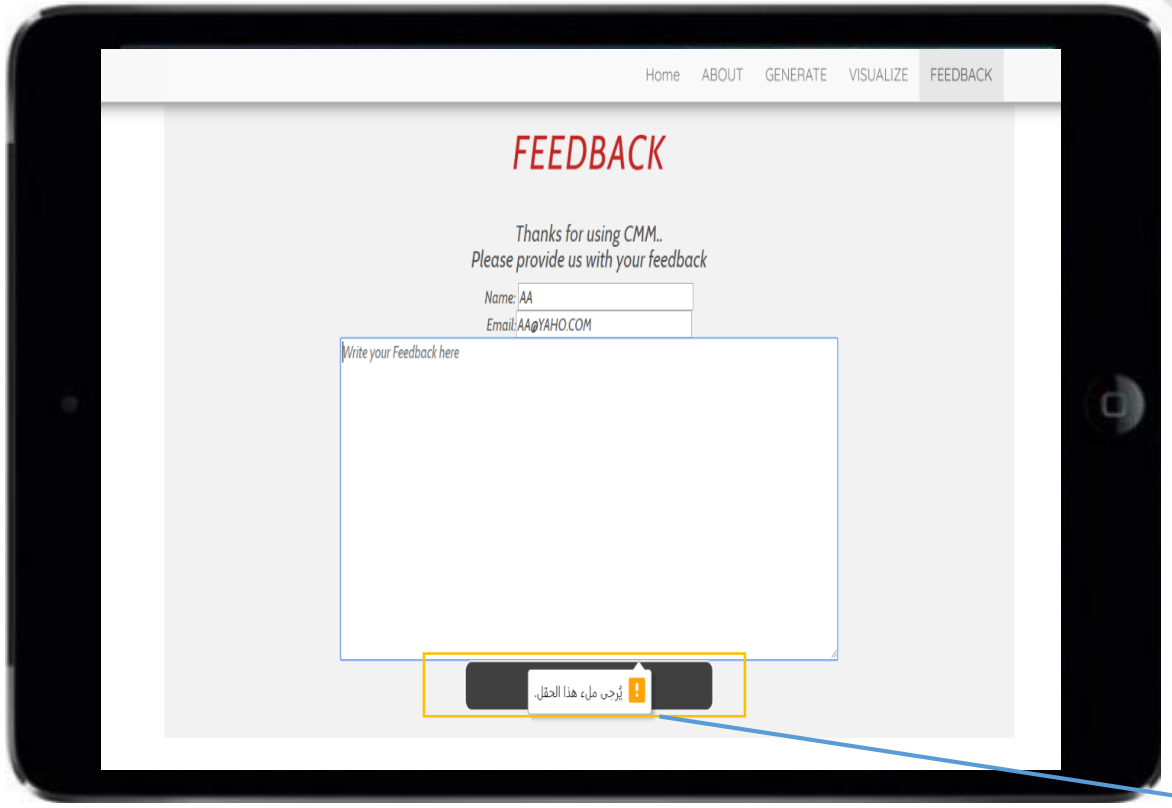


Transfer to

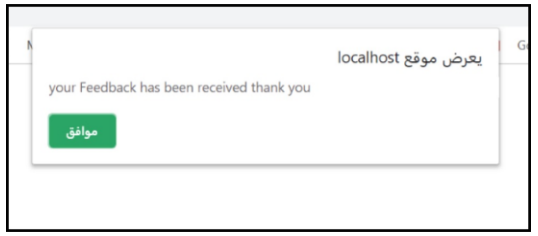


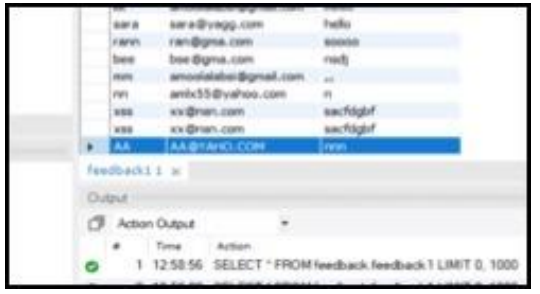
5. Feedback in CMM.

- The can user send his feedback to database by entering the name, email, feedback and pressing the send button ,also he must enter all fields otherwise, the feedback will not be sent and he will receive an alert that he must enter the blank field.



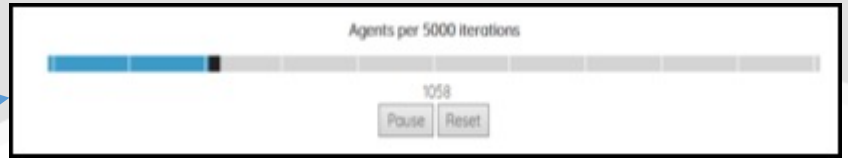
Alert massage

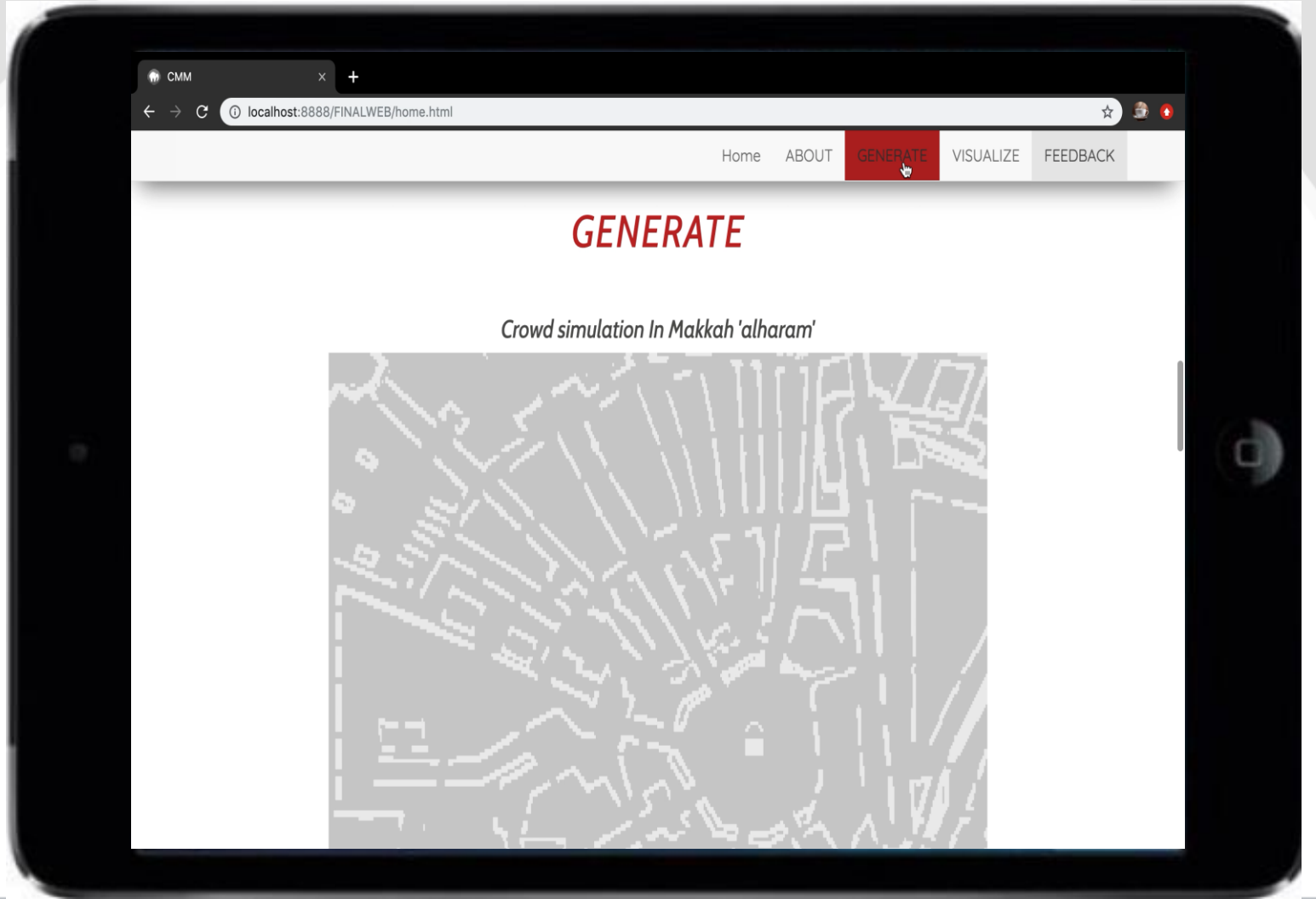




6. Finally, we Modify bar & final Results.

- Bar to increase the crowd number



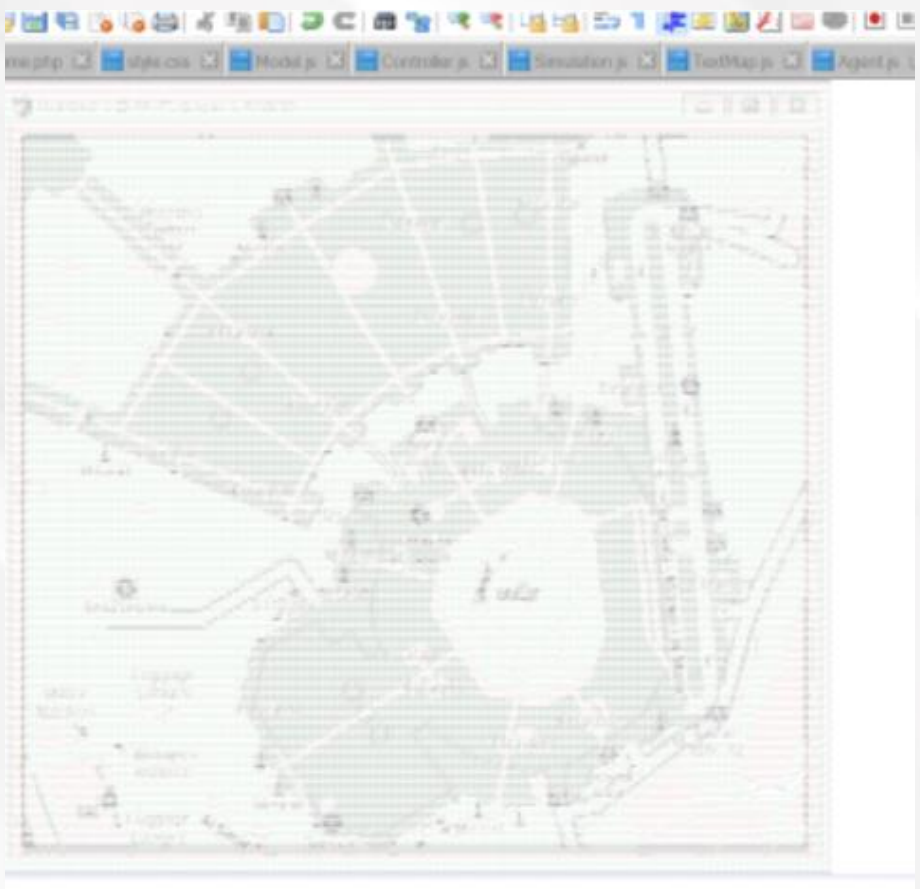


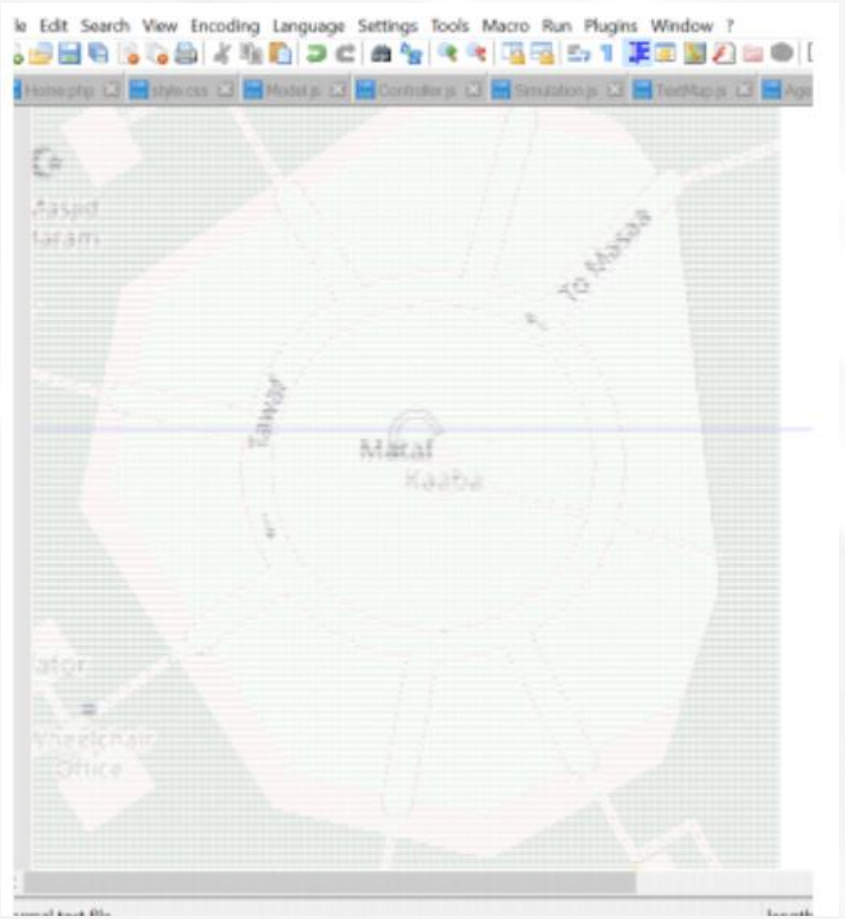
Future plans

Future work of CMM includes

Supporting more new data sources beyond OpenStreetMap.
Supporting any arbitrary area in the world.

Difficulties





Difficulties

Thanks.
Any Questions