Mohammed Dler
Rebaz Mohammed
Farman Saleh
Hawkar Atta Karim
Halat Mustafa Mohammed
Masti Khalil
Ari Omar Habeeb
Govar Abbas
ITE 408, HCI-Assignment 02
Dr. Farzad Sanati

Heuristics Evaluation of AUIS Security System

1. Heuristic evaluation

1.1Conduct a Heuristic Evaluation

Facilitator: Mohammed Dler   **Evaluator: Govar Abbas, Ari Omar**

1. Visibility of system status

Evaluation

The system can check for under the car and also the plate number of the car. But inside the car cannot be checked.

The person who is supposed to watch the screen in control room might forget or have an emergency situation and might not see what is under the car.

The camera might not see very well the plate number under the car

2. Match between system and the real world

Evaluation

The comparison between the real life and the prototype is crucial part of every evaluation and there the prototype is good in some aspect and violate in other aspects.

In real life. There are many security system that rely on camera for security. But the problem is how reliable are the cameras. Can the cameras endure different type of weather and condition? Also the recognition system for the plate number. How relabel is the system.

3. User control and freedom

Evaluation

The system mainly rely on one person to watch the screen and look at the cars. The other guard is only there in case something went wrong.

The system only allows limited access to the user. So the user can only watch the system and review them. The user cannot delete anything or edit they file.
when the main power shut down the system is no longer functional , and so it create a problem to the cars to go out and enter the gate.

4. Consistency and standards

Evaluation

To evaluate the standard of the system we need to look at the type of equipment it is used and the way they are used. The equipment's like camera, server, TV-screen, the networking parts are all standard so we do not see any violation or notice them.
The guard are also appear to be well trained to work as security guard.

5. Error prevention

Evaluation

To check for error prevention we first looked at the cameras. There is not error prevention in case something went wrong like the cable cut or camera breakdown or system break down.

There is also no error prevention in case something went wrong like a car accident or a fire or other types of accidents.

6. Recognition rather than recall

Evaluation

This type of evaluation is not applicable to our project.

7. Flexibility and efficiency of use

Evaluation

There is no alternative plan if the car was not qualified to enter the campus. The time that is used by the system to check each car is about 20 second. But in real life we need more time approximately about 60 seconds for each car. The system is not optimal for rush hour time like 8:00 am or 9:15 am times where the traffic is very high.

8. Aesthetic and minimalist design

Evaluation

The prototype has a minimal design. The room which is created and used by the guard to monitor the cameras is a small room and the whole system does not have much of a design.

9. Help users recognize, diagnose, and recover from errors

Evaluation

Error system has not fully implemented in this system. When there is an error there is no message. When one of the camera break down. We have to remove the layer of the ground or remove the cables to replace them.

10. Help and documentation

Evaluation

There is no sign of help or any type of documentation in the prototype. There is no sign that tell the driver how many second should they wait or what to do next. There is also not documentation that explain how the system works.

1.2 Meet With Other Evaluators:

Evaluators : Govar Abbas, Mohammed Dler, Arie Omar

A. General characteristic of AUIS security system UI:

The UI of the security system is made of two main screens. The first of the two screens is divided into eight section. And each section show what one of the camera record. In this way the security guard has view of all the area. The second screen has only one section. It show in a bigger picture the man camers of the security system how even the guard can interchange between the cameras and look at different view using the keyboard in front of him. There is not sing or documentation about how to use this system.

The most

B. Suggested improvement:

There are a few changes that could be done to make the UI better. For example we could have a dedicated screen that show front of the car. It could tell us the plate

number of the car and the logo that each car must have to enter AUIS. also another screen is needed that always show the ID checking system, where drives are required to put their ID into the system so they can enter AUIS. Adding some instructions and documentation about the system and how it is used is very beneficial.

C. Conclusion:

The major problem with the UI prototype is that it is not very practical. The screen might theoretically be good but in real world it might not fulfill the objective which is give full overview of the gate area to the security guard. To improve this we added another screen that is targeted at the car that is being checked. Then we add new documentation for the guard.

2. Skeleton and a Plan

2.1 Revisit the Heuristic Evaluation: Farman

For the first Heuristic Evaluation, we used Jakob Nielsen's 10 Usability Heuristics evaluation. looking at that evaluation we found the following to implement in our prototype:

1. One of the feedback we got from the HE was about the prototype's inability to check inside the car. there is not direct approach to add this feature. as the technology that can scan inside and outside the cars is very expensive and out of reach. So the only practical way is to add a sign infront of the gate that tell drivers to not bring any illegal things inside the university.

2. another feedback we got from the evaluation was about the quality of the equipments and cameras we have and if they can withstand the environment in

real life. As one of our team member is also in business of security system. we have be assured that the quality of the security equipments are good and they can work fine in different environment like hot and cold.

3. Our system also lack error prevention system according to the evaluators. So we have decided to fix this and add a RAID system to our servers and laos have a cloud based backup to make sure nothing goes wrong.

4. finally the evaluators shows that we do not have any form of documentation in the security room. So we will add a document that explain the functionality of the system and how to operate it.

2.2 Make a Development Plan:

Requirement: The equipment that are needed for our system include these

1. A card reading system: this is used to read the AUIS ID.

2. A set of cameras (around 8 -12).

3. A camera with high definition ability(record the car plate number).

4. A local server

5. Three Computer monitor with touchscreen capability.

6. Keyboard and mouse

7. A remote controlled security gate.

8. Networking cable & a router.

9. Software (database, interface).

10. High intensity light ball (use to light under the cars).

System breakdown:

The system is made of several parts and each work independently on others.The first the car comes to the designated position. Then the camera under the car record under the car and send it to the screen and to the server. The network will care live video of camera to the screen and to the local server. The screens show the images and the security guard has control over all of the camera using the keyboard and mouse. Also because the monitors are touchscreen, the security guard can also change the camera and zoom in and zoom out just by touching the screen. The local server does several works. First it record all the image that are coming from the camera. Then it also make a RAID copy so the data will not get lost. Finally The server take an image from the camera that takes photos of the plate and put it in a database. Finally the server send a copy of the videos to an outside cloud based backup (Amazon clouds). While the car is being checked, the driver of the car will put it ID into the appropriate location then the gate will be open and the car can enter AUIS.

2.3 Create a Home Screen & Key Links:

Link to the web-Interface

https://ariomar6.wixsite.com/auiseye

3. Meat on the bones:

As the assignment documentation show us, we look at the functionality of our prototype. as the evaluators has given us back their feedback we had to make changes to our development plan. for example we did not consider to have sign at the gate in our first development plan but after the feedback we add them. second, we did not had any

special camera that can take picture but after evaluation we updated our development plan and add it to the requirements. we also took notes and tired to update our prototype and create a 3D model instead of the sketch model.

Two copy of the flowchart available at the github account that gives an overview of all the operation that takes place. one of the copy is JPEG and XML.

4. Submit

All the documentation including the 3D model of the prototype and images are available at this Github link

https://github.com/HCIAUIS/HIC