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Homework II

Requirements Elicitation

SWE 573

Software Development Practice

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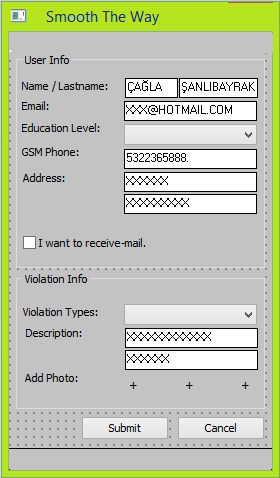
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| **Version 0.1** | Initial Report of Requirements Elicitation |
| **Version 0.2** | * Requirements were revised. * Sequence diagram was added. |

**Introduction**

In this project, our purpose is to develop a mobile and WEB application in an object oriented programming language to make handicapped people’s life easier. At the end, this application will become a data center and people will be able to list and understand the violation types. This may increase the awareness for the difficulties of handicapped.

The simple design for the application is shown below;



**Requirement 1.** The user shall enter his/her registration information.

* Last name\*
* Name\*
* Email\*
* Password\*
* Education Level
* GSM Phone
* I want to receive e-mails with the results of questionnaires I participate (Y/N)

Buttons: SUBMIT and CANCEL

Reasonable lengths for all data fields are to be assumed. All data fields are free format. Whatever user is typing is to be accepted.

**Requirement 2.** A citizen shall send any kind of violation against the handicapped people via taking picture his/her own mobile phone and transmitting it to the central station with this mobile application.

**Requirement 2.1.** The citizen shall choose the violation type from the dropdown box.

* Architectural obstacles
* Parking areas
* Stations
* City Furniture
* Accessing to the buildings
* Elements of buildings
* Lightening
* Colors
* Communication tools
* Outlets and switches
* Fire safety
* Signs

**Requirement 2.2.** After the selection of the violation type, the user shall define the violation specifically in the text description area.

**Requirement 2.3.** The citizen shall upload 3 photos of the violation.

**Requirement 2.4.** The user shall detect the address of the violation by using geolocation.

**Requirement 2.5.** The citizen shall transfer the violation by submitting to the center.

**Requirement 2.6.** In order to prevent the same violation entries in the application, violation type and geolocation values shall be controlled. In other words, one violation type and one geolocation value shall correspond to only one entry.

**Requirement 2.7.** One user shall comment, another user’s violation entry via comment button.

**Requirement 2.8.** Users shall solve the problem and change the status of the violation as “solved”.

**Requirement 2.9.** The user shall share the violation on social platforms.

**Requirement 3.** The user shall update his/her registration information.

The user shall fill out a form containing the following information.

* Email\*
* Password\*

**Requirement 4.** After the users transfer the violation to the system, the system shall evaluate the violation.

**Requirement 4.1.** In order to decide whether it is a violation or not, the system shall know the violation standards.

**Requirement 4.1.1.** Standards for the people who can only walk with the help of the other people shall be set.

**Requirement 4.1.1.1.** Ramps and short steps shall be built instead of high steps.

**Requirement 4.1.1.2.** Quality of the floor is important for the people that can walk with crutches or a sticks. Thus, pedestrian lanes shall not be slippery and the holes shall not be so large in the roads.

**Requirement 4.1.1.3.** The duration of the traffic lamps in order to step across the road shall be long enough because these people walk slower than other people.

**Requirement 4.1.2.** Standards for the visually-impaired people shall be set.

**Requirement 4.1.2.1.** The height of the objects that protrude from the wall shall be between 685-2030 mm.

**Requirement 4.1.2.2.**  In sidewalks, passages, corridors and roadways, the height of the signs of guidance from the floor shall be 2030 mm.

**Requirement 4.1.2.3.** In order to prevent crash, entrance to the places under the height of 2032 mm such as below stairs shall be inhibited via barriers.

**Requirement 4.1.2.4.**  In sidewalks, passages, corridors and roadways, perceptible warnings and audio signals shall be placed.

**Requirement 4.1.3.** Standards for the ramps shall be set.

**Requirement 4.1.3.1.**  The slope of the ramp shall be at most 1/12.

**Requirement 4.1.3.2.**  The width of the ramp shall be 915 mm.

**Requirement 4.1.3.3.**  The surface of the ramp shall be covered with non-slip material.

**Requirement 4.1.3.4.** At the end of the ramp shall be plane.

**Requirement 4.1.3.5.** Ramps shall be designed with perrons.

**Requirement 4.1.4.** Architectural obstacles shall be defined.

**Requirement 4.1.4.1.** Broken floors shall be reported.

**Requirement 4.1.4.2.** Grills, pavements without ramps, holes and tree roots in the roads shall be reported.

**Requirement 4.1.4.3.** The gaps in the grills shall not be greater than 13 mm.

**Requirement 4.1.4.4.** Banks, tables, grills, telephone cabins, rubbish bins and signs etc. shall not be placed in the center of the roads.

**Requirement 4.1.5.** Parking area standards shall be defined.

**Requirement 4.1.5.1.** Parking areas for the handicapped people shall be close to the entrance.

**Requirement 4.1.5.2.** Parking areas shall be wide enough in order to maneuver comfortably.

**Requirement 4.1.6.** Public transportation standards area standards shall be defined.

**Requirement 4.1.6.1.** For the elderlies, pregnant and handicapped people, buses shall be designed with low platform.

**Requirement 4.1.6.2.** Measurements of the bus stations shall be standardized.

**Requirement 4.1.7.** City furniture on the outside shall be defined.

**Requirement 4.1.7.1.** Banks, barriers, plants, garbage boxes etc. shall be placed on the outside not to prevent the handicapped people’s walking way.

**Requirement 4.1.7.2.** Banks, barriers, plants, garbage boxes etc. shall be placed on the outside not to prevent the handicapped people’s walking way.

**Requirement 4.1.8.** For the handicapped people, accessing to the buildings shall be facilitated.

**Requirement 4.1.8.1.** Entrance of buildings shall be described easily and signs and colors shall conduct the people to the entrance.

**Requirement 4.1.8.2.** For the ramps of the entrance, maximum slope shall be calculated.

**Requirement 4.1.8.3.** Stairs shall be designed simple.

**Requirement 4.1.8.4.** Railings of the ramps and stairs shall be placed on both side of the ramps with the height between 900 mm and 1000 mm.

**Requirement 4.1.8.5.** At the beginnings and the ends of the ramps and stairs, railings shall continue 300 mm more.

**Requirement 4.1.8.6.** On the first and last step, a textured surface shall be placed with a depth of 400 mm and a width of 800 mm.

**Requirement 4.1.8.7.** Height of the steps shall be in between 250 mm and 300 mm.

**Requirement 4.1.9.** The elements of the buildings shall be standardized.

**Requirement 4.1.9.1.** Door handles shall be designed simple and comfortably and shall be placed on 900-1200 mm high from the floor .

**Requirement 4.1.9.2.** If a revolving door exists in the building, a normal door shall also be exist .

**Requirement 4.1.9.3.** Corridors shall have 1800 mm width.

**Requirement 4.1.9.4.** Elevators shall be designed for handicapped people and the cabin measurement shall be 1100 mm x 1400 mm.

**Requirement 4.1.9.5.** In the elevators and the cabins, visual and audial announcement shall exist.

**Requirement 4.1.9.6.** Every building shall have a toilet for the handicapped people and the design shall be available for them.

**Requirement 4.1.10.** Lightening of the buildings shall be standardized.

**Requirement 4.1.10.1.** Lightening shall be homogeneous .

**Requirement 4.1.11.** Colors of the buildings shall be standardized.

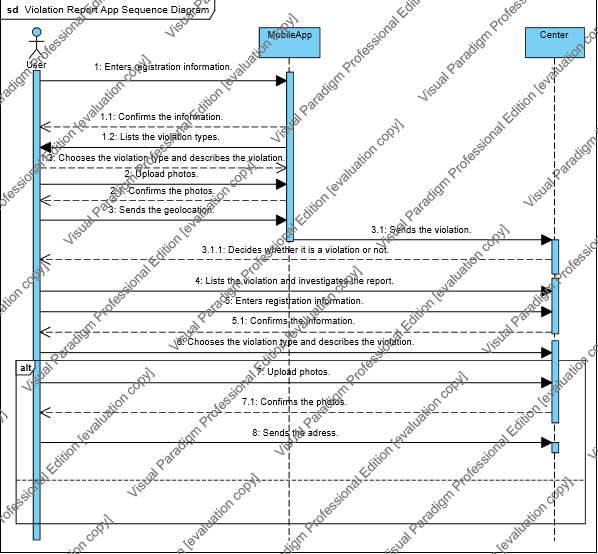
**Requirement 4.1.11.1.** The difference on the colors of walls, ceiling and the floors shall be provided .

**Requirement 4.1.12.** Colors of the buildings shall be standardized.

**Requirement 4.1.12.1.** The difference on the colors of walls, ceiling and the floors shall be provided .

**Requirement 4.1.13.** Communication tools shall be specified in the places with evident signs.

**Sequence Diagram**

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**REFERENCES**

Mimari Erişilebilirlik Klavuzu, Özlem Belir

http://www.ozurlulervakfi.org.tr