



AIR UNIVERSITY
(MULTAN CAMPUS)

Computer Science Department

Assignment of:

Software Engineering

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Question

Write use case of the situation mentioned below.

The department of public works for a large city has decided to develop a Web-based pothole tracking and repair system (PHTRS). A description follows:

Citizens can log onto a website and report the location and severity of potholes. As potholes are reported they are logged within a “public works department repair system” and are assigned an identifying number, stored by street address, size (on a scale of 1 to 10), location (middle, curb, etc.), district (determined from street address), and repair priority (determined from the size of the pothole). Work order data are associated with each pothole and include pothole location and size, repair crew identifying number, number of people on crew, equipment assigned, hours applied to repair, hole status (work in progress, repaired, temporary repair, not repaired), amount of filler material used, and cost of repair (computed from hours applied, number of people, material and equipment used). Finally, a damage file is created to hold information about reported damage due to the pothole and includes citizen’s name, address, phone number, type of damage, and dollar amount of damage. PHTRS is an online system; all queries are to be made interactively.

USE CASE FOR POTHOLE TRACKING AND REPAIR SYSTEM

Primary Actors:

Citizen

Goal in Context:

Logging onto the website of Pothole Tracking and Repair System (Public Works Department) and reporting about the location and issues regarding the pothole using internet connection.

Preconditions:

- Citizens can logon/sign up on the website of Public Works Department.
- The system of Public Works Department can accept complaints from users.
- Citizens shall report the location of pothole.

- Citizens shall report the severity of pothole.

Trigger:

Citizens decides to report the severity of pothole via internet.

Primary Actors:

Citizens can report about the malfunction of the pothole/issue related with the pothole.

Scenario:

- Citizen enters the website of Pothole Tracking and Repair System (PHTRS).
- Citizen logs on to the website of PHTRS.
- Citizen enters the personal information like name, contact number, address and email address.
- Citizen fills the information of pothole (location and severity/issue) in the form. And clicks the “Submit form” button.
- Citizen can review the form again before final submission and make changes if the citizen wants to.
- Citizen can logout of the website of PHTRS.
- System should inform the Public Works Department’s System about the complain.
- System shall generate a complain number (identifying number), size, location and repair priority to a pothole.

Exceptions:

- Internet Connectivity Issue
- Website crashes dues to unknown causes.
- Excess traffic on the website.
- Invalid username or password provided.
- Invalid information of the pothole.
- The blanks marked with “ * ” are left empty which means this is a compulsory blank. The system should generate an error message and highlight the faulty blank.
- Due to some server issues, the report is not received to the concerned department.

- Due to bad weather conditions the team couldn't work.

Priority:

Depends on the severity of the complaint made by the citizen.

Secondary Actors:

- System Administrator
- Public Works Department Repair System

Open Issues:

- Can inavailability of some tools make the progress slow?
- Can a citizen report an issue without showing its identity?
- How much time will the department take to get back to the person who reported the complaint?