ASSIGNMENT

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SUBJECT : Software Engineering

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Use case modelling

Scenario

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 Cases

Use Case 1 : Report the details about potholes online

Primary Actor	**Citizen**
Goal in context	**To report about potholes nearby via an online reporting system where they are logged and acted upon**
Preconditions	**Citizen must:** **1. have an account on PHTRS website** **2. be logged in**
Trigger	**Citizen visits the PHTRS login page to report a pothole**

Scenario	**1. The citizen visits the PHTRS website** **2. The citizen clicks some button to report about pothole which takes the citizen to login page** **3. The citizen enters ID** **4. The citizen enters password** **5. The system displays dashboard panel with multiple options** **6. The citizen selects "*report"* option from the dashboard panel options** **7. The citizen enters street address details** **8. The citizen enters size details** **9. The citizen enters location details** **10. The citizen enters severity details** **11. The citizen uploads few pictures** **12. The citizen enters extra related information under comments** **13. The citizen clicks the "*Submit*" button** **14. The system saves the data with an acknowledgment message and adds a entry to the citizen report history** **15. The system refreshes the page for another submission.**
Exceptions	**1. Login page fails to load** **2. ID or password are incorrect or invalid** **3. Report section is not available in the dashboard panel options** **4. Any of the fields is left empty** **5. Picture format is unsupported** **6. Picture size exceeds given limits** **7. Submit button does nothing** **8. Connection is lost during submission process**
Alternate Options	**1. cancels the submission** **2. navigate to other options from dashboard panel while on "report" section** **3. logout during report submission**

Use Case 2 : Log reported potholes - Report damage ratio

Primary Actor	**System**
Goal in context	**To log details about reported potholes within "public work department repair system" with other related information so that it can be worked upon**
Preconditions	**Report has been submitted by citizen**
Trigger	**Citizen reports a discovery of pothole via PHTRS website**
Scenario	**1. The citizen submits a report** **2. The system validates the report** **3. The system stores it in "public works department repair system"** **4. The system assigns an ID** **5. The system determines district details from street address.** **6. The system determines repair priority from size.** **7. The system indexes reports by street address , size , location , district ,repair priority** **8. The system analyses work order data** **9. The system computes cost of repair from hours applied,number of people,material and equipment used** **10. The system creates a damage report file with citizens name ,address , phone , damage type , damage cost.**
Exceptions	**1. The system enters valid but false details** **2. ID is duplicated** **3. work order data is not complete**