**Actors:**

1. System
2. User
3. Ohio Department of Transportation (ODOT)

**Use Case 1:** Sign-Up

**Primary Actor:** User

**Stakeholders and Interest:**

* User: Wants to be able to quickly sign-up to use the web application
* ODOT: Wants to provide real-time accurate data to satisfy the residents of Ohio.

**Preconditions:** User does not have a validated account.

**Postconditions:** User successfully creates a validated account that allows them to login to the system.

**Summary:** User navigates to the website URL, clicks on the Sign-Up link, enters his\her username and password, clicks the signup button, and the system enters and stores this username and password as a new user.

**Basic Flow:**

1. User navigates to website.
2. User clicks on the Sign-Up link.
3. User types their email address and types their password twice.
4. User clicks the sign-up button to register the account.
5. System checks that the username has the correct format and the user does not exist yet.
6. System checks that the password meets the minimum requirements.
7. The system stores this information and creates this user.
8. The system redirects to the Sign-In page to allow the User to sign in if they wish.

**Alternative Flows:**

5a. User email address already exists as an account

1. System signals error, rejects the creation of the same user, and system provides a way to request his\her forgotten password.

5b. User email address does not meet the minimum requirements

1. System signals error, rejects the creation of the user, and the system remains on the same page to allow the user to enter a new password.

6a. User password does not meet the minimum requirements.

1. System signals error, rejects the creation of the user, and the system remains on the same page to allow the user to enter a new password.

**Use Case 2:** Update Data by System

**Primary Actor:** System

**Stakeholders and Interest:**

* System: Needs to have the most up to date data to most accurately display and notify users.
* User: Wants to be able to see the most up to date data.
* ODOT: Wants to provide real-time accurate data to satisfy the residents of Ohio.

**Preconditions:** System has the pre-defined update interval stored and also the webpage to pull the real-time data.

**Postconditions:** System successfully updates its database with the most relevant data.

**Summary:** The system grabs the latest xml data from the ODOT website at the stored interval, updates the database, and finally updates the information on the webpage so this data can be used.

**Basic Flow:**

1. At a stored interval, the system access the stored ODOT website.
2. The system parses the XML file and stores it to the database.
3. The system updates the information it is displaying based on this new data.

**Alternative Flows:**

1a. The ODOT website is down and not accessible.

1. System signals error to log file and not to the user and the system does not insert new data into the database.

2b. XML file does not have data in predefined format

1. System signals error to log file and not to the user and the system does not insert new data into the database.

**Use Case 3:** Update Data by User

**Primary Actor:** System

**Stakeholders and Interest:**

* System: Needs to have the most up to date data to most accurately display and notify users.
* User: Requests new information so the user can see the most up to date data.
* ODOT: Wants to provide real-time accurate data to satisfy the residents of Ohio.

**Preconditions:** User has a valid account. System has the webpage to pull the real-time data.

**Postconditions:** System successfully updates its database with the most relevant data upon user request.

**Summary:** The user requests new data via a button, then the system grabs the latest xml data from the ODOT website, updates the database, and finally updates the information on the webpage so this data can be used.

**Basic Flow:**

1. The User clicks a button that requests new data.
2. The system accesses the ODOT website (the URL is stored in the web app).
3. The system parses the XML file and stores it to the database.
4. The system updates the information it is displaying based on this new data.

**Alternative Flows:**

2a. The ODOT website is down and not accessible.

1. System signals error to log file and to the user and the system does not insert new data into the database.

3b. XML file does not have data in predefined format

1. System signals error to log file and to the user and the system does not insert new data into the database.