**Labs 11 & 12:**  **Design Forms, Reports and Interfaces (System S1)**

**Lab Learning Outcomes (LLO)**

By completion of the lab the students should be able to

1. Design forms, reports, and interfaces in context of Traffic Violation Monitoring System.

**Tools Required**

For example, [StarUML](https://staruml.io/), [Lucidchart](https://www.lucidchart.com/pages/), [penpot](https://penpot.app/) and [Figma](https://www.figma.com/) etc **Penpot and Figma are preferred for prototype**.

**Task to Do**

The design of forms, reports and interfaces depend on the actors and functionality of the system which is defined by use cases. The actors involved in the system are Traffic Police Officer and Vehicle owner or Driver. The use cases we defined are Capture Traffic Data, Analyze Traffic Data, Detect Violation, Classify Violation, Verify Violation, Generate Evidence, Communicate with Vehicle Owner, View Violation Details, Dispute Violation and Pay Penalty. Note that manual interfaces are always needed, in case automation fails or do not work.

**Forms, Reports, and Interfaces for Traffic Police Officer:**

1. **Capture Traffic Data:**
   * Interface: Camera or Sensor Data Capture Interface (GUI to control cameras/sensors)
   * Form: Data Entry Form for Manual Data Capture (e.g., if needed in case of technical issues)
2. **Analyze Traffic Data:**
   * Interface: Data Analysis Dashboard (to visualize and interpret collected data)
3. **Detect Violation:**
   * Interface: Violation Detection Dashboard (showing potential violations)
4. **Classify Violation:**
   * Interface: Violation Classification Form (allowing manual classification if needed)
5. **Verify Violation:**
   * Interface: Violation Verification Interface (showing details and evidence for verification)
6. **Generate Evidence:**
   * Report: Violation Evidence Report (containing images/videos and details)
7. **Communicate with Vehicle Owner:**
   * Interface: Notification Interface (to send notifications to vehicle owners)
8. **View Violation Details:**
   * Interface: Violation Details Interface (to view details of violations)
9. **Dispute Violation:**
   * Interface: Dispute Submission Form (allowing vehicle owners to dispute violations)

**Forms, Reports, and Interfaces for Vehicle Owner/Driver:**

1. **Communicate with Vehicle Owner:**
   * Interface: Notification Interface (showing received notifications)
2. **View Violation Details:**
   * Interface: Violation Details Interface (to view details of violations)
3. **Dispute Violation:**
   * Interface: Dispute Submission Form (allowing vehicle owners to submit disputes)
4. **Pay Penalty:**
   * Interface: Payment Portal (to pay penalties online)

These are the main use cases where you would need forms, reports, and interfaces to facilitate the interaction between the system and its users (Traffic Police Officer and Vehicle Owner/Driver). You can design these forms and interfaces based on the specific functionalities required for each use case. Additionally, reports can be generated to provide documented evidence or information to the actors involved.

**QUESTIONS:**

A use case may be introduced for the Traffic Police Officer and Driver to **‘View Stats’** for analyses purpose. in addition to above use cases. For instance, what type of violations are occurring the most, at what times and in what areas and/or under any specific conditions. This should allow the user to choose a specific location for violation occurring, specific date/days from start to end date and to choose a specific violation. **You are also required to design the interfaces/forms/report for this particular use case.**

Remember, these are just examples to guide you through the process. You can modify and adapt them based on your needs as guided by the lab instructor and the requirements of the Traffic Violation Monitoring System.

**Examples**

You may also get help from the following samples produced by the students. **These samples may not be complete and accurate, so you are required to complete them and identify any mistakes/errors or space for improvements or changes required**.

 

