**Project Outline and Database Outline**

**Overview: The Wheel of Shame--Self-policing drivers for entertainment and safety**

The National Highway Traffic Safety Administration (NHTSA) estimates over 36,000 people killed in traffic accidents, nationwide, in 2018. In 2011, the CDC reported that a drunk driver will drive an average of 80 times under the influence before they are caught and arrested. In 2015, they also reported that 10% of fatal crashes and 15% of injury crashes were distraction-affected. Driver distraction is responsible for more than 58% of teen accidents, and still, crashes due to distracted drivers are grossly under-reported. The NHTSA also cites aggressive driving as a contributing factor in 66% of traffic fatalities. These statistics demonstrate only some of the behaviors that make driving more dangerous. We seek to build a reporting system to increase awareness, accountability, and make the roads safer for everyone.

In our mission to improve roadway safety through reporting, we present The Wheel of Shame. The Wheel of Shame is a nationwide database of license plate numbers linked to driving and behavioral offenses, supported by photo/video evidence. The platform allows drivers to be held accountable by their fellow drivers in a system of self-policing. There is no legal penalty that results from driver reputations derived from this database, however, it provides a medium for reporting.

The website will allow drivers to search their license plate number(s) for any driving offenses that they may have unknowingly committed, and see how that compares to others. Likewise, others on the road, ideally passengers, when witnessing dangerous or illegal activity can take photos or record the action, then post the offense to the website. This also provides a feeling of justice and could potentially decrease road rage incidents. The data will be available in a fun and easy to use website interface for purely entertainment value. Users will be able to see relationships such as what state has the most driving offenses, what type of car logs the most aggressive driving complaints, and so much more.

The website is meant for and will stress the importance of only passengers being able to log information while in the car. It will be meant for large scale use within dense areas, such as a college campus and will have thousands of users.

The database powering The Wheel of Shame will include the following entity tables: Vehicle, Incidents, Offenses, and Evidence. Each entity will consist of pertinent attributes that correlate with its' entity. The Vehicles entity will include our primary key that will link the incident to the vehicle. With a 1:M relationship with Vehicle and Incidents, multiple incidents can also be logged by the vehicle through the license plate that forms the unique key. Incidents and Offenses will have a many to many relationship. This will allow us to make correlations between types of cars, or certain locations where more Offenses occurred. This information could be useful to local police, the Department of Motor Vehicles, hospitals, etc. We hope these

correlations will lead to better policing and more precautions taken where needed, allowing for safer roads.

**Vehicles: records the details of the vehicle**

- **licensePlate: varchar, unique, not NULL**
- **make: char, not NULL**
- **model: char, NULL**
- **color: char, NULL**
- **Relationship: 1:M relationship with Incidents**

**Incidents: records the number of citations per vehicle**

- **incidentID, int, auto-inc**
- **total**Offenses**: int, not NULL**
- **city: char, NULL**
- **state: char, NULL**
- **date: int(2 int max), not NULL**
- **evidenceID: FK**
- **Relationship: M:M relationship with Offenses**
  **M:1 relationship with Vehicles**
  **1:M relationship with Evidence**

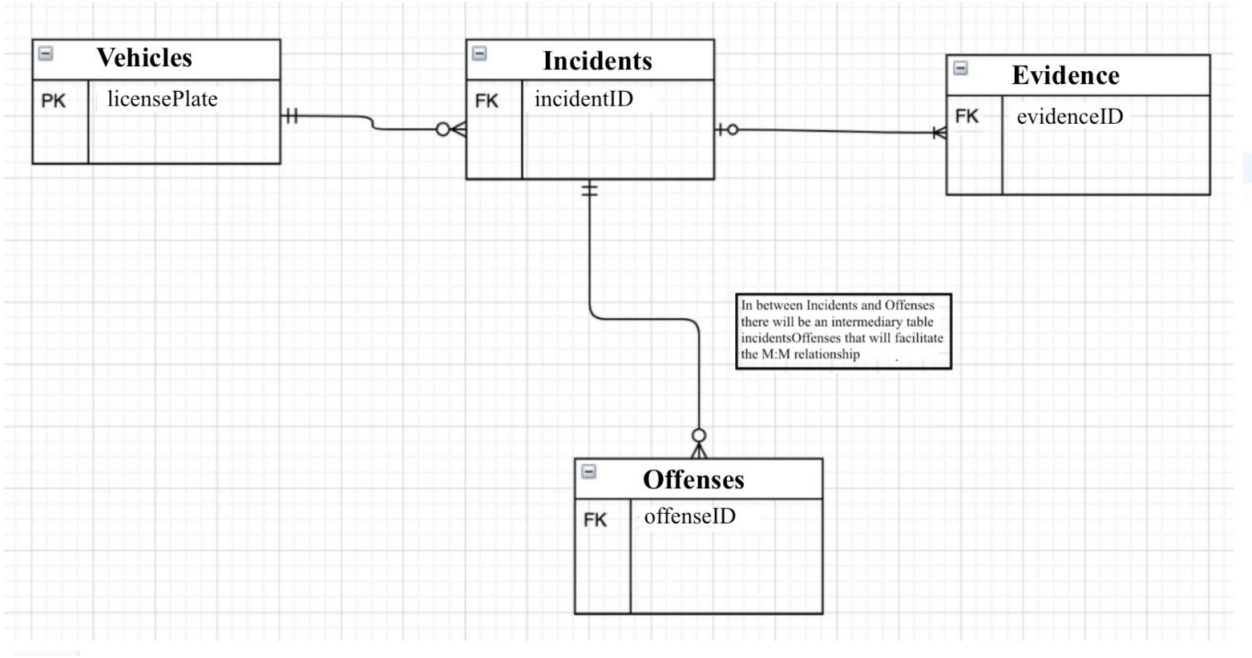
**Offenses: records the traffic violations**

- **offenseID: int, auto-inc**
- **incidentsID: FK**
- **name: char, not NULL**
- **Relationship: M:M relationship with Incidents**

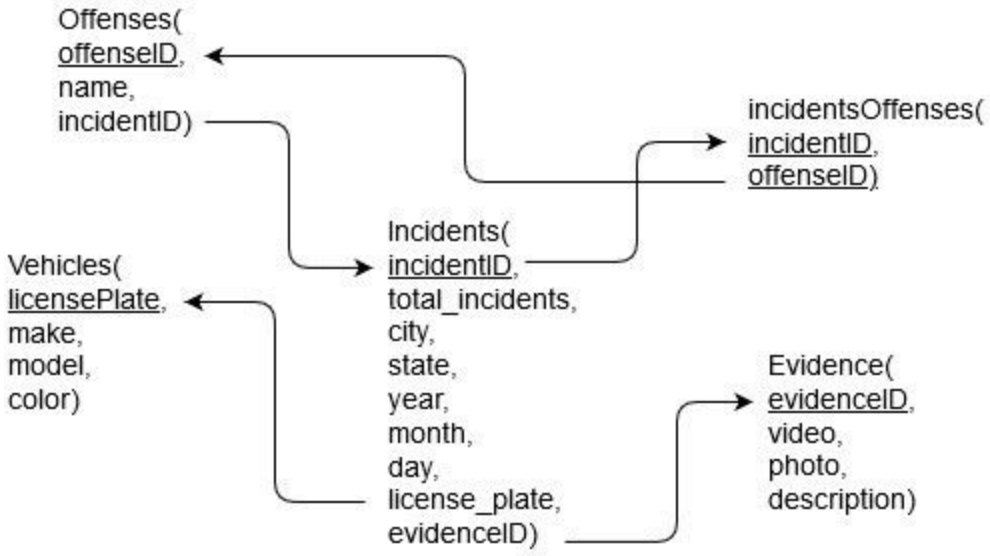
**Evidence: records the evidence for which the accusation is being made (either photo or video must be not NULL)**

- **evidenceID int, auto-inc**
- **description: charvar, not NULL**
- **Relationship: 1:M relationship with Incidents**

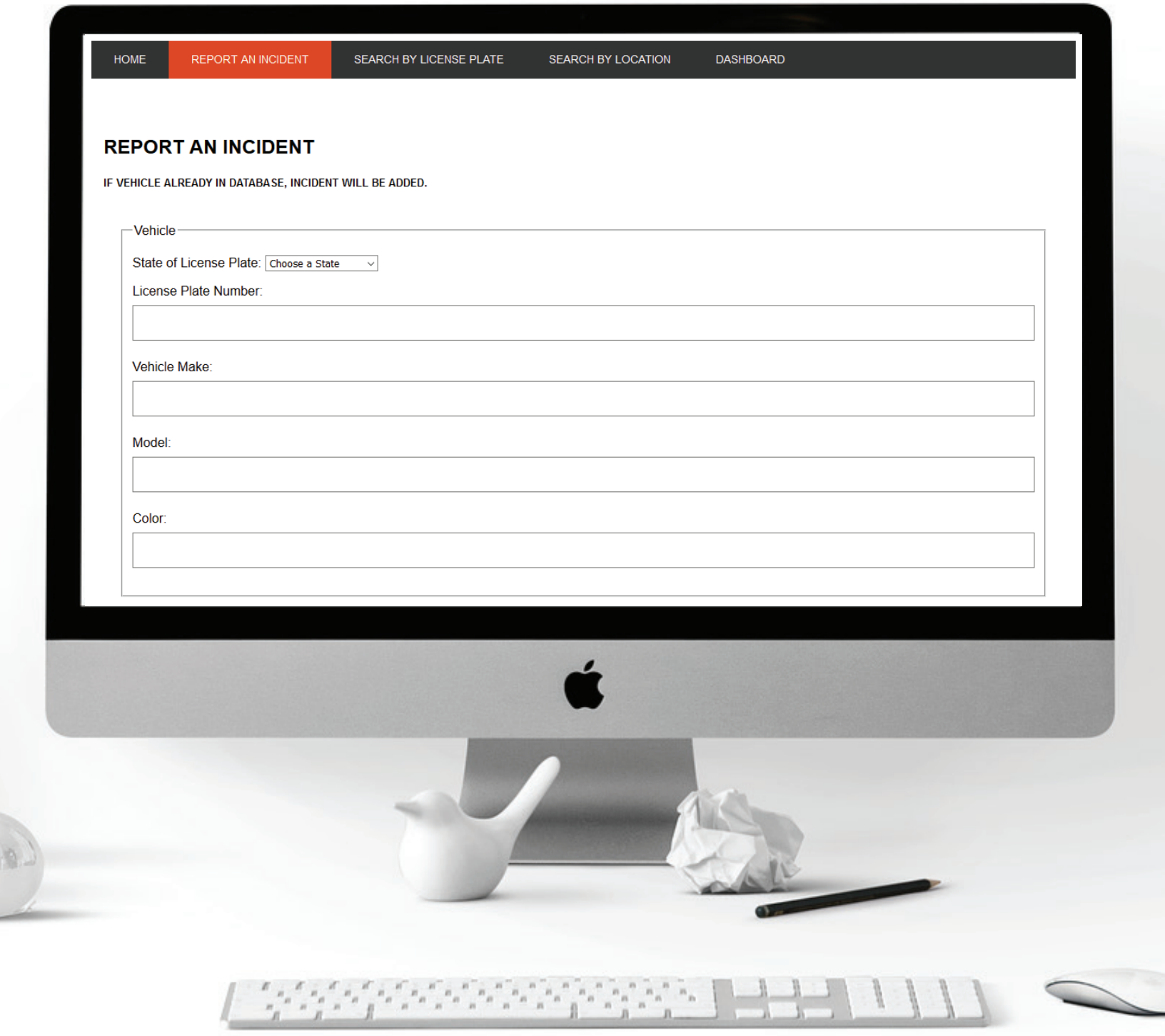
**c) Entity-Relationship Diagram:**




**d) Schema:**



*RELATIVE URL: /incident*
*FUNCTIONALITY: Form submission to submit new incident.  INSERT*

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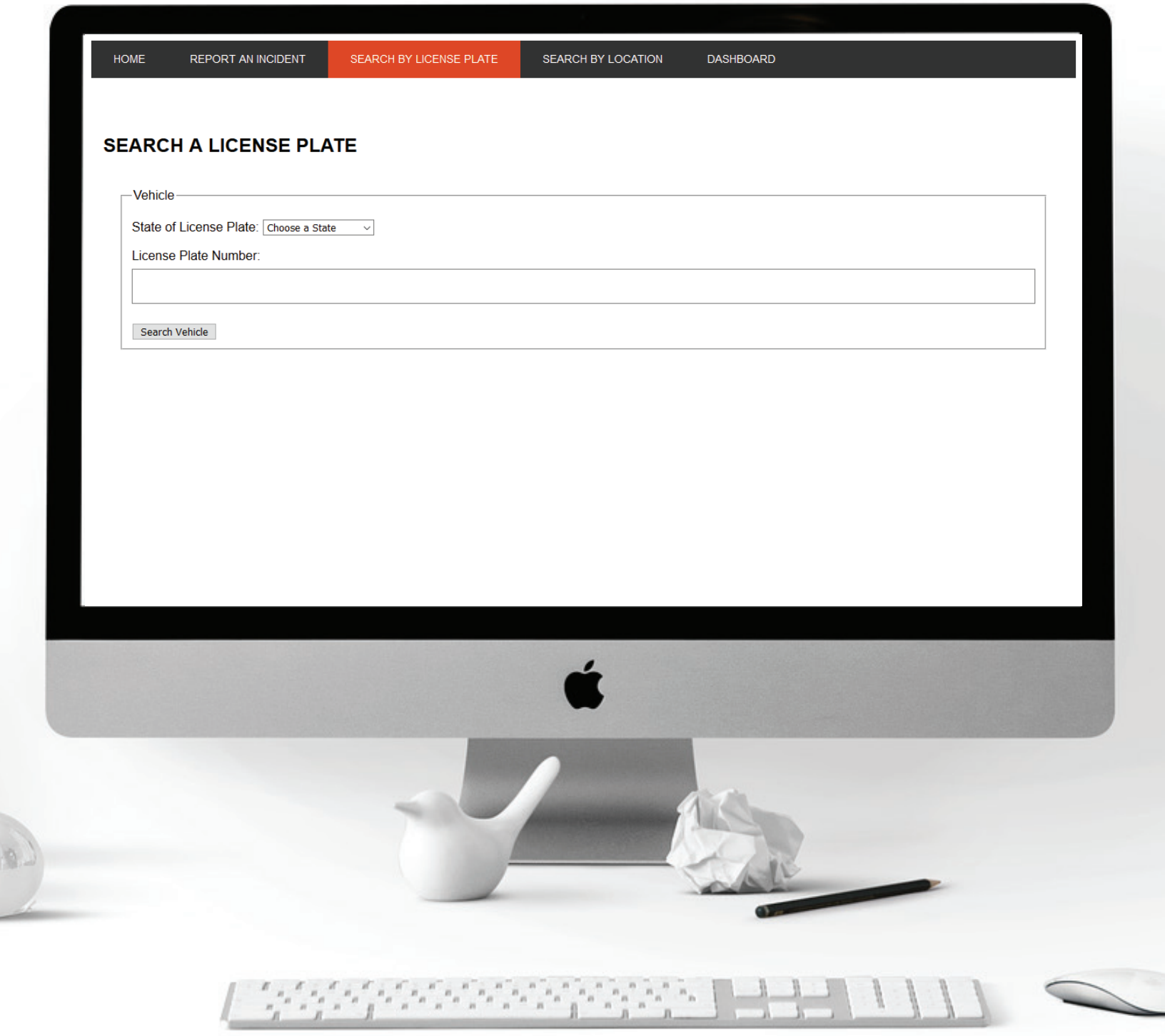
*RELATIVE URL: /searchByLicense*
*FUNCTIONALITY: Form submission to search a license plate. SELECT*

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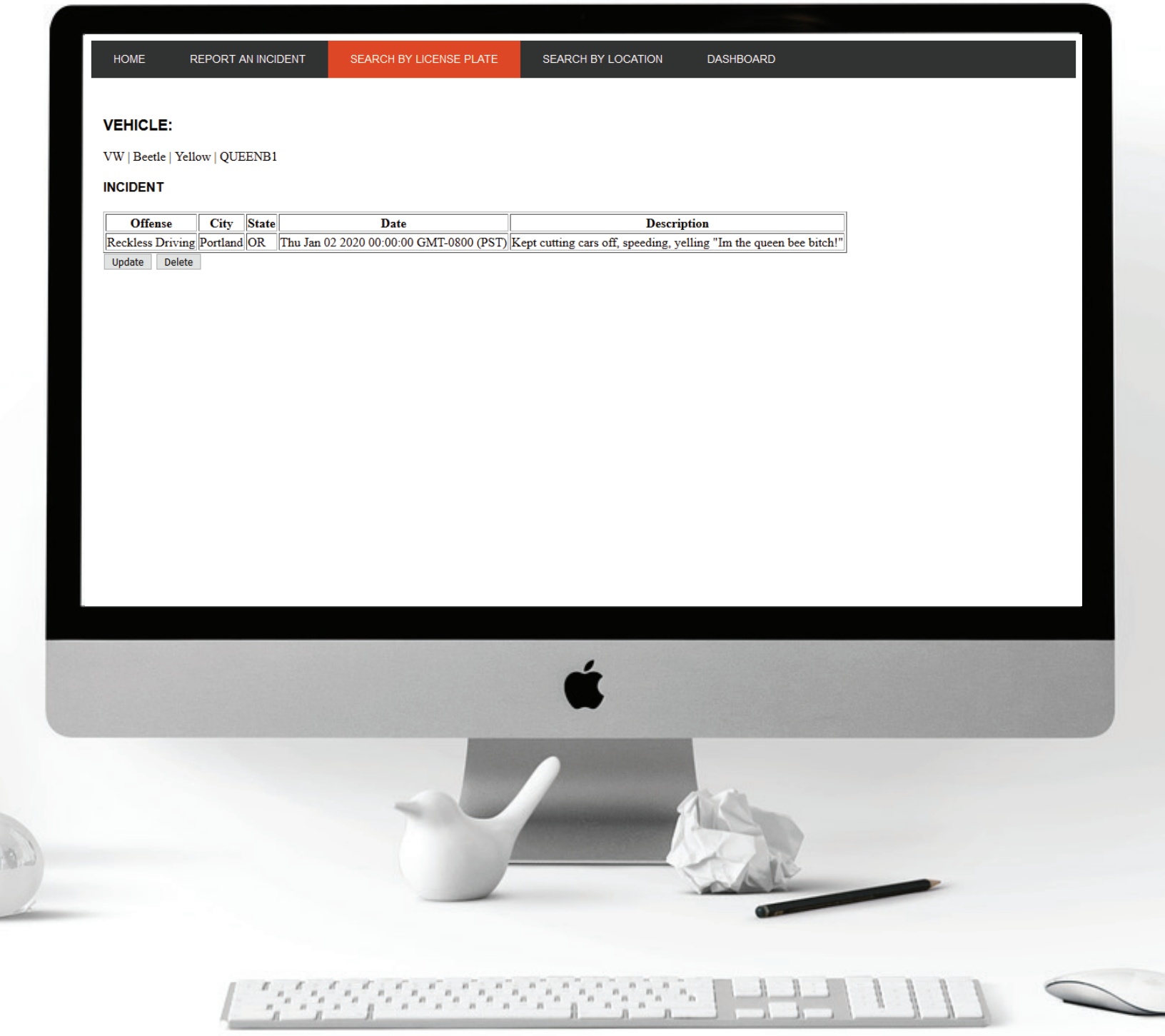
*RELATIVE URL: /searchByLicense*
*FUNCTIONALITY: Results after form submission.  SELECT/DELETE/UPDATE*

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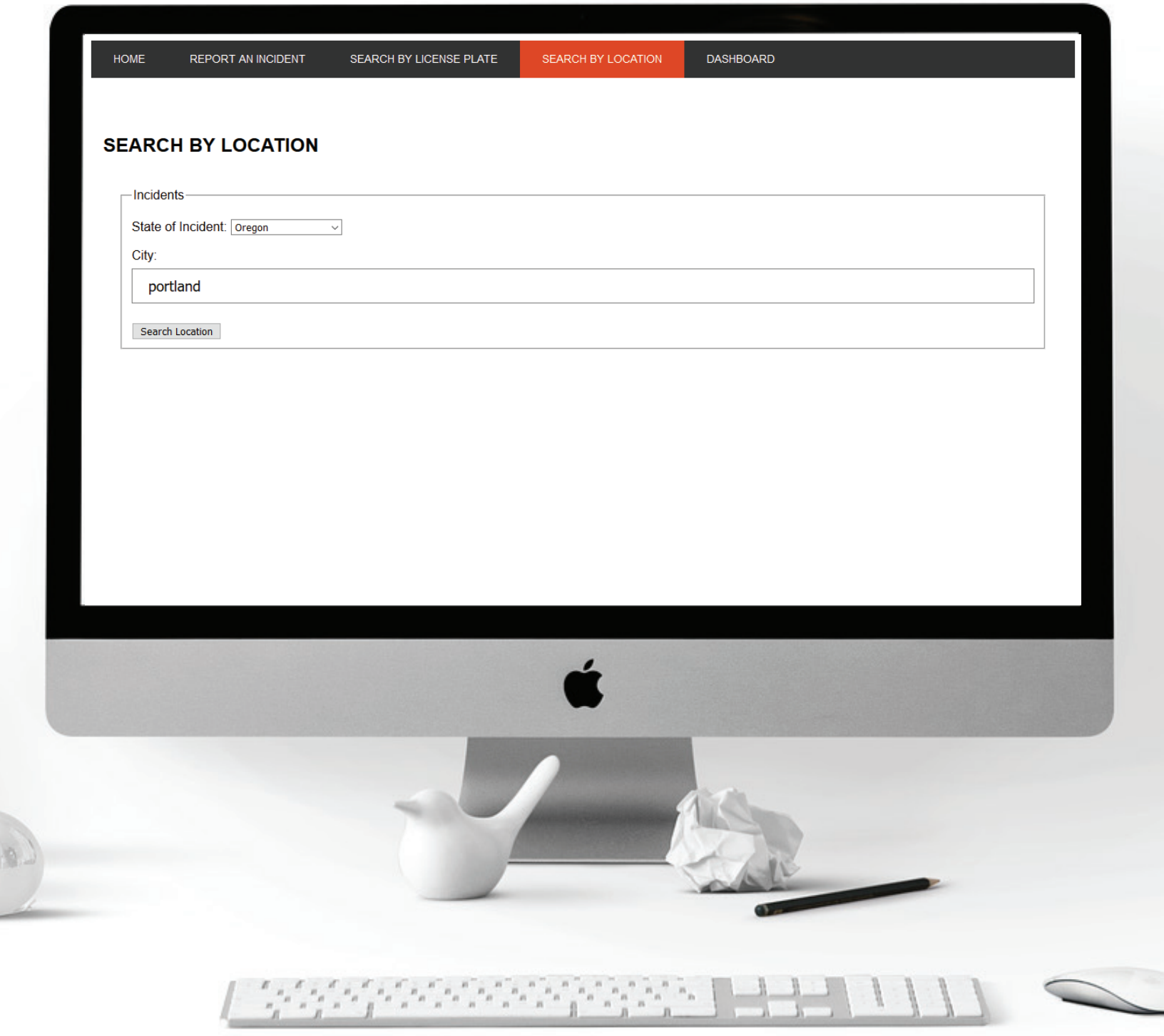
*RELATIVE URL: /searchByLocation*
*FUNCTIONALITY: Form submission to search location.  SELECT*

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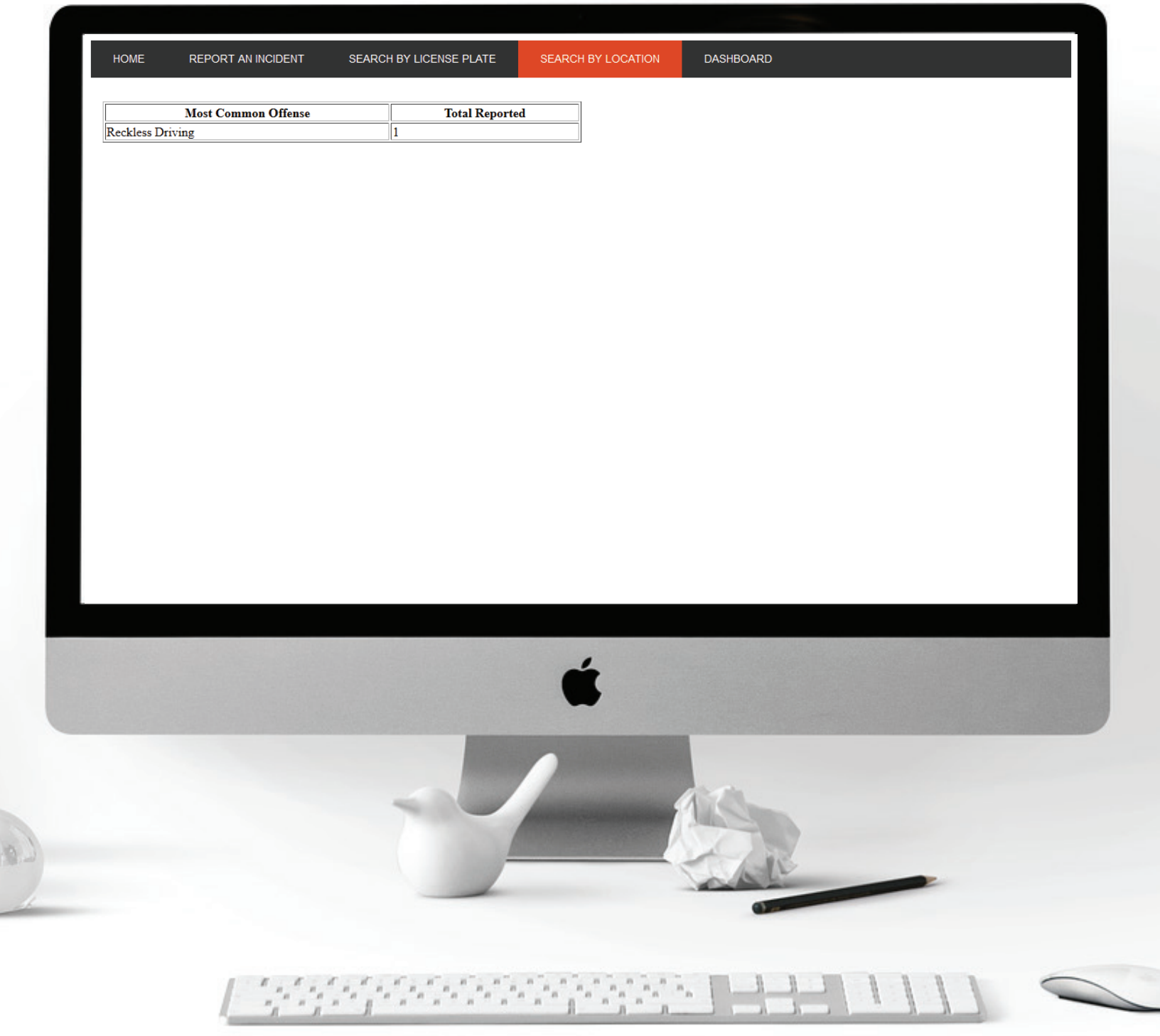
*RELATIVE URL: /searchByLocation*
*FUNCTIONALITY: Results after form submission.  SELECT*

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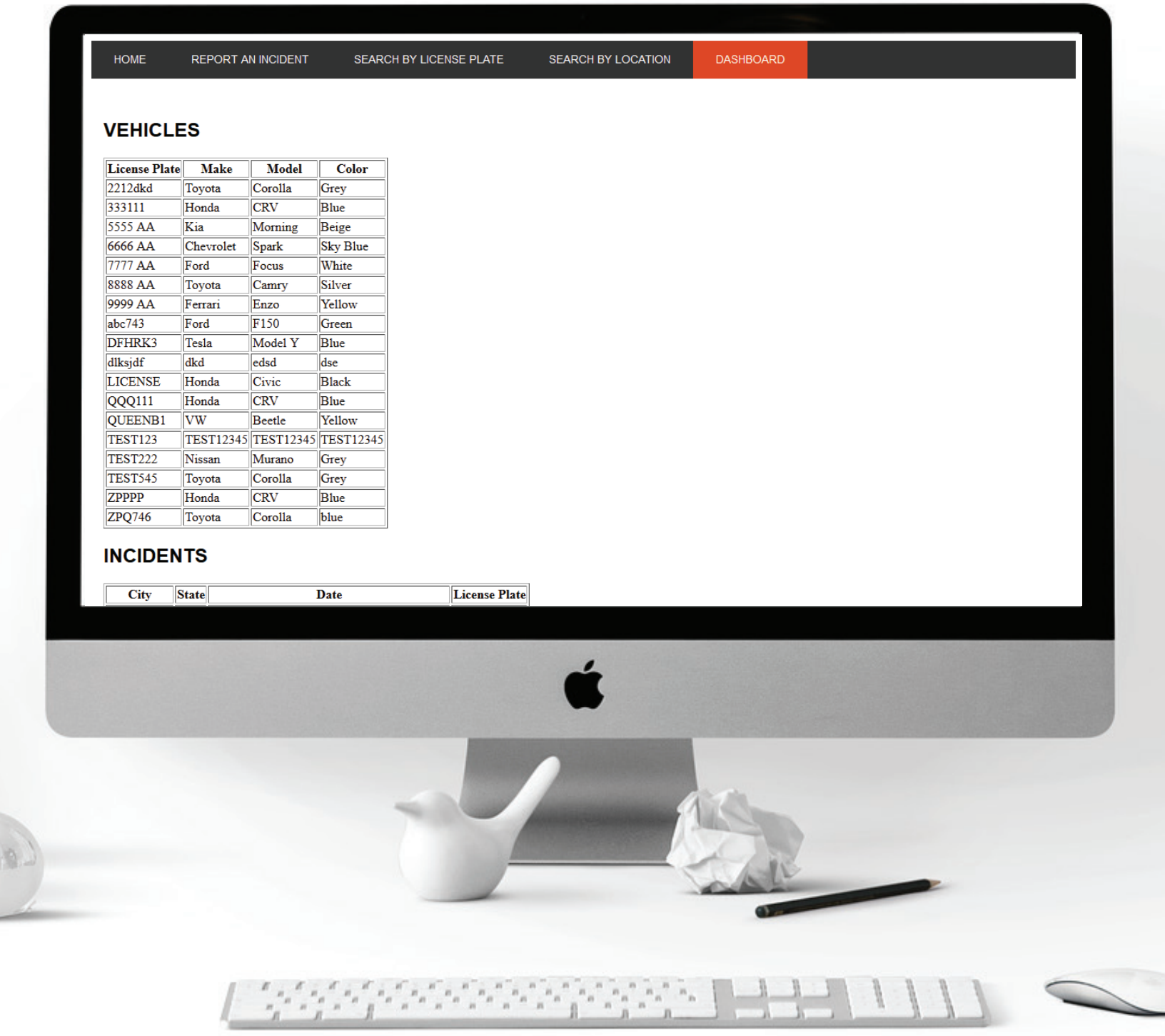
*RELATIVE URL: /admin*
*FUNCTIONALITY: Display all tables. SELECT **

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