

Ticket, Police Concept Document

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Project thumbnail

A recent study performed by Allstate Insurance Co. of 200 cities reviewed the majority of bad drivers in the US are in Massachusetts. Bad driving habits and the ignorance towards driving rules have become serious issues. Our game is mainly focused on mitigating the problems caused by bad drivers by reinforcing the need for drivers to follow the rules of the road and emphasizing the consequences of maintaining bad habits.

Target users

Our game will be targeted towards new drivers between the ages of 16-25 years.

Delivery platform and justification

The game is expected to be released on PC as a web application. This allows as many people as possible to have access to the game. There is also a possibility for the game to be ported to tablet for casual play. This will allow the players more opportunities to play the game in more locations, as opposed to just sitting at a desk.

Needs Analysis

Problem Statement

- There are many fundamental rules of driving in city communities that are commonly not followed
- This includes obeying traffic signs, lines, etc.
- Many people are aware of the basic the rules of the road, but choose to ignore them.

Learning Objectives

- 1) What is the proper way to respond to a passing emergency vehicle?
- 2) Being fully cognizant of the rules of a given road
 - Observing street signs, lights and lines on the highway
- 3) Recognize the consequences of bad driving habits
 - Not using turn signals, or ignoring speed limits
- 4) When are the appropriate times to make a turn?

Task Analysis

Objectives

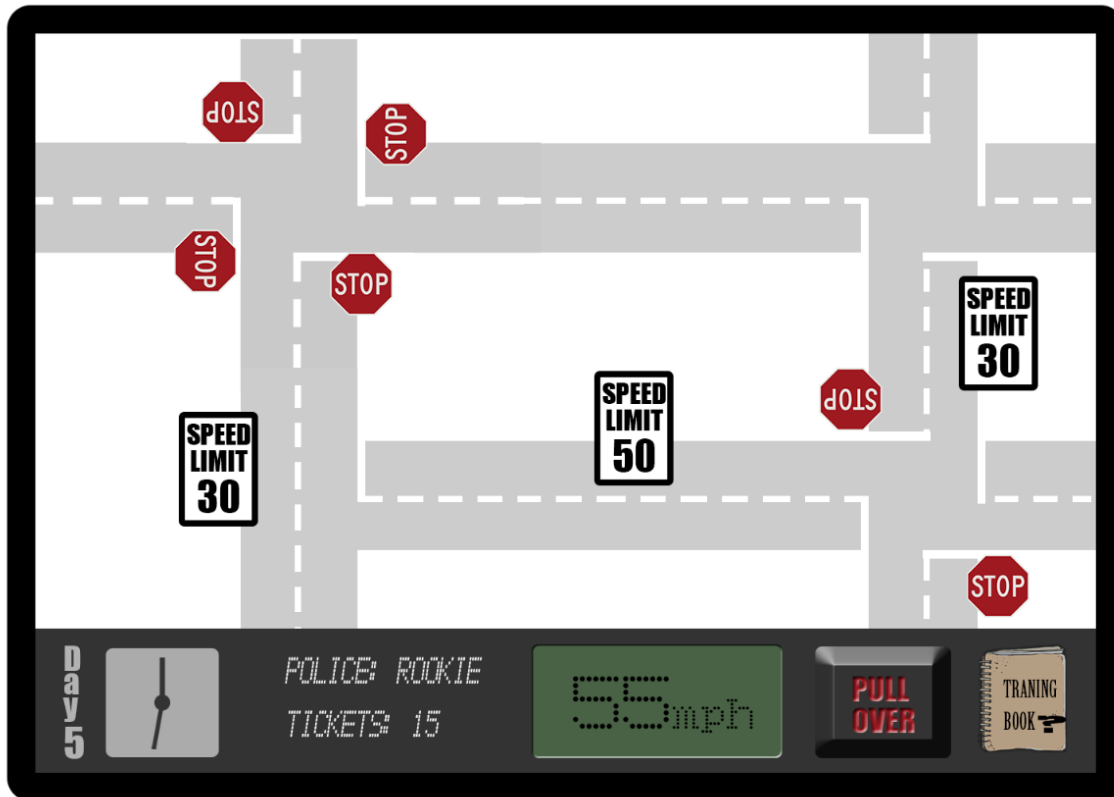
- 1) To remind drivers, both old and new, of rules of driving that are not commonly followed or are easy to forget
- 2) To promote good driving habits
- 3) To encourage people to drop bad habits that they may have developed or are in the process of developing

Steps to Take

- 1) Show players different driving situations
- 2) Have players respond to the situation by choosing their next course of action
- 3) If user responds incorrectly, show them the consequence of their action
- 4) Let the user try again, and repeat until they choose the most appropriate action

User Interface/Game Environment

Interface



Top-down map view

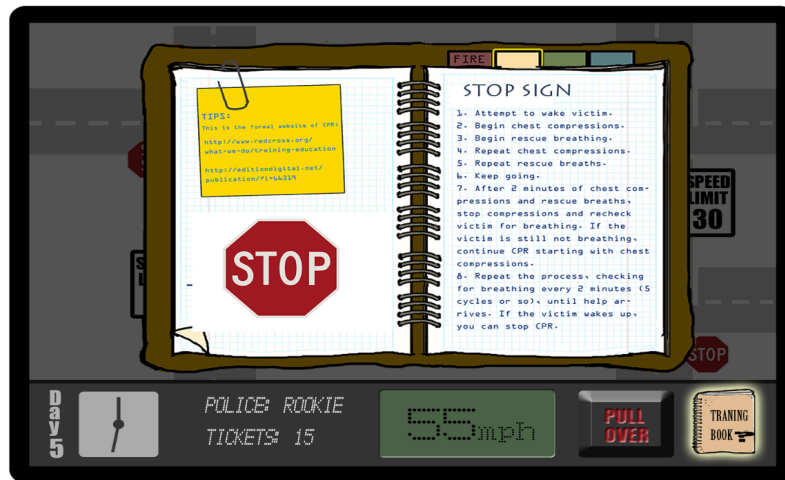
- Menus
 - When the player selects a car on the map, this area will display the speed that the car is currently travelling (speed scan: green area)
 - Pull over car button (click to change to pull over car view): This button is disabled unless a player has selected a car to pull over.
 - Enter help system/ training book button (click to change to help system view)
 - Timer - all levels will have a brief time limit
 - Information (to show the player's skill and the number of tickets the player has issued in the level)



Pulled over car view

- Menu
 - Give ticket
 - If players choose to issue a ticket, they must then select the reason that they are giving out a ticket (with options, scroll down menu on the right)
 - This can be clicked anytime, even if the conversation with the driver is still taking place.
 - Give warning
 - If players simply want to give out a warning, they must then select the reason for the warning (with options, scroll down menu on the right)
 - This can be clicked anytime, even if the conversation with the driver is still taking place.
 - Let Go
 - Choose this option to let the driver drive away without a ticket. This takes the player back to the top down view map

- Help system
 - Players can click this button in order to ask for instructional help; the interface will be same as help system
- Sign area
 - Click the signature area to sign the ticket, issue ticket, and then go back to the top down map view



Help system view

- There will be a help system in place to assist players. This acts as a list of hints to remind players of different rules.
- The hints will be focused specifically on the level that the player is currently in
- Timer will be paused

Interactivity

The majority of the interactivity will come be between the player and the map screen. The entire viewable map will be shown on the screen at once. Players must pay close attention to all of the information presented on the map, such as the different road signs, as well as the moving cars. Cars will be controlled by an AI.

If a player has reason to believe a driver is breaking a law, the player can click on the offending car with the left-mouse button. This will reveal to the player how fast that particular car was travelling. Different roads/maps will have different speed limits, and different traffic signs. Players can open up the different menus, such as the information manual by clicking on the icon in the corner of the screen.

Gameflow/Narrative

In the game the player will play as a rookie traffic police officer in Worcester, where the traffic accident rate is the highest among the US. The goal for the player to accomplish is to regulate the drivers to obey the driving rules, reduce the bad driving habits and decrease the rate of traffic accident.

Generally, the gameplay is separated by days, and players will face 4 phases in one day:

- Reviewing phase: Players will read the newspaper that shows the consequence of the choices they made in previous day.(Except the first day)
- Lecturing phase: Players will receive instructions about the new rules that will apply in to the work that day.
- Playing phase: Players will have limited time to use the knowledge they learned to solve the problems and regulate the drivers.
- Conclusion phase: Player will receive a feedback of how they did in this day.(Score mostly) Sometimes there will be an event that connects the gameplay to the next day.

During the playing phase, the player will have to respond to the situations in the street fast and correctly. Issuing the wrong type of ticket to the driver or ignoring illegal behavior will give immediate negative feedback to the player by increasing the rate of traffic accidents. If the player keeps making mistakes then he/she may fail the level and have to restart from that day. Also, there is a small chance that the player's mistake will cause a car accident while playing, letting the player know that a ticket is not the only punishment for bad driving habits.

Game Levels

- Level one(day 1 - day 3): intersection with stop sign on four directions.
 - Day 1: Explain the basic rules of an intersection. All drivers must stop before proceeding through the intersection. Players can pull over the car and give a ticket if the driver didn't stop. At the end of the day, a super fast car driving through without stopping will create a serious traffic accident. This segues into the next level that introduces the concept of speed limit.

- Day 2: The player will first see the car accident on a newspaper and then receive an order from the office that there will be a speed limit on the street from today. Player can pull over speeding cars and give tickets starting on this level.
- Day 3: The newspaper shows that in order to decrease the rate of traffic accident, the government has started a series of traffic sign construction. During the playing phase, there will be a worker working around the intersection. He will put a sign of “under construction” on a certain direction and the way to that direction is currently “No Entry”. Players will have to stop the cars which try to go in that direction to prevent an accident from happening.
- Level Two (day 4 - day 6): intersection with traffic light
 - Day 4: Newspaper shows that new traffic light system has been put in to work in the city. The player will get the instructions about the traffic light. Players can pull over and give tickets to the drivers who go across when the traffic light is red starting in this level. By the end of the day, a car will bump into a truck when overtaking a van ahead of it. This will segue into the next day dealing with lanes in the road.
 - Day 5: Newspaper shows the accident and the government is trying to change the situation. The player will get instructions that there will be a worker working on the traffic lines today. During the playing phase, there will be a worker taking half of the road of a certain direction under construction. The road in that direction will become a “One Way” road during the day. Players will need to stop the car from going in the wrong direction to stop accidents from happening.
 - Day 6: Newspaper shows that new traffic lines are now functional. Player will get instructions about different traffic lines. Player can now pull over and give ticket to the drivers who break the rules of traffic lines.

- Final Level (day 7): a larger map perhaps for test.
 - Day 7: Newspaper will have a title of “Holiday, Everybody go out!” During the playing phase, there will be a lot more cars than in previous levels. Players will need to respond to the situation fast and correctly, otherwise a single traffic accident may cause a traffic jam. At the end of the level, there will be an ambulance coming through the intersection. If there is a traffic jam, there won’t be enough space for the ambulance to go through. The last newspaper will become “Patient Died Because of a Traffic Jam”. If there is no traffic jam in the road and the ambulance passed smoothly, the final newspaper will be “Traffic Situation Has Been Improved in Worcester”.

Examples of Gameplay

‘Jane’ is playing a level that has introduced the concept of a 4-way intersection with stop signs. The level begins by pointing out the differences in the map. In this case, it emphasizes that the intersection has stop signs instead of lights. Time starts and cars begin to travel across the map. She notices the speed limit of the road is 35 mph. Jane clicks on a yellow car to see how fast that it is going. She looks at her speed gun and sees the car is going 34 mph. She deselects the car because she knows that the driver is not speeding.

Unfortunately, when the car comes to the intersection, the car does not come to a complete stop and begins to roll through the intersection. Other cars have the right of way and are forced to go around the yellow car. Knowing what the car did was illegal, she clicks on the car again, and this time selects to pull the driver over.

Assessments of user progress/social behavior

The player’s initial knowledge will be assessed with a pre-test. This information will be saved by the program and used to measure knowledge transference through comparison with the results of a post-test at the end of the game. In addition, progress reports at the end of each level will show the player the results of their decisions and will give them feedback on any errors made. All of this data has the possibility to be stored and used as part of scaffolding throughout the game, the basic design of which will be discussed but not implemented in detail in this project.

Both the pre- and post-tests will be formal testing situations in order to measure the player's knowledge transference to the real world. In particular, these tests will reflect the types of questions and material covered on the written driver's test in Massachusetts. Questions will be multiple choice, with options being somewhat ambiguous but with only one correct answer.

Some of the information included on the tests will be:

- Knowledge of signs and traffic lights
- Road markings and their meanings
- Special circumstances or situations
- Speed limits

The main purpose of the pre-test is to show a change in the player's working knowledge of driving rules. This data will provide a baseline for later information generated by the post-test. However, the test may also be useful in determining the player's level of knowledge for the purpose of determining the starting difficulty of gameplay. This feature may be potentially useful for engaging players with different levels of experience and skill, but is out of the scope of this project and will not be included in the prototype.

The post-test will measure the player's understanding of driving rules after playing the game. The player's score on the post-test compared to their score on the pre-test will be the main determination of the game's success. In a study, this information could also be compared to the scores of a control group whose members did not complete the game or used a different form of teaching tool. This information would determine the relative effectiveness of the game compared to other methods such as online review resources, formal classes and primary sources with no additional aids (such as studying from reading the driver's manual).

At the end of each level, the player is presented with a progress report. (This is during the Conclusion Phase of every level, described above). This report gives information about the player's performance in the current level only. This report will include information about the following data points:

- Number of cars stopped, along with number stopped incorrectly (drivers who committed no offence)
- Number of drivers who were let off on an offence
- Number of tickets written, including number of tickets for incorrect offences
- Number of crashes while on duty
- Rate of accidents in the Worcester area
- Total number of offences committed, as well as number of drivers who were not caught for their actions

The summary will include an overall score and a notice as to whether the player has passed or failed the level. The player may not move on to the next level until they have achieved a passing score on the current one.

It has been suggested that this progress report could be used as a method of scaffolding for the player. A simple method to do so would keep track of the number and type of mistakes the player makes and would print messages on the report relating to those mistakes. These messages might be a selection of premade tips, tagged by subject matter and selected at random. A more useful but more complex method of providing scaffolding might make use of basic intelligence by keeping track of the player's progress throughout the game and adjusting the advice to specific topics on which the player continuously makes mistakes. However, this aspect of the design, while potentially highly useful, is out of the scope of this project and will not be implemented in the prototype.