

Briefing

Do not take this study on a mobile phone, the text and images won't display correctly.

Do not take this study if you have done a similar one recently.

You are free to leave at any time.

The study will take around 12mins.

You will be paid \$12 per hour for your efforts.

Thank you for your participation!

Block 53

Please Enter Your Prolific ID Here

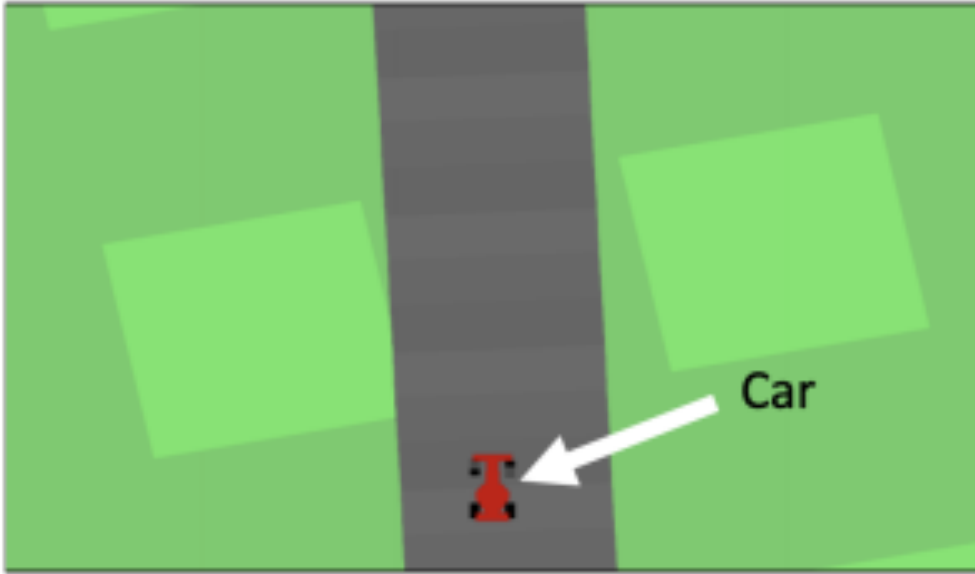
Introduction 1

Introduction

A computer program has learned to drive a car using **four human-defined concepts**.

The four concepts are:

1. Accelerate
2. Brake
3. Turn Left
4. Turn Right



Important: In all images you see, the car is constantly moving forward.

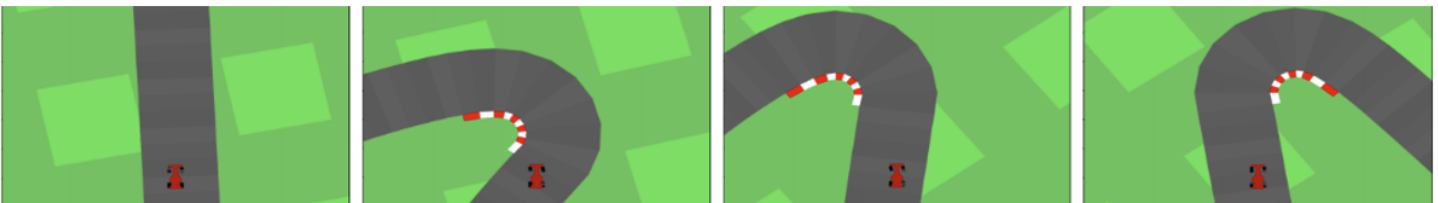
Introduction 2

Introduction

The car has learned to drive **very well** by practicing for **millions upon millions of simulations**.

Here, you are shown **four random examples** from those simulations.

Remember, there are millions of situations you are NOT seeing here which the car has encountered.



Introduction acc

Introduction

So, the car will take the action **ACCELERATE** in situations it thinks it should.

Introduction brake

Introduction

The car will take the action **BRAKE** in situations it thinks it should.

Introduction left

Introduction

The car will take the action **TURN LEFT** in situations it thinks it should.

Introduction Right

Introduction

The car will take the action **TURN RIGHT** in situations it thinks it should.

Introduction combine

Introduction

Lastly, the car can combine actions, and will **TURN RIGHT** and **BRAKE** *at the same time* in situations it thinks it should.

Example 2

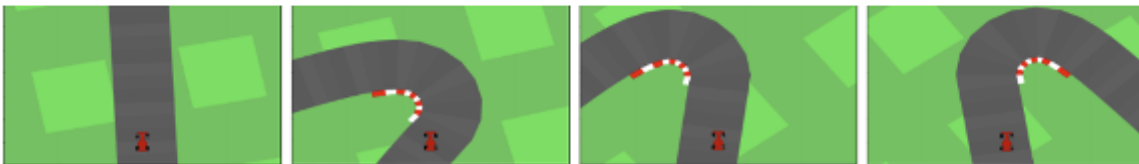
Example

So, for example, here the car may decide to "Turn Right".

Situation



Random Examples

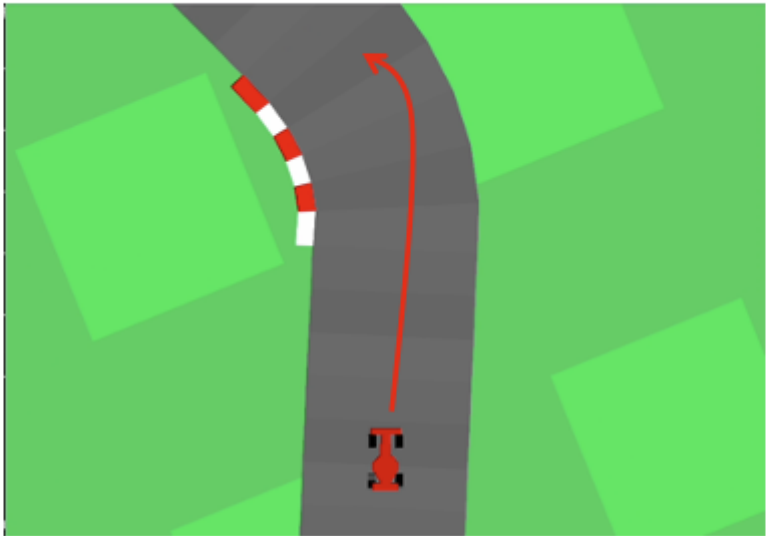


Example 3

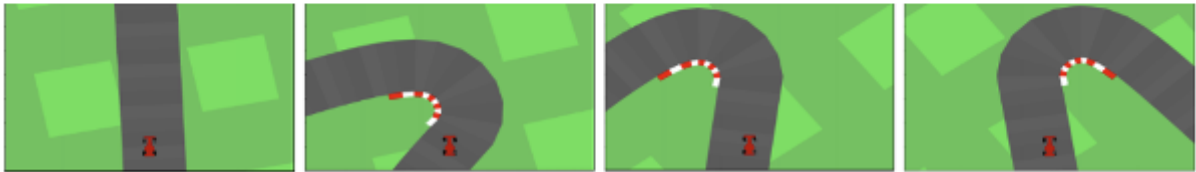
Example

As another example, here the car may decide to slightly turn left and slightly brake.

Situation



Random Examples



Example 4

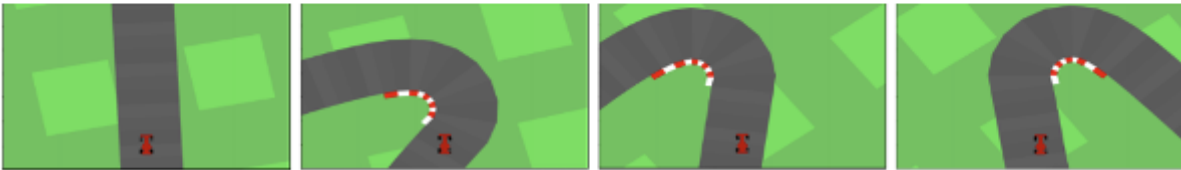
Example

Lastly, here the car might decide to just brake or accelerate, and not turn.

Situation



Random Examples



Block 51

Introduction

It is up to you to look at the current situation, and guess *what actions* the car is going to take.

Your Task

Your Task!

However, *even if* the car has learned to drive well, *it cannot drive safely when it encounters situations which are EXTREMELY different to what it has*

experienced before.

It is up to you to decide if this is happening.

So, there are **two main** things you want to consider when predicting **if the car will crash**:

1. Is the actions the car is going to take safe in the situation?
2. Is the current situation too different to the car's previous experiences that the car has no idea what to do? **Remember you have ONLY seen 4 previous situations the car was in, there are millions you don't know about.**

Title

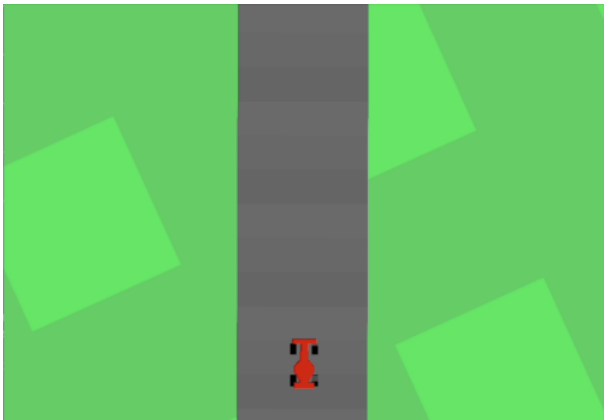
Press Next For The Task Instructions

Instructions 1

Instructions

Initially, note the car's situation and the road ahead it must try to navigate safely.

Step 1: Note the Situation



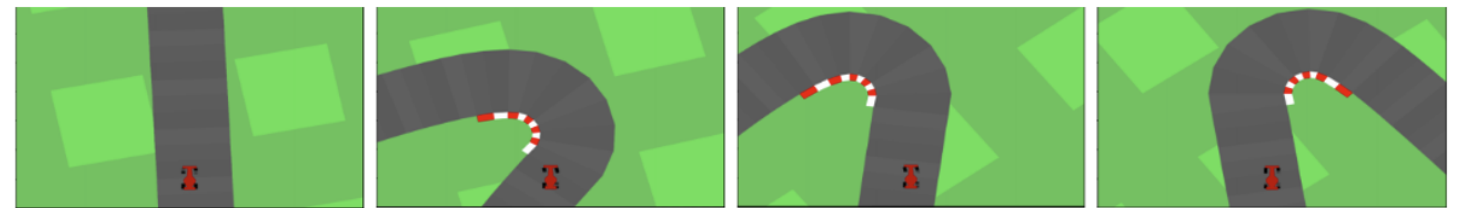
Instructions 2

Instructions

Secondly, recall the random past examples of the car practicing (these will NEVER change).

Remember there are MILLIONS of past examples you are NOT seeing. You have to consider this when predicting what the car will do. DO NOT judge based ONLY on these pictures.

Step 2: Recall the random examples of the car practicing, but remember there are many situations you are NOT being shown.



Instructions 3

Instructions

Lastly, **predict if the car will drive safely** through the road ahead, **and your confidence** in this prediction.

There are **five options** ranging from "**Strongly Disagree**" to "**Strongly Agree**".

Step 3:

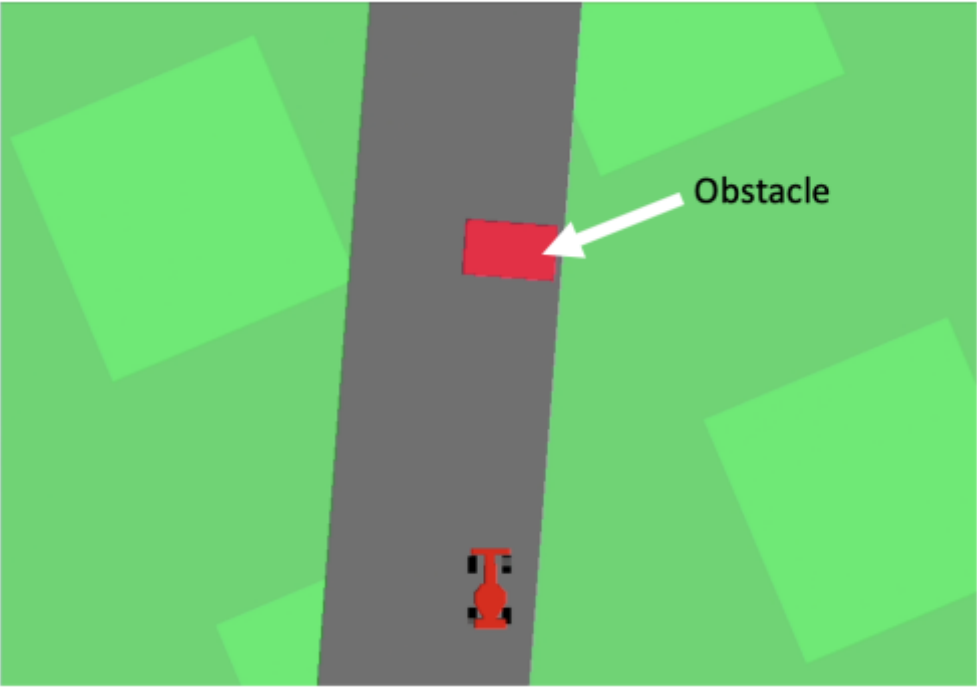
	Strongly Disagree				Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Red Obstacles

Red Obstacles

Lastly, there are red obstacles scattered throughout the roads

If the car crashes into these it will **not drive safely.**



Reminder Instruction to predict car and not use instinct

Remember, you are trying to predict what the **computer program** is going to do here while driving the car.

You are **NOT** trying to convey how **you** **would personally** drive.

Sample question title

Sample Question

Now, please practice on the next question.

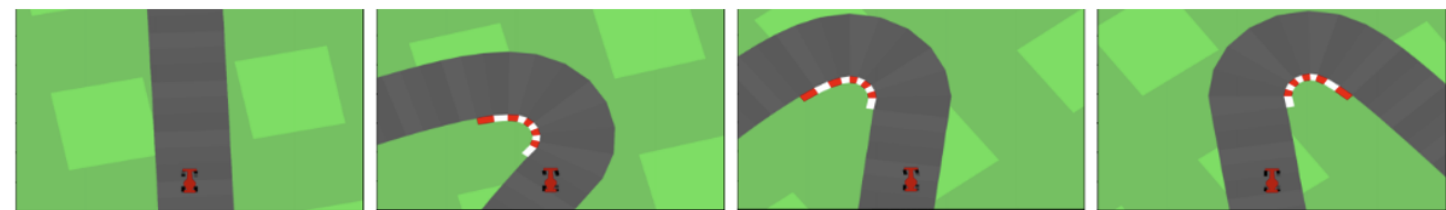
Practice Question

Practice Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, but remember there are MILLIONS of situations you are NOT being shown.



Step 3:

	Strongly Disagree				Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please... consider answers... carefully

Please only participate in this study if you understand the instructions and are willing to consider your answers carefully.

Click to begin study

Click Next To Begin The Study

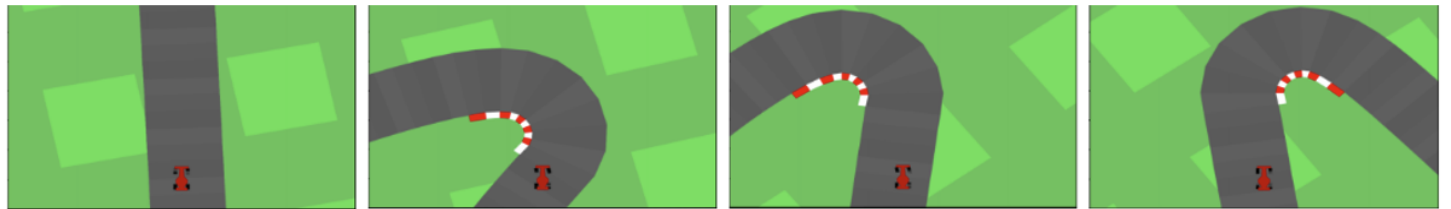
Question 1

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

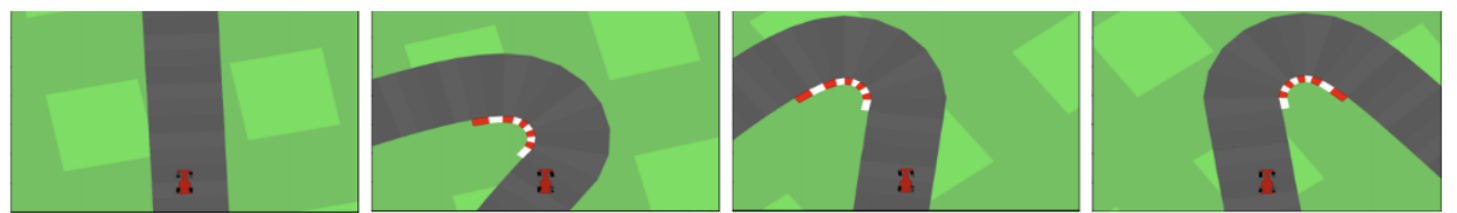
Question 3

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

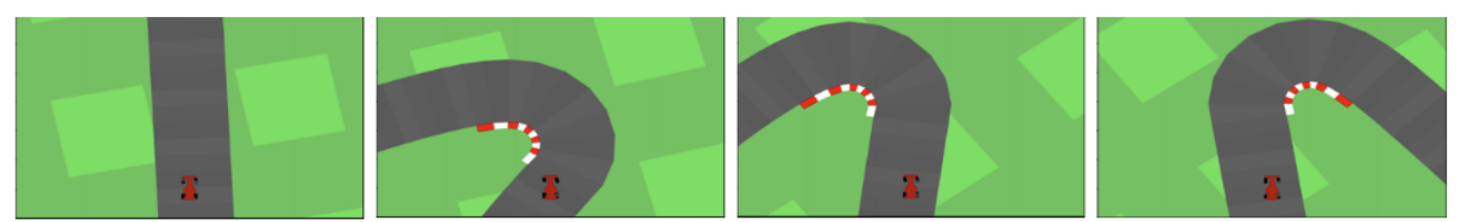
Question 5

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, **but remember there are MILLIONS of situations you are NOT being shown.**



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

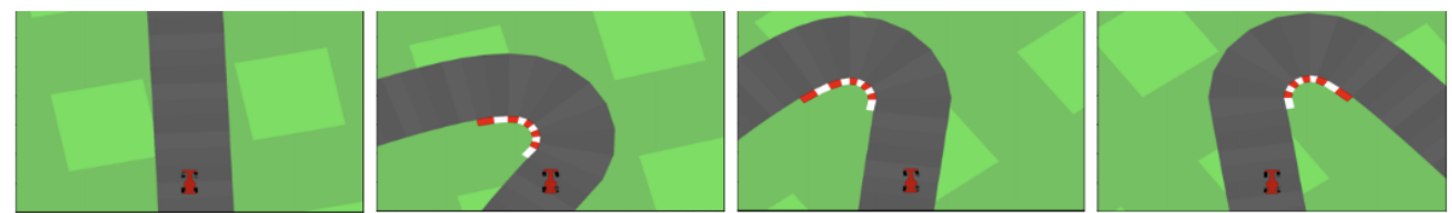
Question 7

Question

Step 2: Recall the random examples of the car practicing, **but remember there are MILLIONS of situations you are NOT being shown.**



Step 2: Recall the random examples of the car practicing.



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

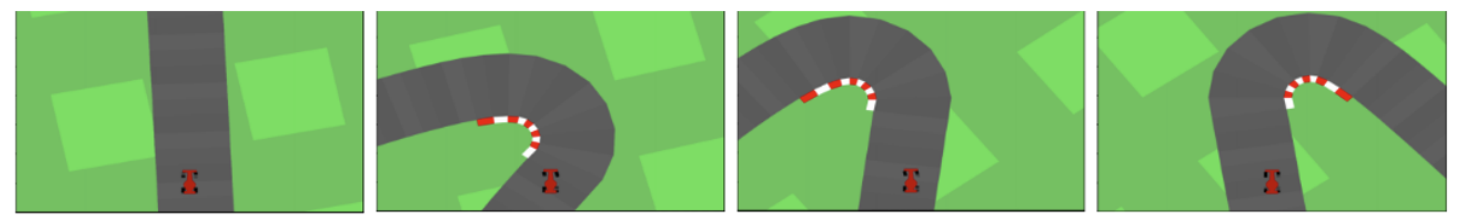
Question 9

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

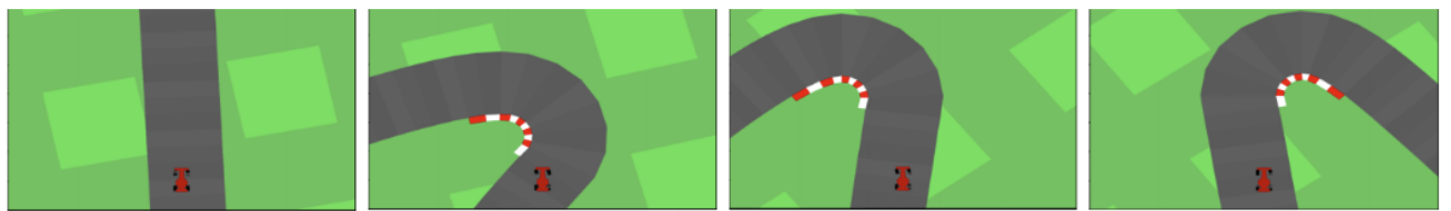
Question 11

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

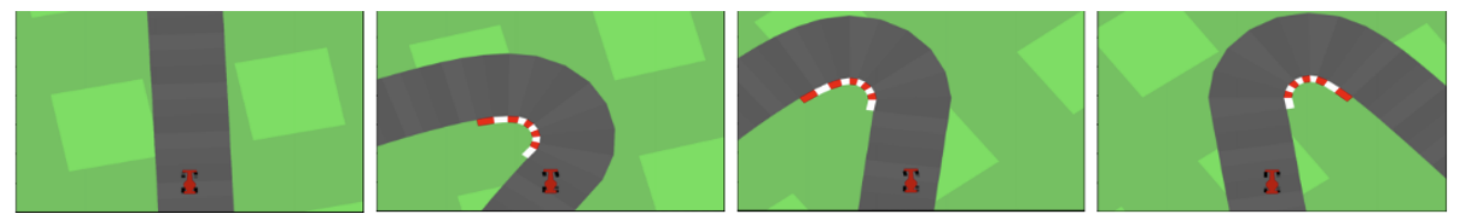
Question 13

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

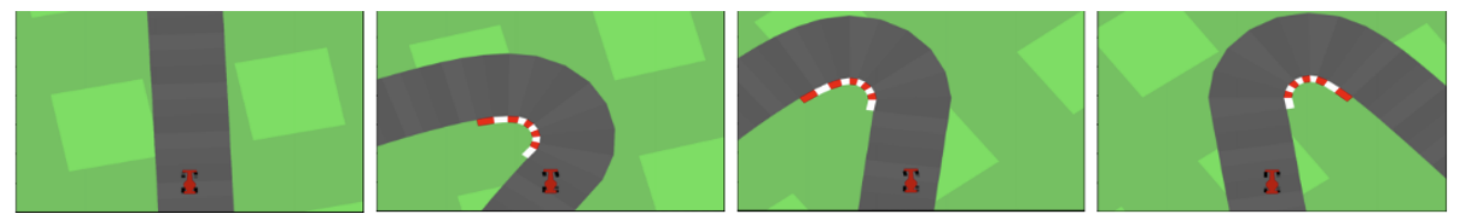
Question 15

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

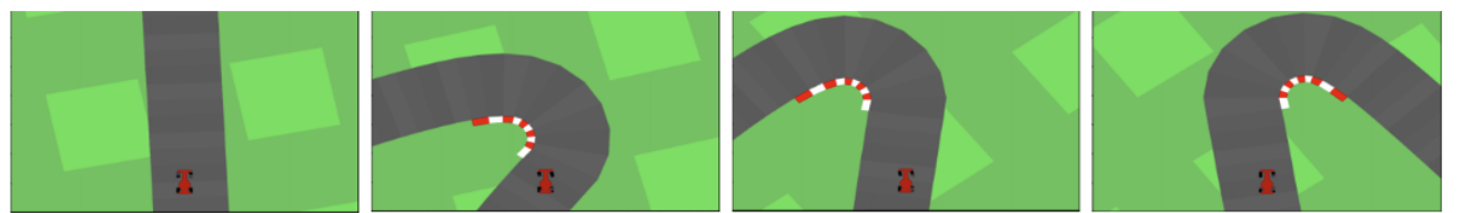
Question 17

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

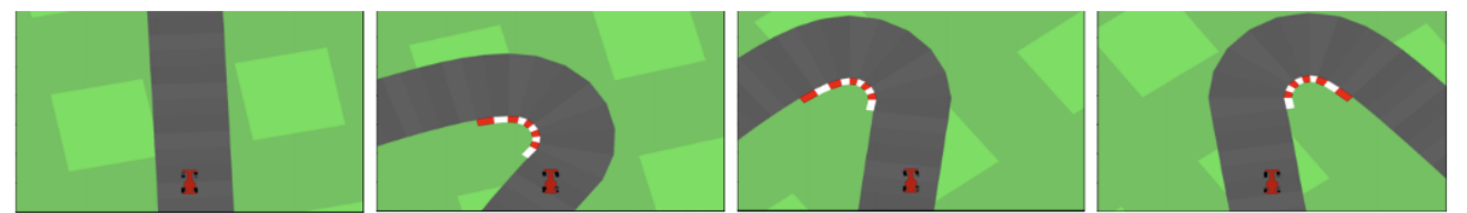
Question 19

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

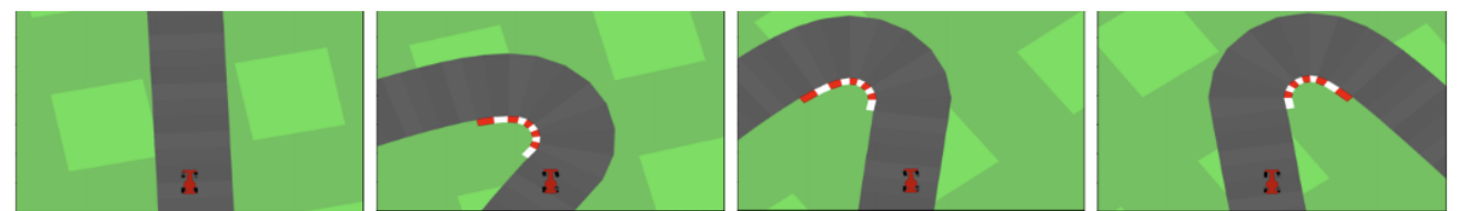
Attention Check

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

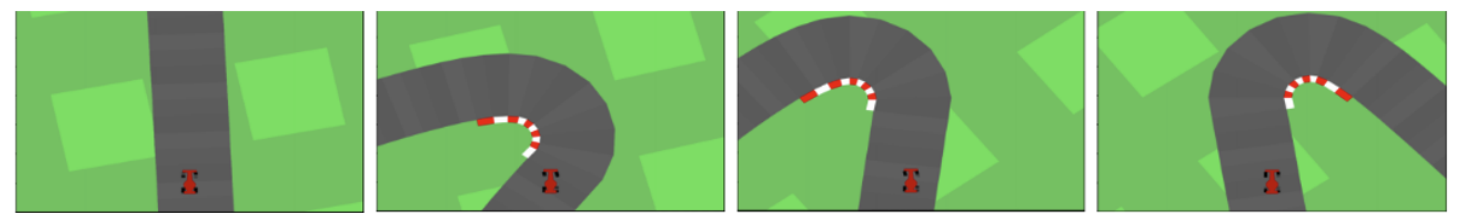
Question 2

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

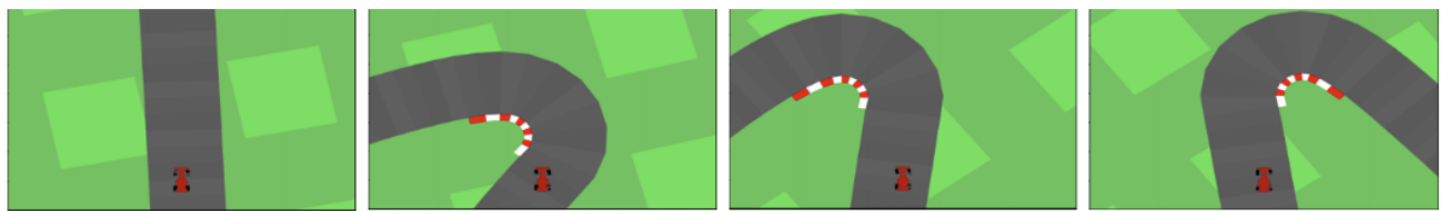
Question 4

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

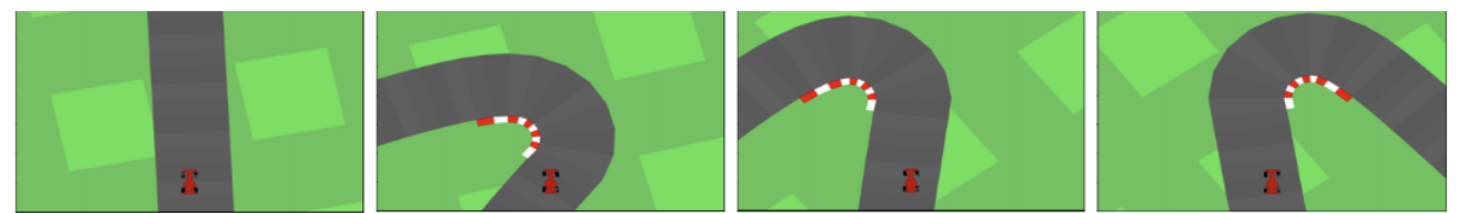
Question 6

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

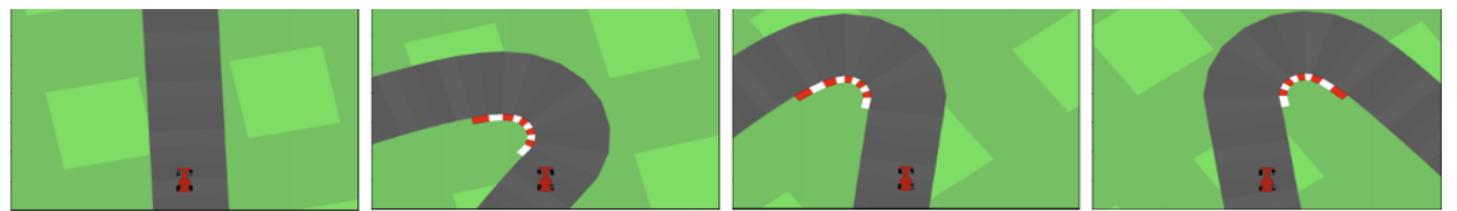
Question 8

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

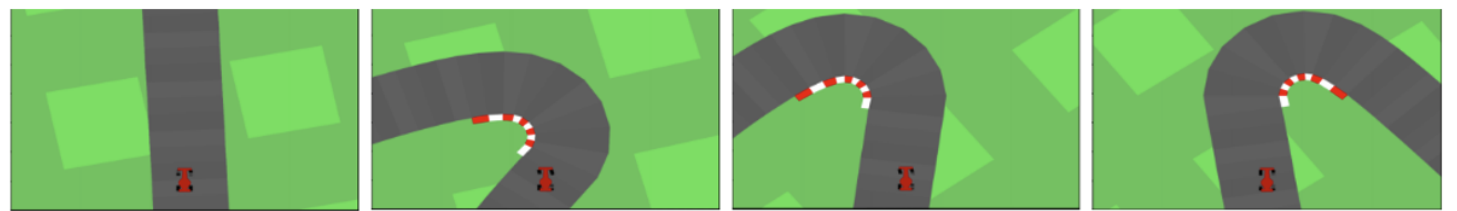
Question 10

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

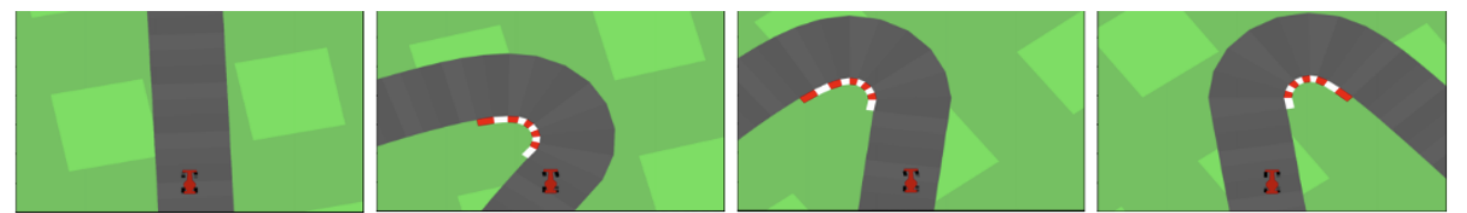
Question 12

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



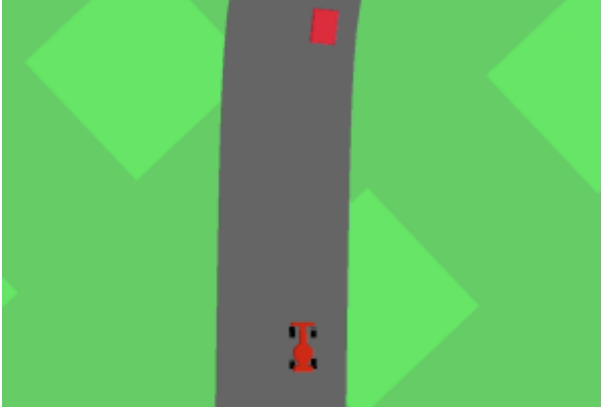
Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

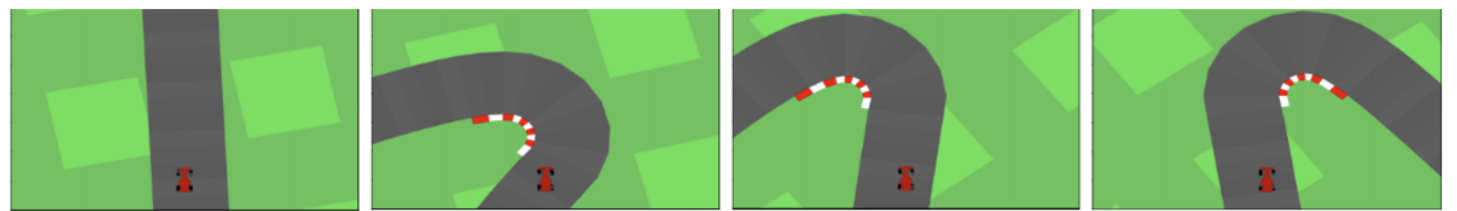
Question 14

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

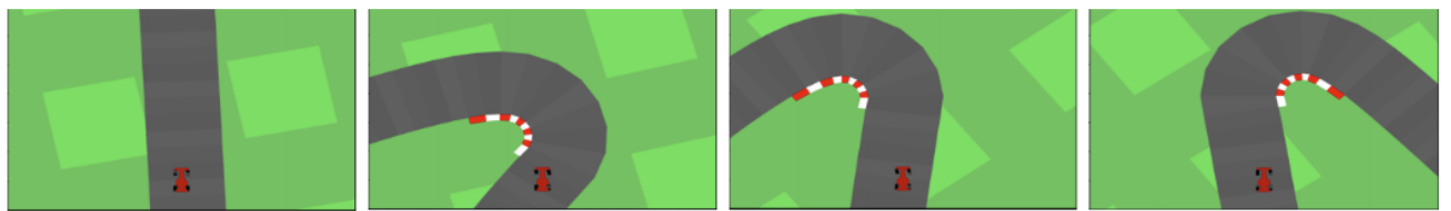
Question 16

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

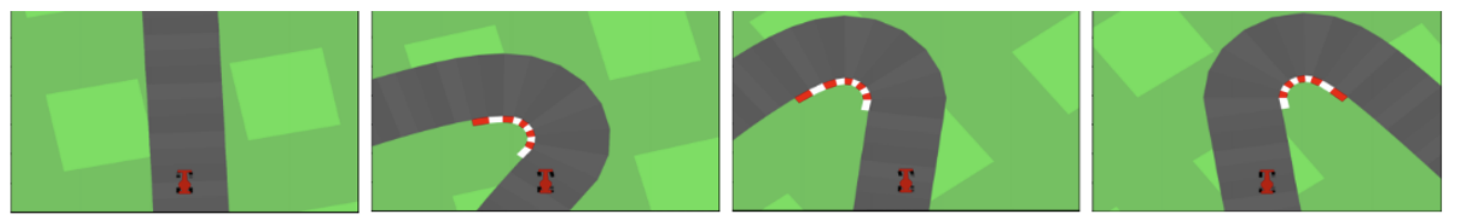
Question 18

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, ***but remember there are MILLIONS of situations you are NOT being shown.***



Step 3:

	Strongly Disagree					Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

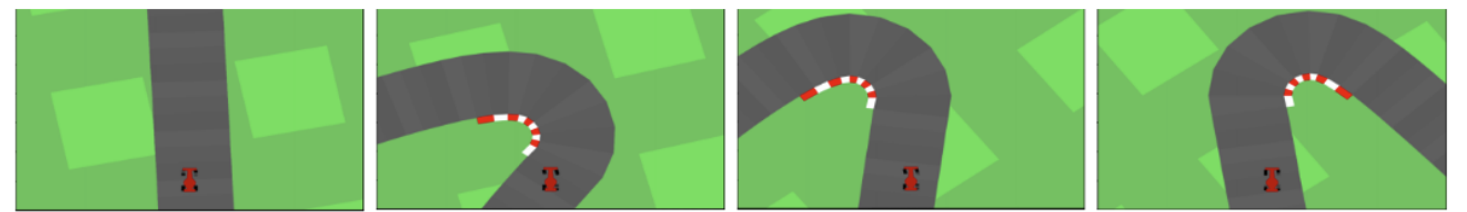
Question 20

Question

Step 1: Note the Situation



Step 2: Recall the random examples of the car practicing, *but remember there are MILLIONS of situations you are NOT being shown.*



Step 3:

	Strongly Disagree				Strongly agree
The car will drive safely in this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in this prediction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

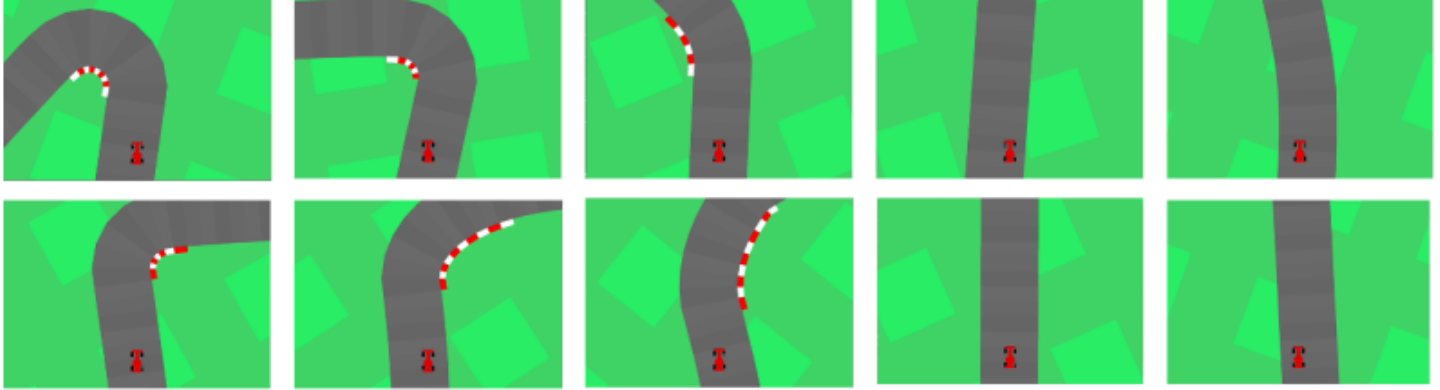
Title safe situations

Thank You For Your Participation!

You Will Now Be Shown Where the Car Drove Safely

Safe situations

The Car Drove Safely In These Situations

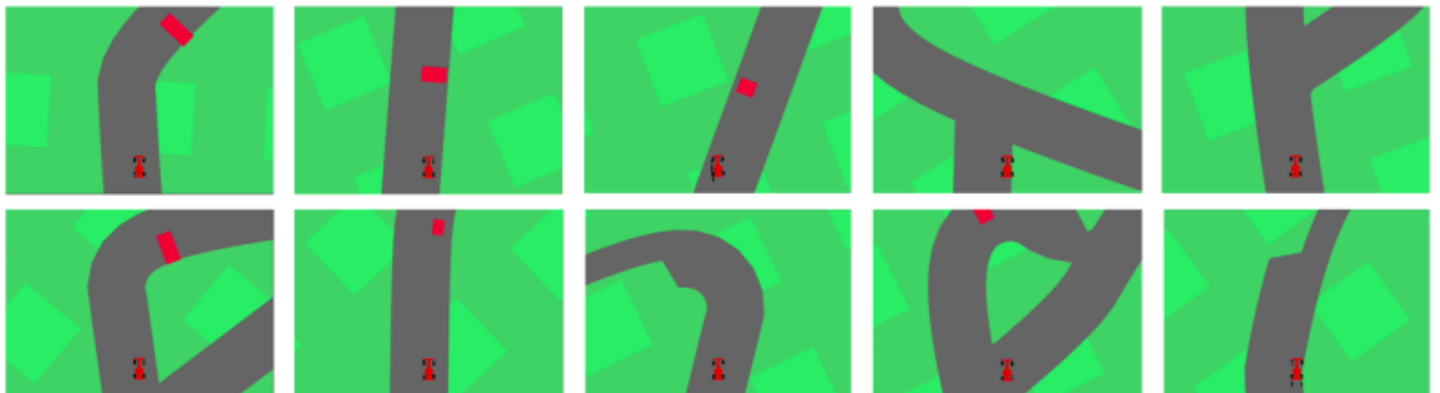


Title crash situations

**Click Next To See The Situations
The Car Crashed**

Crash situations

**The Car Did Not Drive Safely In These
Situations**



Please... fill out... 2 surveys... to finish

**Next, Please Fill Out Two Short
Questionnaires**

SUS Questions

Questionnaire 1: The "System" in these questions is referring to the **car** and **concepts**

	Strongly Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I think that I would like to use this system frequently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the system unnecessarily complex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought the system was easy to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that I would need the support of a technical person to be able to use this system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the various functions in this system were well integrated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought there was too much inconsistency in the system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would imagine that most people would learn to use this system very quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the system very cumbersome to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt very confident using the system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I needed to learn a lot of things before I could get going with this system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

NASA Questions

Questionnaire 2



Low

High

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

How mentally
demanding was the
task?

How physically
demanding was the
task?

How hurried or
rushed was the pace
of the task?

How successful
were you in
accomplishing what
you were asked to
do?

How hard did ou
have to work to
accomplish your
level of
performance?

How insecure,
discouraged,
irritated, stressed,
and annoyed were
you?

Block 52

To finish the survey, can you please explain, in your own words, with as much detail as possible, why you think the car crashed sometimes?

Block 42

Debrief Page

Thank you for your participation, this study was designed to evaluate people's ability to use an explainable artificial intelligence system to predict system failures.