

# CAR SIMULATION

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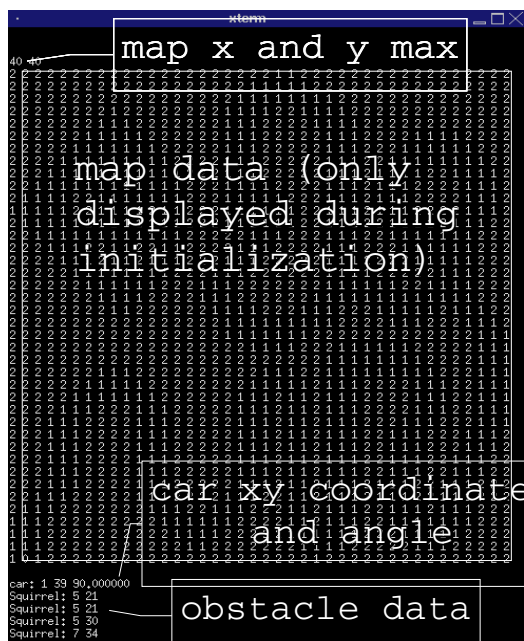
Computer Systems Techlab

## Abstract

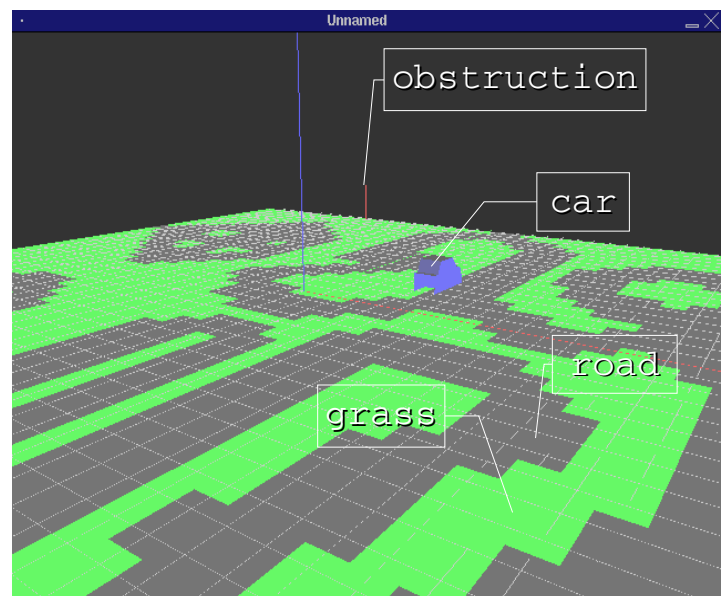
This project will involve creating a virtual model of an automobile in a virtual environment. The vehicle will be able to traverse the environment and respond to hazards merely by using its own artificial intelligence.

## Introduction

Ultimately, this project will be used to simulate car-related incidents from the real world. By working with this program, users will be able to benefit from responses to scenarios that may have hazardous consequences in real life. By showing real people the decisions of robots, human drivers will attempt to replicate the robots' acceptable actions.



```
map x and y max
map data (only
displayed during
initialization)
car xy coordinate
and angle
obstacle data
car: 1 39 90,000000
Squirrel: 5 21
Squirrel: 5 21
Squirrel: 5 30
Squirrel: 7 34
```



## Results

We have made significant progress for this halfway point. Graphics are near completion, with only a first person display and a trailing camera to add. A sample of our graphics program can be seen on this poster. At this point, our object can easily traject a given path, although without “thinking.” If given a crossroad, the object will merely randomly choose a direction. AI will need some further development. A random map generator is currently in progress. The program is entirely usable with good judgment from the user. Right now this program only creates road and grass. Other aspects, such as stop signs, speed bumps, and such, will need to be integrated into our program.

## Process

Our project was basically divided into three sections-graphics, AI, and the basics (environment, objects, etc). Each person took on one of these areas, and expanded on it. After certain time intervals, we all came back together and integrated some code. The AI code was inserted into the basic program. The graphics program then ran the combined code, displaying the contents of this poster.