LPS VISUALISATION

A visualiser system for logic-based framework LPS

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PRESENTATION OVERVIEW

- Background
- Implementation
- Conclusion

BACKGROUND

- LPS
- Traffic Norms
- Technology Background

LPS

LPS stand for Logic Production Systems. It is a "logic-based framework for programming databases and AI (intelligent agent) applications"

LPS combines both production rules and logic program in a single logic-based framework.

Logic production system framework is in the form of < >

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TRAFFIC BACKGROUND:

One-way,T-junction,Cross-junction,Roundabout,Overtaking

TECHNOLOGY STACK

Logic: LPS, LPS.js, LPS.cli(testing)

Front-end: Boostrap, JavaScript, PIIX.js,

Back-end: AWS, Express.js MongoDB

IMPLEMENTATION

- LPS program with traffic norms
- System front end
- System back end

LPS PROGRAM

oneway.lps

```
% we assume the destination is reachable
maxTime(200).
cycleInterval(30).

loadModule('../scripts/module.js').

fluents([
   stopped(VehicleName),
   velocity(VehicleName, Speed),
   moving(VehicleName),
   coordinate(X, Y),
   location(VehicleName, coordinate(X, Y), Direction),
   trafficLight(coordinate(X, Y), Working_status, Color, FacingDirection)
   street(StreetName, coordinate(X, Y), Width, Height, Number_of_lane)
   goal(VehicleName,coordinate(X, Y))
]).

% events will reserved for traffic lights
events ([

]).

actions ([
  step(Vehicle, NextPlace),
  turn(Vehicle, NewHeading),
  arrive(Vehicle)
]).

initially([
  moving(car0),
  location(car0, coordinate(150, 225), eastward),
```

```
  goal(car0,coordinate(900, 225)),
  velocity(car0, 5)
]).


street(mainStreet , coordinate(100, 200), 900, 50, 1).
```

LOGIN/REGISTER

ONE LANE TRAFFIC ROAD

T-JUNCTION ROAD

CROSS JUNCTION ROAD

ROUNDABOUT

OVERTAKING

CONCLUSION

- Evaluation
- Challenge Faced
- Future Work

THE END

- **Try the visualiser online**
- **Source code & documentation**