

Progress Presentation-I

e-Yantra Summer Internship-2017

Comparison Study of Traditional Way of Programming Firebird
with the Statechart Based Model of Programming

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Overview of Project

Progress
Presentation-I

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Overview of
Project

Overview of Task

Task Accomplished

Challenges Faced

Future Plans

Thank You

- Project Name:- Comparison Study of Traditional Way of Programming Firebird with the Statechart Based Model of Programming
- Objective
 - 1 Modelling of robotic themes using statecharts
 - 2 Platform independent code generation
 - 3 Comparison study
- Deliverables
 - 1 Statechart models for various tasks
 - 2 Report containing comparison study

Overview of Task

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Table: Timeline

Task no.	Task	Deadline
1	Learn Syntax and Semantics of Statecharts as described by David Harel.	3 days
2	Understanding the existing standard statechart models of some systems.	3 days
3	Model some of the tasks given to students in e-yantra competition using statecharts.	10 days
4	Explore the statechart Editor tool Yakindu.	2 days
5	Model the tasks using Yakindu and integrate with firebird libraries	4 days
6	Writing the same code manually for the respective robotic tasks	12-14 days
7	Compare the cycle time for Manually written code and Yakindu generated code.	1 day
8	Comment on how to make the yakindu generated code efficient and how to make the software components reusable	3 days
9	Report and presentation	4 days

Task Accomplished

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Future Plans

Thank You

- Learned Syntax and Semantics of Statecharts as described in David Harel's paper
 - 1 Clustering
 - 2 Orthogonality
 - 3 Broadcast Communication
- understood some of the existing statechart models
 - 1 Line follower robot
 - 2 Obstacle avoider robot
 - 3 Citizen Quartz Multi-Alarm III wristwatch
 - 4 Valet Parking
- Explored statechart editor tool Yakindu. (made some models in it).
- Generated code for buzzer beep and line follower.

Sequence Detector - 1011

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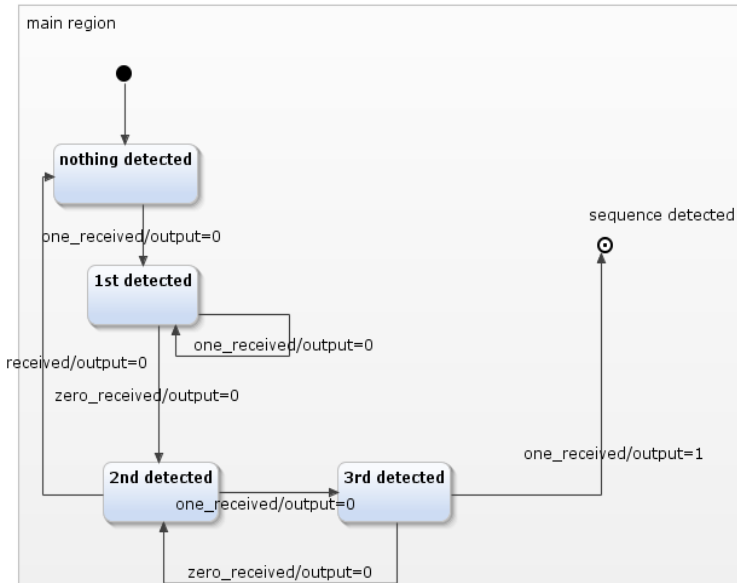
Overview of Task

Task Accomplished

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Future Plans

Thank You



Obstacle Avoider

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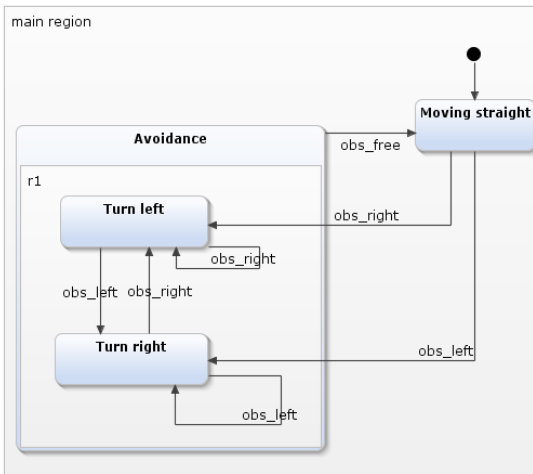
Overview of Task

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Reference:- <http://web.stanford.edu/class/cs123/lectures/>

Two bit counter

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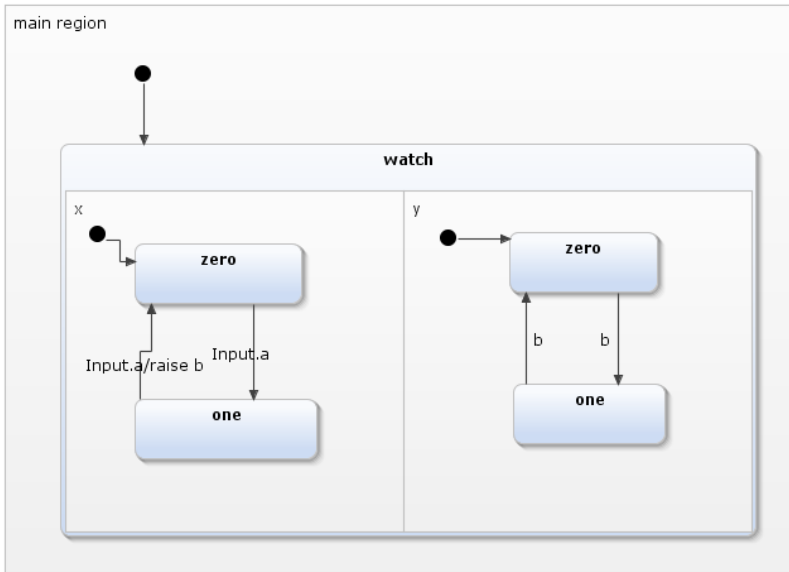
Overview of Task

Task Accomplished

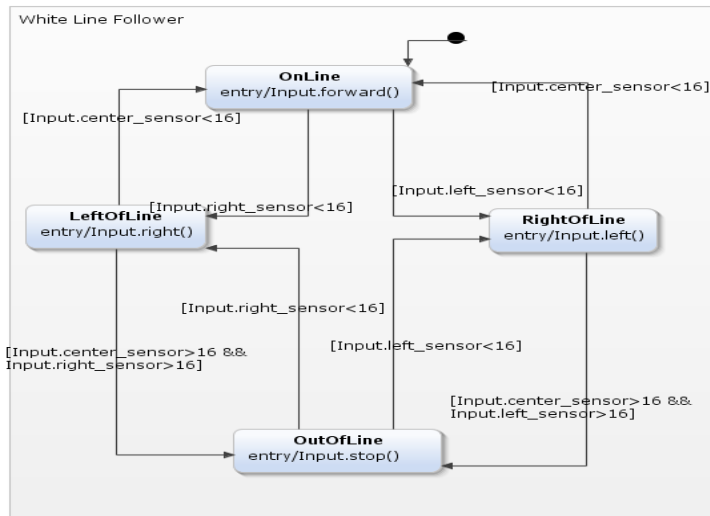
Challenges Faced

Future Plans

Thank You



White line follower



Challenges Faced

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Challenges Faced

Future Plans

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- Understanding the statechart model of the watch given in David Harel's paper. (Contains lots of clustered states and orthogonal states with a lot of nesting and dependencies).

Future Plans

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Task Accomplished

Challenges Faced

Future Plans

Thank You

- Modelling some of the tasks given to students in e-yantra competition using statecharts.
- Modelling the tasks using Yakindu and integrate with firebird libraries
- Comparison study

Thank You

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THANK YOU !!!