Progress Presentation-I

e-Yantra Summer Intership-2017 Comparison Study of Traditional Way of Programming Firebird with the Statechart Based Model of Programming

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> > IIT Bombay

June 6, 2017

Overview of Project

Progress Presentation-I

Manav Guglai Mentor: Nave C

Overview of Project

Overview of Task
Task Accomplised

Challenges Faced

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
 - 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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Future Plans

Thank You

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	10 days
	using statecharts.	
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	1 day
	Yakindu generated code.	
8	Comment on how to make the yakindu generated code	3 days
	efficient and how to make the software components reusable	
9	Report and presentation	4 days

Task Accomplised

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Challenges Faced

Thank You

Future Plans

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

Sequence Detector - 1011

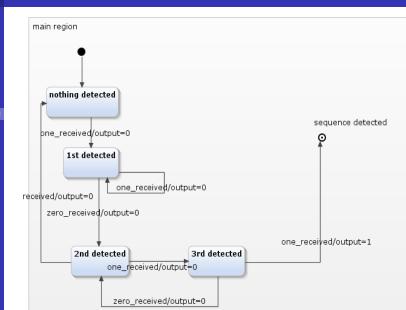
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Thank You



Obstacle Avoider

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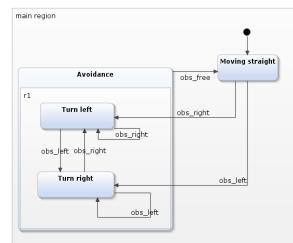
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Thank You



 $Reference:-\ http://web.stanford.edu/class/cs123/lectures/$

Multiple Timers

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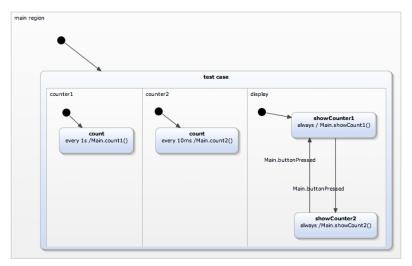
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Task Accomplised

Challenges Faced

Future Plans

Thank You



Reference:- google groups

Challenges Faced

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Future Plans

Thank You

 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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Challenges Faced

Future Plans

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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Overview of Project

Overview of Task

Task Accomplised

Challenges Faced

Future Plans

Thank You

THANK YOU !!!