READY 2 win

The Modular Architecture of an Autonomous Vehicle Controller

Project goals:

- Design of the modular controller
- In-Race learning
- Win The Simulated Car Racing Championship 2011

Qualification Times

1	P Vilhan	20.0
2	M Bednár	20.3
3	A Brček	20.5
4	M Briš	20.7
5	M Florek	20.8
6	V Juhász	20.9
7	J Kosmeľ	20.9
8	I Valenčík	20.9

Architecture:

- Client-server architecture
- Independent modules
- Cooperating modules
- Centralized structure
- Telemetry module
- Technical modules
- Tactical modules
- Automatic learning
- Racing line optimization

Requirements:

- Learning the track
- Optimize racing line
- Recover after mistakes
- Tactics: start, overtake
- Telemetry analyzer

Results:

- participated in the 1st championship competition
- very competitive during qualification stages
- 3rd place in OldPeak qualification

Architecture diagram

Environment

Recovery module · Line assist module

Telemetry module · Controller · Driving module

Track model module · Opponent module · Stability assistant module

Telemetry Data