



Aalto University
School of Science
and Technology

- Ceilbot - Localization

Final Report
Autumn 2010

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Goals

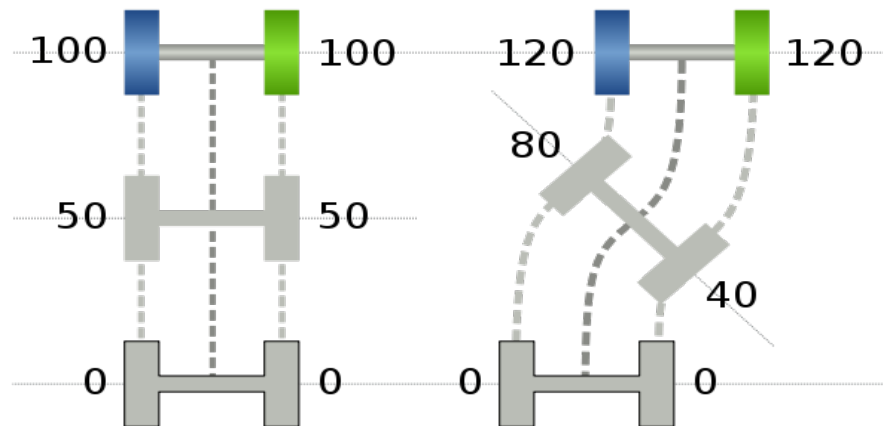
Estimate the exact position of the robots

- Basic problem

Solution > ODOMETRY

Main Problems :

- Sensor Error (noise)
- Slippage
- Wheel diameter



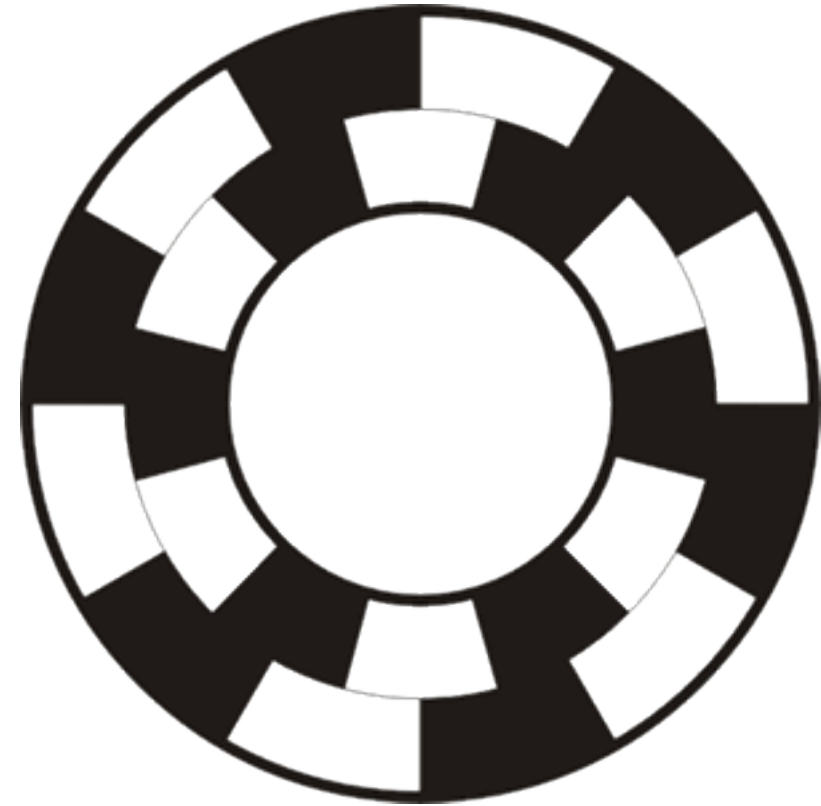
My suggestions

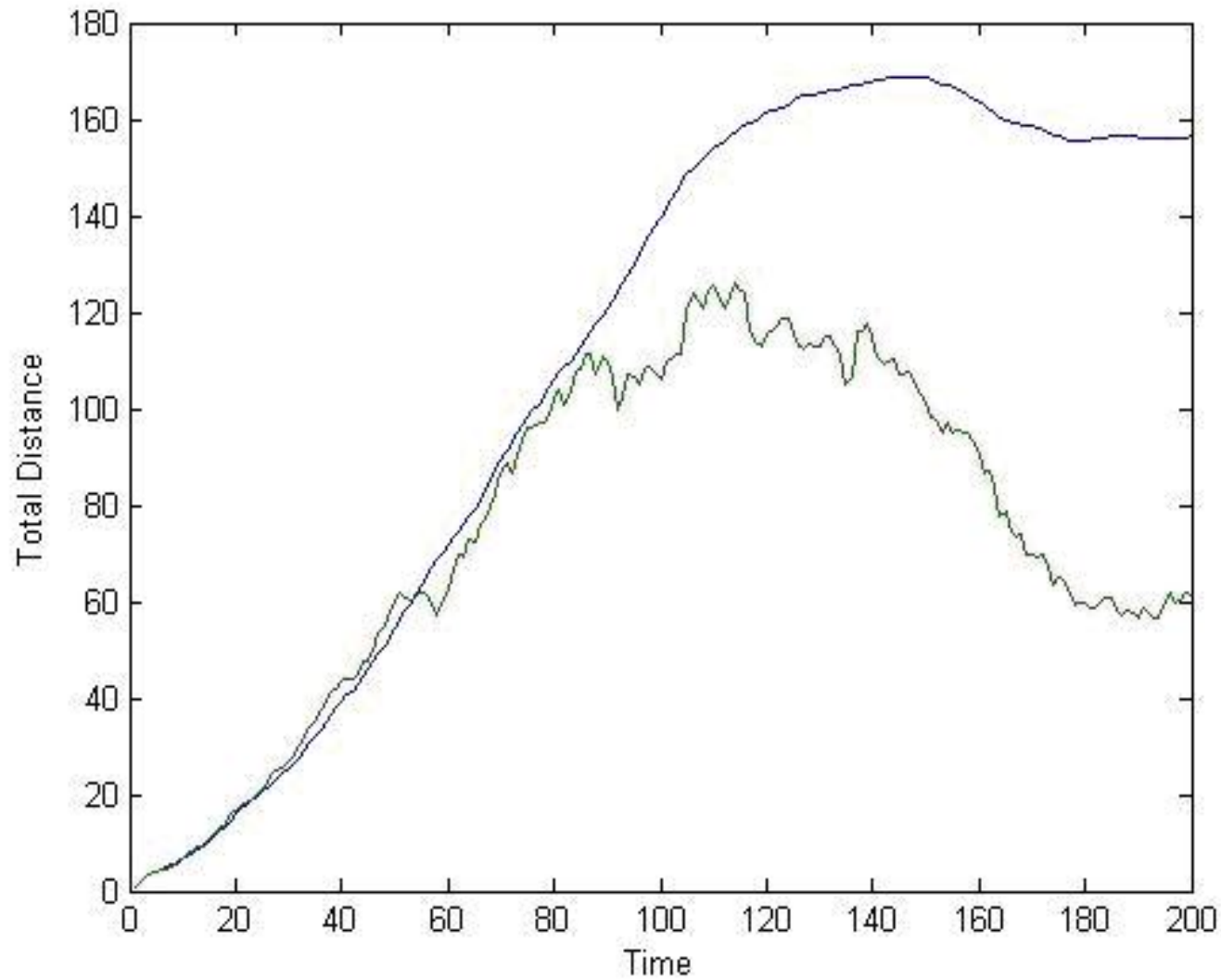
Utilize two incremental encoders

- Slippage problem

My simulation :

**200 seconds of works, one measure every second,
max velocity 2m/s, standard deviation 3% from the
correct data, no more than 50% of variation from the
previous data**





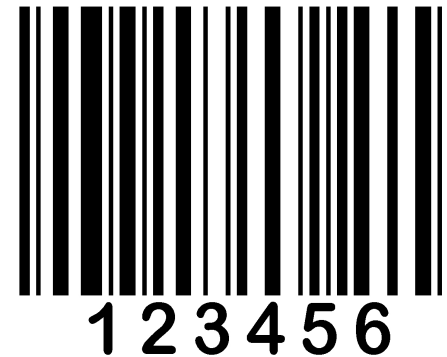
My suggestions #2

Then is necessary a landmark system

Initialization

Barcode

Distance ~10m



Conclusion

- The system suggested should be accurate
> R
edundant
- Future works :
 - A little more complicate odometry :
> pattern design > sovrapposition

Conclusion : the project course

- Challenging > new way of work
- Useful > see the applications of my studies



Conclusion : the project course 2

Topic	Time spent	T.Estimated
Understand the problem	6	3
Read Articles/study	15	15
Go to the weekly meeting	30	30
Write documentation	25	15
Work on the prototype	x	20
Total	76	83



Thanks for your Attention



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