

# Introduction to Scientific Work

## Homework Assignment 3

Alexander Moriarty

Bonn-Rhine-Sieg University of Applied Sciences

22. April 2013

1 Gross Motion Planning

2 Definitions

3 Mind Map

4 Papers Organizaton

# Gross Motion Planning

## Looking at a survey article

- Analysis of the composition and structure of Y.K.Hwang, N. Ahuja. Gross Motion Planning. ACM Computing Surveys, 24(1), pp. 220-291, 1992.
- Look at explaining how the authors approached the subject.

# Gross Motion Planning

## Sections

- 1 Nature of Motion-Planning Problems
- 2 Basic Issues & Steps in Motion Planning
- 3 Survey of Recent Work
- 4 Conclusions, Acknowledgements, References

# Gross Motion Planning

## Structure

The article has been well structured. The article flows from the beginning building upon an introduction of motion planning, and defining the problem. Followed by detailing the issues and abstract steps usually taken in solving a motion planning problem.

# Gross Motion Planning

## Structure

After introducing the problem and current methods, the paper gets into further details, surveying the recent work on Gross Motion Planning. The key here is that the paper has answered the questions, what motion planning is, why it is relevant and abstractly what others have already done. In the section 'Basic Issues and Steps in Motion Planning' the paper has introduced the issues, hinting at why what has been done is not yet sufficient.

# Gross Motion Planning

## Content

Now that the author, Y.K.Hwang, has introduced the topic, and essentially explained why this is yet not sufficient it is time to introduce the current research. The author takes a critical approach not only summarizing what they are doing, but why, what approaches they are using, and why might this be better.

# Definitions

## Research related keywords

- i) *Glossary*: an alphabetical list of words relating to a specific subject, text, or dialect, with explanations; a brief dictionary<sup>1</sup>.
- ii) *Taxonomy*: The classification of something<sup>2</sup>.
- iii) *Ontology*: The branch of metaphysics dealing with the nature of being<sup>3</sup>. A set of concepts and their relationship within a domain<sup>4</sup>.

---

<sup>1</sup>Oxford Dictionary

<sup>2</sup>Oxford Dictionary

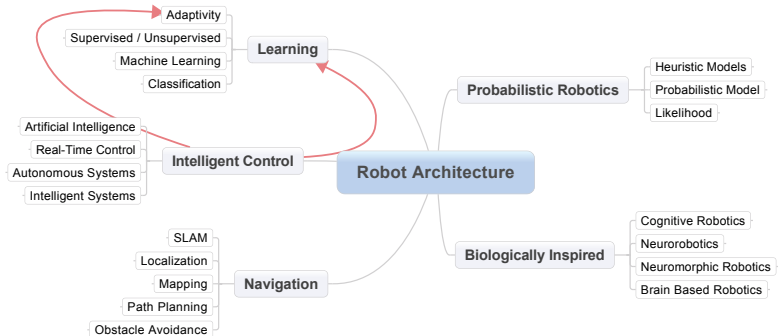
<sup>3</sup>Oxford Dictionary

<sup>4</sup>wikipedia Ontology (information science)



# Mind Map

## A taxonomy of Robot Architecture



# Papers

## Mendeley; Paper Database

I will be using Mendeley to organize my papers. Some features which it offers include:

- Cross Platform, including mobile
- Software not required. Can use from any browser and the articles will be synced when you log in from your own computer.
- Exports the database to BibTex and automatically keeps it synced.
- Has a MODERN & usable graphical user interface.

# Papers

## Mendeley; Paper Database

- Is widely used in the academic community, includes social features to work well in teams or share amongst a lab.
- has built in paper search features and can be customized to search databases available to you.
- Is free.