Chapter 1

Introduction

Presentation of the project.
Current state[60%]. Goals:-

1.1 Human activity Analysis

Justification of the problem and how this is linked to robotics. At the same time, these should be linked to the project (ASP). This is the route from the general problem to my project, described in general here, but with more detail in the next chapter. Current state[90%]. Goals: -

1.1.1 Test case: "The library scenario"

Presentation of the test scenario. An example is needed here, to introduce an example that the proposed approach can treat.
Current state[70%]. Goals: Put the problem example here.

1.2 Methodology

The presentation of the project, i.e. proposal in general.
Current state[10%]. Goals: Present the project. What kind of techniques are going to be used? Why?

1.2.1 System presentation

Structure of the system. How all parts assemble together.
Current state[10%]. Goals: Describe in general the project and what kind of system is being proposed. Some proposed experiments.

1.2.2 Outcome

The scope of the project. Expected challenges and outcome. Evaluation.
Current state[10%]. Goals: What challenges and results are expected.

1.2.3 Outline

Outline for the rest of the document (this could be done wwith the structure of the document).

Chapter 2

Related Work

Current state[90%]. Goals: Last section (discussion), I think is needed to link my project in the literature review.

2.1 General antecedents - Perception in AI

This is are the main branches where the problem come from (how has been studied) and especially, from a CS point of view.

2.2 Activity Recognition

Presentation of the taxonomy of the problem. How has been treated before. What techniques have been used. The taxonomy is built upon the representation and techniques used.

2.2.1 Single-layered approaches

Analysis of low level actions (usually atomic ones).

Continuous approaches

Sequential approaches

2.2.2 Hierarchical approaches

High level activity recognition (symbolic and statistical).

Statistical

Syntactic

Description-based

2.3 Description-based activity recognition and mobile robotics

This is the main branch where this project fits. I go in detail with the techniques that I'm looking at. I also try to establish the link with robotics.

2.3.1 Description-based activity recognition

Activity recognition from a robotics perspective

Previous works in robotics, some that serve as example of the progress, used approaches in the area and uncovers the open problems.

2.4 Answer Set Programming

As this is an important part of my thesis, I present it here in general

2.4.1 ASP as a declarative problem solving technique

What kind of problems can be treated with ASP. How does it work. How problems are modeled with ASP.

2.4.2 ASP as a knowledge representation language

Link ASP to knowledge representation. Some pros cons, and challenges ahead

ASP implementations

Present popular systems around (potassco DLV).

2.4.3 ASP and robotics

Link ASP with robotics. R-Sabanci University. R-Potsdam University.

2.5 Discussion

Conclusions about the state of the art. What is missing, and how my project fits there.

Chapter 3

Research Problem

Current state[50%]. Goals:-

Present the problem, the one for this project.

3.1 Description

Current state[50%]. Goals: Need to go to the point and connect it with the library example.

Use the library case, the example. What kind activities are going to be solved? What kind of data are we inderested in?

3.2 Methodology

Current state[50%]. Goals: Reuse the diagram from the first chapter and develop it.

What kind of system is going to be used (proposed)? What do I already have in hand? What is missing?

3.3 Evaluation

Current state[20%]. Goals:-

What kind of challenges are expected? What is the strategy for them?

What kind of outcomes are expected?

Chapter 4

Work Plan

Current state[0%]. Goals: Present the parts of the problem and how are they going to be assembled. This is the first goal. Then I need target simple test examples. Then focus on improvements. Set goals (e.g. present work).

What's the next step for this project?

Put yourself some goals.

4.1 Short term (6 months - 1 year)

4.2 Long term

4.3 Timetable