

iAtal Manual

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Preface

This manual documents the use of the application iAtal. As a reference manual, it will describe the different features of the application. It includes a tutorial in order to help the beginners. You will also find an help to compile, install and run the program. All the specific terms will be explained in a glossary.

Introduction

The application described here is named iAtal. It's a rover behaviour simulation platform. A rover is a robot which executes some tasks in a self-sufficient way, and in an unknown environment. It owns sensors that help it to feel and understand its close environment and actuators that allow it to move and to interact with the map.

The iAtal program can deal with any map in TMX format. Those maps can be created with Tiled or manually. You can also create your own exploration strategy, your rover's sensors and actuators, thanks to Python. Those features will be detailed further.

1 How to run iAtal

1.1 Requirements

1.2 Installing iAtal

1.3 Running iAtal

There are two different ways to run the program :

- Whithout any option :

```
.\ui
```

The program will then start empty and you will have to set the map and the rover strategy later. (See chapter...)

- Directly with a personalised map and/or exploration strategy :

```
.\ui [-h|--help] [{-m|--map} map_path] [{-s|--strategy} strat_path]
```

Description of these options :

- `-h` or `--help` : Produce help message
- `-m map_path` or `--map map_path` : Set the path to the map to use. It must be a file in TMX format (.tmx) (See chapter...)
- `-s strat_path` or `--strategy strat_path` : Set the path to the strategy to use. It must be a file in Python (.py). It requires a map to be set too. (See chapter...)

2 Importing a map

2.1 Creating a TMX map

To create your own map, it is strongly recommended to use the software Tiled (ref, doc). Tiled generates XML files wich are on the TMX format, supported by iAtal. However, you should know that iAtal map loader is limited to maps with 4 layers or less.

Once your map created, you just have to save it, and to load it in iAtal.