Universidad Politécnica
de Madrid

Escuela Técnica Superior de Ingenieros Informáticos

Master in Data Science

Master Thesis

Design and Prototyping of an Ecosystem Simulator for Intelligent Agents

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Title: Design and Prototyping of an Ecosystem Simulator for Intelligent Agents
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Summary

<Here is the summary of the TFM. Maximum extension 2 pages.»

Abstract

«Abstract of the Master Project. Maximum length: 2 pages.»

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Chapter 1

Introduction

The introduction of the TFM should serve so that teachers who evaluate the work can understand the context in which it is carried out, and the objectives that are set.

This template shows the basic structure of the final TFM memory, as well as some formatting instructions. The basic schema of a final TFM memory is:

- Summary in Spanish and English (max 2 pages each)
- Content Table
- Introduction (with TFM's goals)
- Master's Project Content
- Results and conclusions
- Bibliography (publications used in the study and work development)
- Annex (optional)

In any case, it is the tutor of the TFM who will indicate to his student the final memory structure that best fits the work developed.

Regarding the format, the following guidelines will be followed, which are shown in this template:

- *Paper size:* DIN A4
- *Cover Page:* as stated in this template, with indication of university, center, TFM title and author.
- *Second page:* bibliographic information, including all data of the TFM tutor.
- *Letter type for text.* Preferably "Bookman Old Style" 11 points. If this is not possible, the recommended alternatives are, in order of preference: "Palatino Linotype", "Garamond" or "Georgia".
- *Letter type for source code:* “Consolas” or “Roboto mono”
- *Margins:* upper and lower 3 cm, left and 2.54 cm right.
- *Sections and subsections:* reviewed with decimal numbering after the chapter number. Ej.: subsections 2.3.1.

- *Page numbers:* always centered on the lower margin, page 1 begins in chapter 1, all sections before chapter 1 in lowercase Roman numeral (i, ii, iii. . .).

To prepare the final memory of the TFM with this template, follow the steps below:

1. Download and Install MiKTeX: `https://miktex.org/`
2. Download and install a LaTeX editor, for example Texmaker: `https://www.xm1math.net/texmaker/`
3. Edit the file **secciones/ _DatosTFM.tex**, which is included in the folder **secciones** of this template. Fill in all the requested data in said file. Save and close
4. Compile the file **plantilla_TFM.tex** (can be renamed). A file **pdf** will be generated as a result.
5. To write the final memory of the TFM you can add and / or modify the files in the **secciones** as necessary. The result is obtained when compiling the file **plantilla_TFM.tex**.

1.1 Source Code example in Python

```
1 # -*- coding: utf-8 -*-
2 import sympy as sy
3 from sympy.abc import x
```

Chapter 2

Master's Project Content

Chapter devoted to describe the development of the Project. According to your supervisor, this chapter may have different structures ore ven there might be different chapters to cover such development.

Every chapter must start on a new page.

Subsections are numbered in a hierarchical way; they must be aligned to the left. Examples:

2.1 Section 1 chapter 2

2.1.1 Subsection 1 section 1 chapter 2

2.1.1.1 Subsection 1

2.1.1.2 Subsection 2

2.1.2 Subsection 2 section 1 chapter 2

2.2 Section 2 chapter 2

2.3 Section 3 chapter 2

Chapter 3

Results and conclusions

Summary of results obtained in the TFM. And personal conclusions of the student about the work done.

Bibliography

[1] Publications used in the study and development of work. An international system must be used for bibliographic references, in accordance with the instructions of the tutor. For example *IEEE system*

Annex

This is an optional chapter, and will be written according to the instructions of the Tutor.