PROGRAMAÇÃO PARA VISUALIZAÇÃO DE DADOS

Master in Engenharia Informática

Code: 26211

Main Scientific Area: Computer Science

Lecturer: Carina Sofia Marinho de Andrade

Language of Instruction: Portuguese

Regime: S1

Contact Hours: 30h Total Workload: 130h

ECTS: 6,0

Objectives

This curricular unit has as main objectives the discovery of useful knowledge for themanagement of the organizations, through the processing, the analysis and theimplementation of efficient and effective mechanisms of information visualization. In thetechnological platform of organizations, the data and the knowledge extracted from them are essential factors for the transformation of organizations, in the redefinition of processes, products and services. In this discipline will be approached concepts related to visual and interactive implementation of representation of data as auxiliary and complementary mechanisms to improve decision making processes. Topics to be covered include the exploration of ETL and data exploration and analysis techniques using technologies widely recognized by the community (ex. Talend, Tableau, Power BI) and the dashboards implementation considering the data visualization elements most adequately to be used in each type of data being analysed.

Learning Outcomes

Design and implementation of ETL processes.

Usage of visualization technologies.

Implementation of Dashboards.

Course Contents

Data preparation;

Process of Extraction, Transformation and Loading (ETL) data;

Data visualization: data types, charts and dashboards;

Power BI as an ETL and visualization technology;

Talend as an ETL technology;

Tableau as a visualization technology.

Recommended Bibliography

1. Tufte, E. R. (1983). The visual display of quantitative information. Graphics Press.

2. Knaflic, C. N. (2015). Storytelling with data: A data visualization guide for business professionals. Wiley.

3. Steele, J., Iliinsky, N. (Eds.). (2010). Beautiful visualization: Looking at data through the eyes of experts. O'Reilly Media.

Learning and Teaching Methods

In the theoretical sessions will be presented the concepts and methodologies defined in the contents of the curricular unit.

In the practical sessions, students will apply the methodologies, implement solutions for effective visualization of information, oriented to solve problems and challenges proposed by the teacher.

Assessment Methods

Practical component [70%]: Group project [60%] and project presentation [10%]

Theoretical component: Individual exam [30%]