



**Universidade do Minho**  
Escola de Engenharia

MANAGEMENT INFORMATION OF SYSTEMS

---

# Architecture Design: Machine Learning (MLOps) and MicroServices

---

*Authors:*

Pedro Silva

Tiago Martins

Dong Xuyong

*Mechanographic Identifier:*

PG50689

PG50032

PG50343

March 7, 2023

## 1 Equipa



Tiago Martins



Tiago Martins



Tiago Martins

Conteudo

1	Equipa	1
2	InceptionIteration	3
2.1	Initiate Project . . . . .	3
2.1.1	Define Vision . . . . .	3
2.1.1.1	StakeHolders . . . . .	3
2.1.1.2	System Boundaries . . . . .	3
2.1.1.3	Constraints . . . . .	3
2.1.1.4	Features of the System . . . . .	3
2.1.2	Plan Project . . . . .	4
2.1.2.1	Team . . . . .	4
2.1.2.2	Size and Scope . . . . .	4
2.1.2.3	Risks . . . . .	4
2.1.2.4	Project LifeCycle . . . . .	4
2.1.2.5	Costs and Value . . . . .	4
2.1.2.6	Deployment Plan . . . . .	4

## 2 InceptionIteration

### 2.1 Initiate Project

#### 2.1.1 Define Vision

The vision of a project refers to the overarching goal or objective that the project aims to achieve. It's the guiding principle that directs all the actions and decisions made throughout the project's lifecycle.

A clear and well-defined project vision is essential for ensuring that all stakeholders are aligned and working towards the same goal. It provides a shared understanding of what the project aims to accomplish and helps to prioritize activities and resources.

A project vision should be specific, measurable, achievable, relevant, and time-bound. It should describe the desired outcome of the project, as well as any constraints or limitations that may impact its success.

In order to develop a strong project vision, it's important to involve all stakeholders in the process. This includes project sponsors, team members, and any other individuals or groups who will be impacted by the project's outcome.

Overall, the project vision serves as a roadmap for the project, guiding all activities and decisions towards the ultimate goal. With a clear and well-defined vision, the project team can stay focused and motivated, working together to bring the project to a successful conclusion.

**2.1.1.1 StakeHolders** The application itself its aimed, to all the people that finds out interesting or has some kind of curiosity in machine learning capabilities.

#### 2.1.1.2 System Boundaries

#### 2.1.1.3 Constraints

**2.1.1.4 Features of the System** Speaking about the features for the system, we want to talk mainly about the scalability and availability of the system. Also, we will support an web server that is capable to predict an number according to the user drawnings.

## **2.1.2 Plan Project**

**2.1.2.1 Team** The team is composed by 3 elements: Dong Xoung, Pedro Silva and Tiago Martins. (PHOTOS)

**2.1.2.2 Size and Scope** The project itself would take ages. Since we will make an prototype, we can make it happen with the total members of this project.

In this case 3. Regardless, we can spend something like an weak alone, single working in an perspective of our business prototype application. Since we are 3 members and we want to distribute equally, someone will be charged to make the web interface app happen, another member will be responsible for the clustering network for kubernetes and lastly the final one will be responsible to create the web server that will receive the inputs and give an certain response to the client, which will be machine learning based.

## **2.1.2.3 Risks**

## **2.1.2.4 Project LifeCycle**

## **2.1.2.5 Costs and Value**

## **2.1.2.6 Deployment Plan**