**Research plan**

**Blockchain technologies**

# Overview

During this semester I will perform research on the topic of Blockchain technologies. I have chosen this topic because it is one of the currently emerging trends in the IT world, and I would like to learn more about the possibilities it offers. In addition, I would like to know how the usage of blockchain technologies can improve the functionality of the individual project I am currently working on.

# Goal

The goal of the document is to outline the structure of my research and to define my approach to the problem. This is achieved by defining the research questions and methods that are relevant to the topic. I will be using the methods from the [DOT Framework](https://ictresearchmethods.nl/Methods) to help answer my research questions.

# Deliverables

When the research is completed, I will deliver a research document containing all the information gathered during the given timeframe.

# Research questions & methods

**Main research question:**

How can a payment system using cryptocurrencies be implemented in my marketplace website?

* **Available product analysis** – Investigating the already existing applications would give me more clarity on how to implement such payment system.
* **Literature study** – It is important to acquire general information and details about blockchain to have a better understanding of the topic.

**Sub-questions:**

What NFRs are important for a payment system? – **2h**

* **Literature study** – Study the most important requirements for a payment system to be reliable in an enterprise environment.
* **Available product analysis** – Take a look at some widely used payment systems to see what makes them preferred over others.

Which cryptocurrency is the best for payments? – **4h**

* **Best good and bad practices** – Investigating what are the best cryptocurrencies for payment purposes (transaction speed, popularity).

What are the drawbacks and benefits of using cryptocurrency as a payment method? – **4h**

* **Problem analysis –** Identifying what problems occur that are related to the usage of a cryptocurrency wallet would give me a clearer view of the technology itself, as well as what is preventing it from being more widely used.
* **Literature study** – Gathering general information about blockchain technology would bring forward the advantages and the disadvantages of the technology, as well as give more detailed insight of the technology itself.

Which cryptocurrency payment gateway is most suitable for my marketplace website? – **2d**

* **Available product analysis** – Investigating what payment gateway services are available and choosing the most appropriate one for my case.
* **Prototyping** – Create a proof of concept for crypto payment gateway implementation.