# Research

Individual Project Semester 6
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# What makes up an enterprise architecture?

## Introduction

This research document aims to explore the question of what makes an application fit the scope of an enterprise architecture, specifically in the context of a personal game quiz project. An enterprise architecture is a detailed plan that defines the structure and operation of an organization, including its processes, technology, and data. It is designed to help an organization manage its operations by making sure everything works together towards its goals. However, building an enterprise architecture for a personal project may not require the same level of complexity as building one for a large organization. Therefore, this research will investigate the key points that need to be considered when developing an application that fits the scope of an enterprise architecture, with a focus on the game quiz project. The results of this research will be useful for creating and structuring the whole project starting from the project plan.

## What is an enterprise architecture?

An enterprise architecture is a detailed plan that defines the structure and operation of an organization, including its processes, technology, and data. It is designed to help an organization manage its operations by making sure everything works together towards its goals. It includes different types of plans, like how the organization does business, how it uses technology, and how its different applications fit together.

It is definitely not one glove fits all with enterprise architectures. Some enterprise architectures tend to be spread across a broad domain of concerns, and rarely be focused on a specific aspects of a specific technology and/or business process. Some organizations will have architects that work across all domains within the organization. Some organizations will have specific types of architecture (e.g., application architecture, solution architecture, data architecture, network/systems architecture, business architecture, etc.) that focuses on a particular area. There is no specific framework or step by step tutorial which can be followed or used to create an enterprise architecture for a specific project. However, there are certain key points to consider before starting with anything.

## What are the key points to consider when building an enterprise architecture?

Building an enterprise architecture for a personal project may not require the same level of complexity as building one for a large organization, but there are still some key points to consider.

- Start by defining your project's goals and objectives, as well as any functional and non-functional requirements.
- Establish some architecture principles that will guide the design and implementation of your project. Keep scalability in mind to ensure that the system can handle an increasing volume of users, data, and transactions without degrading performance. The system should be easy to maintain and modify over time. The system should be designed to protect its data against unauthorized access, data breaches, and other security threats. Performance of the system also has to be kept in mind.
- When developing conceptual architecture, it is important to identify the key components or modules of your personal project. Once the components have been identified, one needs to consider how data will flow between them. The architecture should provide a high-level view of the project's architecture, focusing on the major components and interactions. C4 diagrams can represent conceptual architecture at different levels of abstraction, from the high-level system context to the low-level code details.
- Establish some technical standards and guidelines that will help you ensure that your project is developed in a consistent and standardized way. One of them is the programming language or languages that will be used for development. In addition to programming languages, different frameworks or libraries can be chosen. This might include things like using Agile or Scrum methodologies, adopting a test-driven development approach, or implementing continuous integration and delivery. Technical standards around security and performance should also be considered. This might include requiring the use of encryption for sensitive data, implementing secure coding practices, or optimizing code for performance.
- Design detailed architecture that includes things like data models, system components, and interface designs. More detailed in the means of entity-relationship diagrams, class diagrams. The different system components have to be defined from one another – front-end components from back-end components, database components, etc.
- Once the detailed architecture is in place, the implementation and testing can begin. This will involve building and integrating all of the components, as well as testing the system to ensure that it meets your requirements.
- Finally, once the project is up and running, there will be the need to monitor it to ensure that it continues to meet the established requirements.

## Conclusion

In conclusion, this research document has explored the question of what makes an enterprise architecture, specifically in the context of a personal game quiz project. We have learned that an enterprise architecture is a detailed plan that defines the structure and operation of an organization, and there are different types of architecture that can focus on specific areas. While building an enterprise architecture for a personal project may not require the same level of complexity as building one for a large organization, there are still key points to consider. By following these key points, developers can create an application that fits the scope of an enterprise architecture and meets the established requirements.