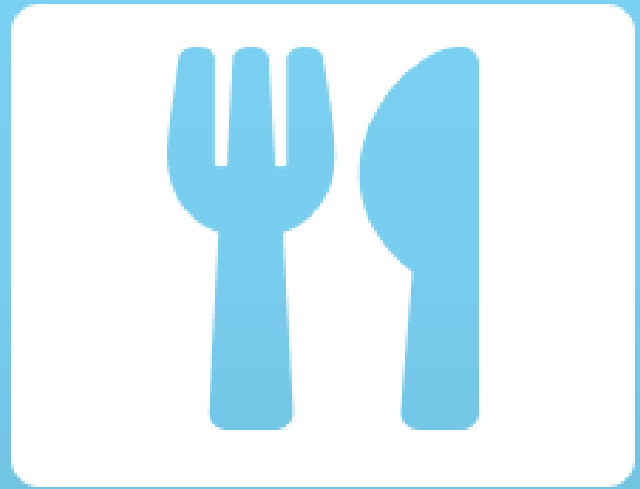# RESEARCH PLAN

S6-RB03 Group 2

Table of Contents

Main Research Question

For our main research question, we will explore if low-code applications in combination with an enterprise architecture work within a restaurant's system.

The goal is to eventually advise the client on whether or not low code can work within an enterprise system. As of now low code is a requirement, but it could be that it is not the right tool for the job.

Can low-code technology in combination with an enterprise architecture be used within a restaurant system while being secure, performant, easy to use and compliant with GDPR?

Using the DOT framework, we will utilize a wide range of methods to reach a conclusion for our main research question. We can utilize *library study*, *available product analysis*, *expert interview* and others from the Library strategy. Problem analysis and stakeholder analysis can be used to get information about the current situation, as well as the ideas and goals of the stakeholders. Furthermore, multiple types of tests will be performed to ensure that the system operates smoothly. Peer and product reviews will be utilized to make sure that the quality of the project is sufficient and that the stakeholders are happy with the final product. IT architecture sketching, brainstorming, and prototyping are all vital part of the research process to reach a conclusion.

Secondary Research Questions

Via the secondary research questions, we will aid ourselves in achieving a conclusion for our main research questions.

How can low-code applications, specifically Appsemble, be tested and deployed?

Because most of us have never dealt with low-code applications, some research will be required regarding the implementation of a CI/CD pipeline with them. *Automated testing and deployment* allow for one of the better possible development cycles. For the research, we will use methodology such as *available product analysis, community research, expert interviews and prototyping*.

Can low-code applications be sufficiently performant?

Low-code applications should be lightweight. Regardless we need to research and come to a conclusion whether they have the performance capabilities to support the system's needs or not. The methods of *usability and system testing* can aid in achieving a result, additionally *product reviews* can allow us to gather feedback from the client on their opinions on the system and its performance.

How can messaging within an enterprise system be done reliably and securely?

Messages between the different components of the system need to be secure, because they might contain sensitive information. Therefore, we need to do some research on how we can secure them. Methods such as *expert interviews, available product analysis, best good and bad practices, testing and prototyping*. These methods will allow us to gather insight and test our solution.

How can data be handled safely and according to GDRP rules?

During the project we will be dealing with large amounts of potentially sensitive user data. Therefore, we need to adhere to GDRP rules and make sure the data is as secure as possible. To achieve an answer to the research question we can use methods such as *good and bad practices* to analyze what are considered the best ways to handle such data*, security tests* can be run to ensure that the data is safe. Using methods such as *available product analysis, expert interview and ethical check* could help us gather insight into the research question.

Are there any other better technologies that can be used instead of Appsemble within the context?

In order to validate if Appsemble is the right technology to use withing the context, we need to research the other available technologies that can be used. For this we will use *Available product analysis,* also *Multi-criteria decision making* is required in order to come to the right decision*.* Furthermore, *Prototyping* could be used to discover the different technologies.

Can low code applications, specifically Appsemble, be connected to messaging systems like a service bus?

For the project it is important that the application that will be built can connect to a messaging system like a service bus. *Literature study* will be used to discover if low code applications can be connected to a messaging system*,* on top of this *Community research* can be used to see if others have already dealt with it*.* If necessary, *Prototyping* can also be used to see if it works for us.