



Project Plan

RESERVATION SYSTEM FOR DIM

GROUP 2 S6-RB03

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|----------------|----------|--------------------|
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| Author | : | Group 2 |

Version history

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| 0.1 | 14-02-2022 | Group 2 | Set up | Development |
| 0.2 | 17-02-2022 | Group 2 | Project Goal, Scope and Research Questions | Development |
| | | | | |

Distribution

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Project assignment

Context

Dinner in Motion is a 360 degrees restaurant with the goal to give customers a special dinner experience. During a dinner, guests are able to look at nice visuals and enjoy a full course menu at the same time. Dinner in Motion is located in the PIAZZA building in Eindhoven. Their gimmick is that they do a lot of things digitally. For example, they are able to take reservations online. Within these reservations useful information like allergies and whether or not it's someone's birthday can be found. This data is used to make the experience more pleasant for Dinner in Motion's guest. Dinner In Motion is also actively trying to reduce their waste, their current approach to this is to create a static menu with as few variable courses as possible. This way they already know exactly what they have to order in hand.

As of right now the system works, but there are a few flaws which make certain processes suboptimal. For example, data received from the reservation platform must be manually inserted into other services. Also, the cook doesn't have a way to track the current inventory and manage orders.

Another problem that Dinner in Motion would like to tackle is that there is not a lot of opensource and free software available for restaurants. Because of the current crisis a lot of restaurants have been hit hard financially. Popular restaurant software is mostly proprietary and takes a large margin of the profits. Making restaurant software opensource, widely available and free makes sure restaurants are not hit as hard during uncertain times.

Goal of the project

The main goal of the project is to research and discover if low-code applications can work within the already existing Dinner in Motion technology stack. Our group's focus is to explore how viable Resengo is to that stack and present alternatives that could replace it. The project allows for a research-based exploration of those topics, with accompanying ICT solutions. Researching both topics and coming to a conclusion will allow the company to gather valuable knowledge about their current system and ways to improve it.

Scope and preconditions

| Inside scope: | Outside scope: |
|-----------------------|----------------|
| 1. Source-code | 1 |
| 2. Research papers | 2 |
| 3. Instruction Manual | 3 |
| 4. Documentation | 4 |

Strategy

We use the agile approach (scrum) because a lot of the project is still unclear. The requirements are not set in stone and a lot of coordination has to be done between the different project groups. In order for this to work out, groups have to be really flexible and communicative. A waterfall approach would be unwise because there is not a lot of places for revision and feedback.

Research questions and methodology

Main Research Question

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?

For our main research question we can reach a conclusion using the DOT Framework using some of its methodology, including but not limited to – prototyping is a vital part of our research due to the requirement to prove if such an application can work within an already existing system, community research will be used by the whole class to help each other with common research goals, domain modelling will be used to familiarize ourselves with the current system, its flaws and possible parts where a solution could be applied, problem analysis will be used to identify weak spots, unit and other tests will be used to verify that the system work as expected.

Secondary 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 in regard to the implementation of a CI/CD pipeline with them. Automated testing and deployment allow for one of the better possible development cycles. For the purpose of the research, we will use methodology such as available product analysis, community research, expert interviews and prototyping.

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

During the project we will be dealing with large amounts of potentially sensitive user data. Therefore, we need to adhere to GDPR 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, expert interviews can be used to acquire knowledge from field experts.

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, testing and prototyping. These methods will allow us to gather insight and test our solution.

Can low-code applications, specifically Appsemble, 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.

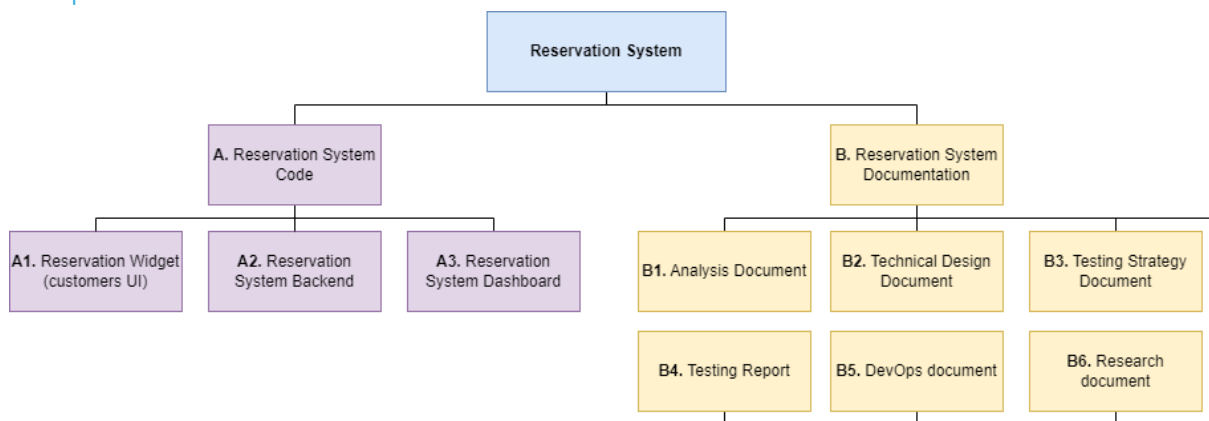
Are there any other better technologies that can be used instead of Appsemble within the context? 🧐✂️

In order to validate if Appsemble is the right technology to use within 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.

End products



Project organization

Stakeholders and team members

| Name | Abbreviation | Role and functions | Availability |
|--|--------------|---------------------------------------|------------------------------|
| <i>Bram van de Vorst</i> bram@dinnerinmotion.nl | <i>Bram</i> | <i>Product owner dinner in motion</i> | <i>Thursday at Strijp TQ</i> |
| <i>Carli Kleijnen</i> c.kleijnen@fontys.nl | <i>Carli</i> | <i>Projectleader research</i> | |
| <i>Kees van de Broek</i> kees@openapps.nl | <i>Kees</i> | <i>Partner Appsemble</i> | <i>Thursday at Strijp TQ</i> |
| <i>Qin Zhao</i> q.zhao@fontys.nl | <i>Qin</i> | <i>Tutor</i> | <i>Monday and Thursday</i> |
| <i>Jacco Snoeren</i> j.snoeren@fontys.nl | <i>Jacco</i> | <i>Technical Teacher</i> | <i>Thursday at Strijp TQ</i> |
| <i>Erik van der Schriek</i> e.vanderschriek@fontys.nl | <i>Erik</i> | <i>Technical Teacher</i> | <i>Thursday at Strijp TQ</i> |
| <i>Luka Spaninks</i> l.spaninks@student.fontys.nl | <i>Luka</i> | <i>Product owner of our group</i> | <i>Monday and Thursday</i> |
| <i>Ivan Banov</i> i.banov@student.fontys.nl | <i>Ivan</i> | <i>Team member</i> | <i>Monday and Thursday</i> |
| <i>Youri van der Loo</i> y.vanderloo@student.fontys.nl | <i>Youri</i> | <i>Team member</i> | <i>Monday and Thursday</i> |
| <i>Koen Rasters</i> k.rasters@student.fontys.nl | <i>Koen</i> | <i>Team member</i> | <i>Monday and Thursday</i> |

Communication

The communication between the group members will be done with Discord. Every Monday and Thursday the group will meet with each other, for now on Mondays it will be online and for the Thursdays it will be at the Strijp TQ building. These days will be used for the group to keep in touch with each other and to keep track of what everyone has done so far. For the sprint deliveries, Kees and Bram will be available on the last Thursday of each sprint at Strijp TQ to meet with us in person.

Activities and time plan

Phases of the project

The project will start off with an analysis phase in which we aim to obtain as much information on both the full project as well as later just the solution we are going to provide. Once we have a clear view of the project and our solution and it is approved in any way, we are going to continue with the design phase. In the design phase we will create multiple products, from wireframes to UI sketches as well as the required documentation for the testing phase. Once this is approved, we will start with the actual development. During the development we will also perform regular testing and deployment. After the development phase is complete, we will hand over the project to the client, who will give us an evaluation. Finally, we will reflect on the project after the handover.

Time plan and milestones

The project consists of six sprints. Each sprint consists of three working weeks, apart from the last sprint, which is made up of two weeks. During each sprint there will be stand-up meetings during each workday, where the goals for the day will be discussed. At the end of each sprint a sprint delivery will be complete, accompanied by a sprint review meeting with the product owner and other stakeholders where the group will present the progress of the past sprint. Furthermore, after each sprint, a sprint retrospective will be performed, where the team can reflect on the previous sprint about what went well and what went wrong.

| Phasing | Start date | Finish date |
|----------|------------|-------------|
| Sprint 0 | 07.02.2022 | 27.02.2022 |
| Sprint 1 | 07.03.2022 | 27.03.2022 |
| Sprint 2 | 28.03.2022 | 17.04.2022 |
| Sprint 3 | 18.04.2022 | 15.05.2022 |
| Sprint 4 | 16.05.2022 | 05.06.2022 |
| Sprint 5 | 06.06.2022 | 19.06.2022 |

Testing strategy and configuration management

Testing strategy

For our testing strategy we plan on running tests at a few stages. First unit testing will be performed on a smaller scale to allow for bugs to be caught at the early stages of development. Next end-to-end testing will be performed to ensure that the system communicates well within itself and to ensure that all components receive the relevant information.

Via the use of a CI/CD pipeline the testing will be automated in the CI part, to ensure that when a change is committed to the project's repository, that it works correctly within the system. Some tests will be performed manually, but the majority will be automated.

Test environment and required resources

For our testing purposes we will implement a CI/CD pipeline, to ensure that the project is tested sufficiently and is deployed when a build is approved. We will develop in a local environment, then once testing is performed successfully and the user accepts the proposed changes, the system can be deployed and can be made available for use.

Configuration management

We are going to use the tool git for source control and GitHub to store the repository in the cloud. We will use the development branch as a baseline and the master branch for production.

For a new feature a branch is created which is prefixed with "feature/".

For a fix a new branch with the prefix "fix/" will be created.

We will use pull requests in order to review and give feedback on changes.

It's basically the default git workflow.

Finances and risk

Project budget

We do not plan on spending money. Cost of services that might be implemented should be taken into account and presented to the stakeholders beforehand.

Risk and mitigation

| Risk | Prevention activities | Mitigation activities |
|--|---|---|
| 1. One of our computers crashes and we lose progress | Make use of git and make commits regularly | Always understand what we are doing, so that in the event of my computer crashing I won't have a hard time starting over |
| 2. Scope creep | Define clear boundaries at the start of the project | Have meetings to discuss progress and plans for the project with stakeholders often to ensure that the ideas do not exceed the time planned |
| 3. The client is not pleased with our product | Discuss the wishes of the client thoroughly early on as well as through the project | Adjust the way we work to align more with the client's wishes |
| 4 One of the team members is sick or unavailable | While planning stuff, keep the school planning in mind | Make sure that everyone in the group is kept up to date with progress so that they can take over and lessen the time lost |
| 5 Not realizing the Learning Outcomes during the project | Keep focus on the learning outcomes and ask for feedback | Try to complement the learning outcomes with your individual project |