Project Plan

Red Pandas

Zoo Bazaar

Date	:	**07/03/2024**
Version	:	**2.0**
State	:	**Finished**
Author	:	**Addi Beenen, Nuno Dias, Szymon Gancarz, Vera Utina**

Version history

Version	Date	Author(s)	Changes	State
0.1	21-02-2024	Addi, Nuno, Szymon And Vera	Made a beginning on the project plan.	Finished
1.0	22-02-2024	Addi, Nuno, Szymon And Vera	First version completed	Finished
2.0	07-03-2024	Addi, Nuno, Szymon And Vera	Final version completed	Finished

Glossary

CD	Continuous Deployment
CI	Continuous Integration
CSV	Comma-Separated Values
DTAP	Development Testing Acceptance Production
ICT	Information Communication Technology
IDE	Integrated Development Environment
ISSD	ICT Student Service Desk
JSON	JavaScript Object Notation
KPIs	Key Performance Indicators
PDF	Portable Document Format
RBAC	Role-Based Access Control
URS	User Requirements Specification Document

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1. Project assignment

1.1 Context

Zoo Bazaar is a daughter company of Jupiter, planning to open their first zoo in Eindhoven, Netherlands. Funded by Jupiter, Zoo Bazaar aims to start as well-prepared as possible, with a focus on effective administration to manage all aspects of the zoo. The management recognizes the importance of having a strong administrative system in place to handle various tasks, including employee management, animal care, scheduling, and potentially front-office tasks like ticket sales and customer service.

The initial focus of the administrative system is on managing employees and animals, with a priority on ensuring the welfare of the animals. The system should allow for the management of employee attendance, scheduling, and tasks related to animal care such as feeding schedules, location tracking, and health check-ups. Additionally, the system should provide functionalities for creating timetables and assigning tasks to employees, with the eventual goal of automation where possible.

The system is expected to evolve over time, with potential future enhancements including features like online ticket sales, performance statistics, customer complaint handling, and employee website for accessing personal information and schedules. However, for the initial phase, the main focus is on developing functionalities related to employee and animal management to meet the immediate needs of Zoo Bazaar.

1.2 Goal of the project

Describe the goal of the project. Take into account:

The why, what is the reason for doing this project?

- The reason for doing this project is to create a system that will help our client's Zoo better manage various aspects of their business.
- To make everyone's jobs more efficient and quicker.
- Better manage the zoo and employees and the animal’s welfare.

What would the new preferred situation look like?

- It should allow the administration to handle employee administration, animal care and front-office tasks such as:
    - Attendance and scheduling to manage the animals and tasks related to their welfare.
    - Online ticket sales/booth, customer service, performance statistics, etc.
    - An Employee login website to view and adjust and view their personal and work shift information

- Data to be stored about animals: name, age, species, relationships, location in the zoo, diet etc.
- Adding new animals into the system updating their information and creating timetables for welfare tasks. Assigning the employees to do these tasks. (automated ideally but if possible at least manually)
- Viewing individuals and aggregating information or statistics about animals.
    - How many animals are there per species or location, view a list of animals.
    - Search for specific animals, look at their details and adjust information.
- Different access levels for all types of employees to the system.
    - Administration for overall management, resource planners, for scheduling, and caretakers for specific animal data.

What are the advantages for the client?

- More efficient employees.
- Better communication and organization among Zoo employees.
- Better understanding of what is happening in the zoo.

Which possibilities are offered by the ICT product that the project will realize?

- Comprehensive Animal Management
    - This system will help to manage various aspects of the zoo mainly focusing on the animals and employees by updating information about everyone's tasks or animals.
- Front-office tasks
    - This system will create an online ticket sales/booth, customer service, and performance statistics.
- Differentiated user access
    - Different access levels for all types of employees to the system.
        - Administration for overall management, resource planners, for scheduling, and caretakers for specific animal data.
- Statistical Data
    - Graphs and other representation of the stored data

1.3 Constraints

C.1 A Winform App

Have to use C# and .Net Framework. Program has to run on a Windows OS.

C.2 A Web App

Have to use C# and Razor Pages ASP.Core Framework. Minimal Javascript (we won't be learning any).

C.3 Time (& Budget)

We only have 6 weeks to finish this project.

Budgetary constraints and resource availability may impact the scope and timeline of the project implementation (e.g. deliverables), and therefore the quality of the product.

C.4 Expertise of Users

Users will be regular people so our software needs to be simple and intuitive. All administration and CRUD tasks should be done from a friendly UI.

C.5 Laws

The system development will adhere to regulatory compliance standards and data privacy regulations applicable to zoo operations in the Netherlands.

1.4 Scope and preconditions

Inside scope:	Outside scope:
1 Employee Management	1 Advanced Reporting and Analytics
2 Animal Management	2 Integration with External Systems
3 Feeding Timetable	3 Physical Infrastructure
4 Cleaning Timetable	
5 Search and View Functionality	
6 Different User Roles and Permissions	
7 Employee Website	
8 Front-Office Tasks	
9 Basic Reporting and Analytics	

The company may have already made technology choices or have certain preferences in terms of the technologies to be used for the development of the administrative system. This could include preferences for specific programming languages, frameworks, databases, or other tools. While the company's preferences should be taken into account, it's important to critically evaluate these choices to ensure they align with the project's requirements, scalability, and maintainability.

The administrative system may need to comply with certain regulatory standards or industry-specific requirements related to data privacy, security, or animal welfare regulations. Understanding and adhering to these preconditions is crucial to ensure the system meets legal and ethical standards.

There may be constraints related to the project budget and timeline, which could impact the scope of the project and the level of detail in the deliverables. It's essential to consider these preconditions when planning the project to ensure realistic expectations and effective resource allocation.

Input from stakeholders, such as zoo managers, employees, and potentially visitors, should be considered as a precondition for developing the administrative system. Understanding the

needs and preferences of the stakeholders is essential for designing a solution that meets their requirements and expectations.

The administrative system may need to integrate with existing systems or databases within the company, such as HR systems or inventory management systems. Identifying and addressing integration requirements as preconditions will ensure smooth interoperability and data consistency across different systems.

While the initial focus of the project is on employee and animal management, preconditions related to scalability and future expansion should be considered. The system architecture should be designed to accommodate potential future enhancements and scalability requirements, such as increased data volume or additional features.

Preparing for user training and providing ongoing support for system users should be considered as preconditions. Ensuring that users are adequately trained to use the system and have access to support resources will contribute to the successful adoption and utilization of the administrative system.

1.5 **Strategy**

The chosen approach for the project is the Waterfall methodology. The decision to use the Waterfall methodology for this project is based on several factors:

In this project, there is a clear understanding of the client's requirements from the outset. The initial interview with the client provided detailed information about the scope, priorities, and functionalities of the administrative system. With well-defined requirements, the Waterfall methodology is suitable as it emphasizes thorough upfront planning and documentation before implementation begins.

Waterfall provides a structured framework for project management, with distinct phases such as planning, design, implementation, testing, and deployment. This structured approach aligns well with the project's timeline and deliverables, allowing for systematic progression through each phase.

The client's expectations for the project are primarily focused on delivering a functional administrative system within a specified timeframe. The Waterfall methodology allows for clear milestone planning and progress tracking, which helps manage client expectations effectively throughout the project lifecycle.

In Waterfall, client involvement is typically concentrated at the beginning and end of the project, with less frequent involvement during the implementation phase. Since the client's role in this project is primarily focused on providing initial requirements and reviewing the final product, the Waterfall approach aligns with the level of client engagement expected.

Waterfall emphasizes comprehensive documentation at each stage of the project, including project plans, requirements specifications, design documents, and test plans. Given the

educational objectives of the project, including the need to demonstrate the ability to extract requirements and execute the project in a professional manner, the emphasis on documentation in Waterfall is beneficial.

The project aims to provide students with hands-on experience in planning and executing a software project using a specific methodology. By selecting Waterfall, students have the opportunity to learn and apply the principles of sequential project management, which is valuable for understanding traditional software development approaches.

1.6 Research questions

- **How does Zoo Bazaar operate, what does their system use/need and how can we improve upon their current system?**
- What are the specific user requirements for the administrative system?
- Which technologies are most suitable for developing the administrative system?
- Is it viable to implement automated scheduling for animal welfare tasks?
- How can data management and integration be optimized for seamless operation of the administrative system?
- How can the usability and user experience of the administrative system be improved?
- How can the administrative system be designed to accommodate future scalability and maintain optimal performance?
- How will we interface the database with the Web App?

1.7 End products

Deliverables

- Project Plan
- URS
- Progress Report
- Test Plan
- Test Reports
- Application Software

Non-Deliverables

- Integration with External Systems
- Private chat
- Tutorials

2. Project organization

2.1 Stakeholders and team members

Name	Contact	Role and functions	Availability
Henriette (Zoo Bazaar)	NA	Manager	Never
Ema Mladenovska (Zoo Bazaar)	e.mladenovska@fontys.nl	Client	Tuesdays
Mariëlle Fransen (Fontys)	m.fransen@fontys.nl	Tutor	Thursdays
Employees	NA	Users	Never
Customers	NA	Users	Never

Team

- Addi Beenen - 540637@student.fontys.nl - Software Engineer
- Nuno Dias - 540432@student.fontys.nl - Software Engineer
- Szymon Gancarz - 540927@student.fontys.nl - Software Engineer
- Vera Utina - 542087@student.fontys.nl - Software Engineer

About Us

With lots of valuable experiences in our repertoire, our team has successfully completed a similar project to this one. This recent accomplishment not only showcases our proficiency but also highlights our ability to deliver results efficiently and effectively. We are motivated by our past achievements to channel our expertise and dedication into ensuring the success of this new attempt.

2.2 **Communication**

- Internal Team Communication - Discord, Regular Meetings R10 Fontys
- Client - Weekly meetings on Tuesday/Thursday

3. Activities and time plan

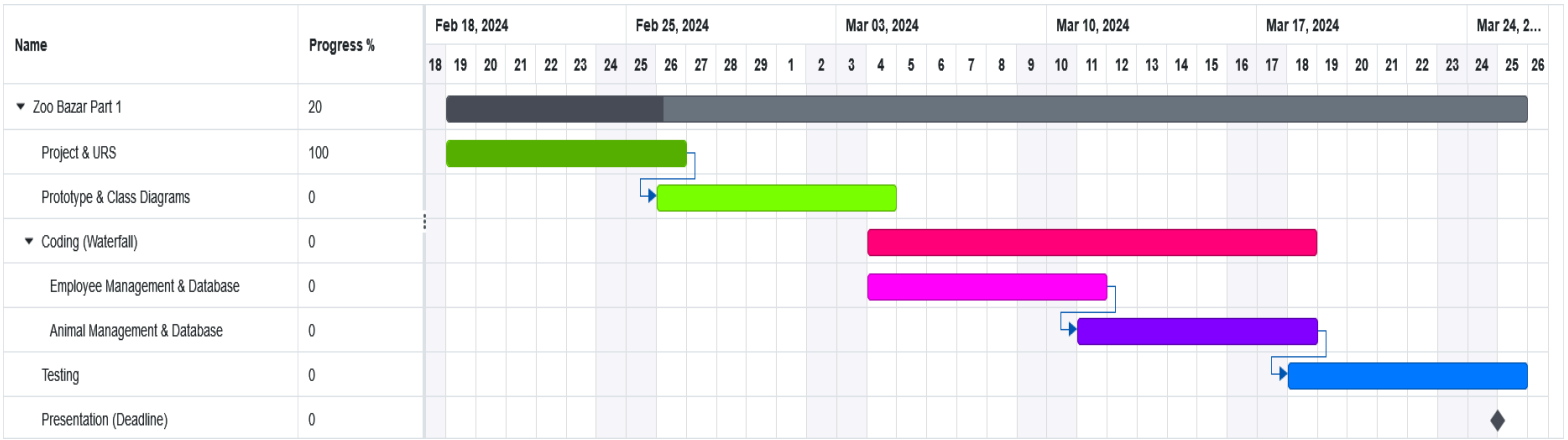
3.1 Phases of the project

The project is scheduled for completion on week 6 (between 25 - 29 March) .

In the diagram below is our timeline.

- Project planning and URS - 21.02.2024/26.02.2024;
- Prototype and Class diagram - 27.02.2024/04.03.2024;
- Coding - 04.03.2024/18.03.2024:
    1. Employee management. 04.03.2024/11.03.2024
    2. Animal management. 11.03.2024/18.03.2024
- Testing - 18.03.2024/25.03.2024;
- Presentation(deadline) ~25.03.2024;

3.2 Time plan and milestones



4. Testing strategy and configuration management

4.1 Testing strategy

- Unit Testing:
  Unit testing is essential for ensuring the correctness and reliability of individual code units. It helps detect and fix defects early in the development process, promoting code quality and maintainability.

- Acceptance Testing:
  Acceptance testing ensures that the system meets the expectations and needs of the end-users, verifying that it fulfills its intended purpose and delivers value to stakeholders.

4.2 Configuration management

GitLab is used as the primary version control system and project management platform. GitLab offers integrated features for source code management, issue tracking, continuous integration, and deployment pipelines, streamlining collaboration and project workflows.

Only fully tested and approved changes are merged into the main branch. Developers merge their feature branches into the development branch for integration testing and validation.

GitLab enables the creation of release tags and milestones to mark significant project releases. Releases are managed through GitLab's release management features, allowing teams to track release progress, associated issues, and release notes.

GitLab provides tagging functionality to create baselines for stable and approved versions of the codebase. Tags are used to label specific commits or merge requests, indicating milestone releases, hotfixes, or other significant changes.

Issues are logged, categorized, and assigned to team members for resolution.

Using GitLab's issue boards, milestones, and epics, a standardized workflow will be established to track the progress of change requests and problem reports from submission to resolution.

5. Risk and mitigation

Risk	Prevention activities	Mitigation activities
1 Sickness	Even distribution of work	Teleworking
2 Client Expectations Different from Result	Weekly meetings with client	Deliverables clearly stated in Project Plan
3 Loss of Data	Git for Version Control	Be transparent with Client and Tutor + Recover as much as possible
4 Server Problems	Local Backups	Go to ISSD/Complain
5 Team conflicts	Communication + Team building (going to the Zoo)	Communication with the help of the rest of the group
6 Scope Creep	Create a clear picture before starting on the project	Look back at the initial picture of the project
7 Low Productivity	Setting small goals	Focusing on the goals set