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Group 2 Project Plan

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# 1. Introduction

The purpose of this document is to provide a definition of the project, including this project’s goals and objectives. Additionally, this plan will serve as a contract between the group members.

The Project Plan defines the following:

* Context of the situation
* Project goals and objectives
* Methodology of the project
* Risks and solutions
* Task division and planning

Chapter 2 will describe the context of the situation. There the needs of the client will be specified, and the problem statement will be stated. In chapter 3 the goals of the project will be outlined, describing the main objectives of the project. Also, the main research question and sub questions will be defined. In chapter 4 the methodology of the project will be explained. Here the research design and strategy will be further described. In chapter 5 the risks and solutions will be assessed. Lastly the contact information of the group members and the instructors will be listed.

# 2. Context

//TODO

## 2.1 Situation in the organisation

In Flevoland lies the nature preserve called Oostvaardersplassen. It is an area of approximately 5600 ha (56 km²), of which 3600 ha is wet (swampland) and 2000 ha dry.

The area is home to wild cattle, wild horses and deer (and many smaller animals.) These large herbivores or their related ancestors are supposed to have occurred in the Netherlands in the distant past and to have helped to shape the landscape. The general idea in the Oostvaardersplassen is to have the animals live in a way as natural as possible; for example carcasses of dead animals remain and the animals are not fed in case of food shortages. This policy has led to heated discussion, as people see the dead or starving animals from the road or train and feel sorry for them. On the other hand, people protest when animals are shot to reduce the strain on natural resources (food). There is no easy solution to this; every choice has its consequences.

## 2.2 Problem Statement

//TODO

# 3. Goals of the project

## 3.1 Objectives

The objective of this project is to create an application which implements the necessary mathematical models which calculate the effects of certain conditions on the current situation and thus showing the best possible solution to the described problem.

## 3.2 Main Research Question and Sub questions

### Main Research Question

What is the best ethically acceptable measure which can be taken to improve the ecological balance in the Oostvaardersplassen?

### Sub questions

The sub questions are as follows:

1. What are the needs of the client?
2. What mathematical models are already available?
3. What variables should be taken into consideration when creating mathematical models?
4. Which models are simple enough to use with the data acquired?
5. How can the results of the models be displayed in an application?

# 4. Methodology

## 4.1 Research Strategy

//TODO

## 4.2 Research Design

In this section, we will go over each sub question and how we will answer them.

1. What are the needs of the client?

To answer this question, first a literature study will be carried out which focuses highly on the lessons of software engineering. During these lessons, the group will learn how to find the needs of a client and this knowledge will then be used to answer this question by means of a descriptive study. This will be qualitative research, as there will not be any numbers derived from it.

1. What mathematical models are already available?

This question will be answered by means of a literature study will be carried out on the provided books and previous projects. This will provide the group with the knowledge that previous project groups and/or researchers have already acquired which will in turn provide an answer to this question. This research will be quantitative as the existing mathematical models will merely be defined.

1. What variables should be taken into consideration when creating mathematical models?

To answer this question, a literature study will be carried out on the previously collected data. Then the models will have to be studied to understand which variables are to be used.

1. Which models are simple enough to use with the data acquired?

To discover how the models can be simplified, a literature study will be carried out on the models already acquired, along with some experiments to define what or how the models can be simplified. This research will be qualitative.

1. How can the results of the models be displayed in an application?

To find out how the results can be displayed in an application a qualitative literature study will be carried out on the previous classes of Object Oriented Programming and the current classes of UML. This will define what is possible to do in the time of this project. Some exploratory research will also be carried out to find out the best and most effective way of displaying the results of the models in the application.

# 5. Task division and planning

## Task distribution

This paragraph will show the task distribution over the weeks of the project. Group members will refer to this when completing their assigned work.

Planning

| Week | Date | Completed | By |
| --- | --- | --- | --- |
| 1 | 15-11 | GitHub repository set up and working | Justice |
|  | 17-11 | Draft project plan completed | Bindu |
|  | 18-11 | Possible challenges of project and their solutions defined | Everyone |
|  | 19-11 | Presentation on challenges and approach to project created | Everyone |
|  |  |  |  |
| 2 | 20-11 | Challenges of project presented to class | Everyone |
|  | 22-11 | Data and literature collected | TBD |
|  | 24-11 | First basic mathematical models researched | TBD |
|  | 25-11 | Final project plan completed | TBD |
|  |  |  |  |
| 3 |  |  |  |

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# 6. Risks and Issues management

In the following paragraph the internal and external risks of the project will be stated. For each risk a value will be given to the probability of this risk occurring and the impact this risk will have on the project. These values range from 1 to 6. 1 being the lowest value and 6 being the highest. Also, the priority will be stated. This value is a multiplication of the probability and the impact and shows how important this risk is.

## Internal risks and issues

| Risk description | Probability | Impact | priority | Corrective measure |
| --- | --- | --- | --- | --- |
| -A project member gets sick and doesn’t attend meetings.  -Running out of time or missing a deadline.  -Communication problems (like misunderstanding), disagreements and group members not working well together. | **3**  **4**  **3** | **2**  **5**  **6** | **6**  **20**  **18** | -Someone else should take over his work  -Make a realistic planning, be responsible and use of good time management.  -Being strict and clear about consequences of being late and missing deadlines.  -Try to talk to each other and |

## External risks and issues

| Risk description | Probability | Impact | priority | Corrective measure |
| --- | --- | --- | --- | --- |
| -Difficulty getting the right information/data needed  -Difficulty applying the mathematical models and implementing it in the application  -Risk of delivering a poor/incomplete product |  |  |  |  |

# 7. Contact Information

**Instructors**

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