Project Plan

Project by:

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# Introduction

# Context

Oostvaardersplassen, a persevered ecological system, which has many animals living there including the main three large herbivores: wild horses, wild cattle, and deer; and other foremost species such as geese and birds of prey. Conjecting that no major predators are present in the ecological system and the herbivores prohibited migration, unbalance has been settled in the Oostvaardersplassen preservation.

Complicating the situation is the fact that there are a lot of geese, particularly during winter, and they consume the same type of food as the large herbivores do. The competition and interact between the herbivores and the geese for food can be quite severe, leading some to extreme situations such as death.

# Purpose

The purpose of this project is to work towards a possible solution of a problem taken from an existing ecological system, Oostvaardersplassen. Based on a mathematical model for the system and an application doing the number crunching to graphically illustrate the predicted effects of the proposed measures on the ecosystem.

# Scope

# Central research question and sub-questions

# Research Question

How do the herbivores and the geese compete for the grass in an enclosed area?

# Research Sub-questions

* + 1. What are the populations of each animal?
    2. What is the rate of grass consumption of each animal?
    3. How do animal populations change as a result of grass availability?

# Methodology

# Outline Project

# Schedule

|  |  |  |
| --- | --- | --- |
| **Week** | **Activity** | **Milestone** |
| 1 | * Kick-off of the project * Assignment to groups * Create Progamme Plan * Create Project Plan * Setup GIT repository | * Programme plan * Assignment of projects to groups * Roles defined * Project plan draft ready * GIT repository available |
| 2 | * Discussing draft project plans * Collecting data and literature * Setting up report structure | * Definitive version project plan * List of literature and data * Report structure |
| 3 | * Design of the mathematical model: basic model * Design of the mathematical model: interaction between species * Design of the mathematical model: interaction between subsystems * Architectural design of the application in UML * Model of the domain in UML |  |
| 4 | * Technical implementation of the application: basic |  |
| 5 | * Technical implementation of the application: basic |  |
| 6 | * Handing in drafts of final models on Monday 09:00 * Discussing models on Friday | * Finalized models |
| 7 | * Handing in draft report on Monday 09:00 * Discussing draft report on Friday * Technical implementation of the application: also using the other application |  |
| 8 | * Handing in final report on Monday 09:00 | * Final research paper (report) |
| 9 | * Handing in project files * Giving presentation | * Project files and presentation |
| 10 | * Repairing product and / or presentation (if failed) | * Resit product and / or presentation |

# Work Division

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| --- | --- |
| Name | Position |
| Adu, Stephen | UML modeling |
| Andreicha, Semida | Coding |
| Buaron, Tal | Coding |
| Cholodov, Andrej | Research mathematical equations |
| Domela Nieuwenhuis, Jens | Data collection |

# Contact Information

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| --- | --- |
| Name: | Harald Drillenburg |
| E-mail: | [harald.drillenburg@inholland.nl](mailto:harald.drillenburg@inholland.nl) |
| Meeting Schedule: | Every Friday face to face. |
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| Name: | Koos van Tubergen |
| E-mail: | [koos.vantubergen@inholland.nl](mailto:koos.vantubergen@inholland.nl) |
| Meeting Schedule: | Every Friday face to face. |
| Name: | Adu, Stephen |
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| Meeting Schedule: | Every Friday face to face, and on social media any time. |
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