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PROJECT PLAN VERSION1

Inholland University of Applied Science: Project Web Science

Project By:

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# 1. Introduction

Mathematical engineering is based on developing a model for a program to find a desirable solution to real-life problematic situations. While working towards the development of a program, one comes across several challenges which change the approach of the development. Challenges can be encountered when determining the implementation model of the program. Parameters of the model are to be divided into categories. Therefore, due to the level of complexity, that the model may hold, it is mandatory to not only implement an program which gives output as statistical numbers but as graphs.

## 1.1. Context

A Wikirace is a race between any number of participants, using links to travel from one Wikipedia page to another. The goal is to go from one Wikipedia page to another through as few intermediary pages as possible. For the purposes of this project, the degree of separation between two Wikipedia pages is defined as the minimum number of intermediary pages needed to reach one from the other.

## 1.2. Purpose

The purpose of this research is to determine average degrees of separation between two random pages on Wikipedia by using the Wikirace.

# 2. Central research question and sub-questions

## 2.1. Research Question

The Main Research Question for this research is based on connections between random pages in Wikipedia:

What is the average degrees of separation between two random pages on Wikipedia?

## 2.2. Research Sub-questions

The research sub-questions are questions which derive from the main research question and provide the path to the answer of the research.

Sub-Research Questions for this research:

1. How should a representative sample of Wikipedia pages be gathered?
2. What mathematical model(s) can best be used to represent Wikipedia pages and the link between them?
3. What tools can be used to analyse the data?
4. How can the calculations be automated?

# 3. Methodology

In order to answer the main research question of this project, the research paper will start by focusing on answering the research sub-questions, which subsequently will lead to an answer to the main research question.

The first sub-question, relating to the gathering of the representative sample, implies for defining what such a representative sample would look like. This definition should then be used to establish a method of selecting Wikipedia pages for analysis.

In order to answer the second sub-question, research of various ways of implementation using a mathematical model will be done. The first step is to do literature reading in regards to possible mathematical model(s). The next step is determining which of those models would best fit the project needs.

To answer the third sub-question, like the second, research needs to be done to determine the possible tools to be used. Out of these possible tools, the best suited to the needs of the project will be selected for use in analysing the data.

To answer the fourth sub-question, the options of automation present in the tool from sub-question three need to be researched. This is done by reading documentation of the tool. The most suitable of these options then needs to be identified and implemented to the needs of the project.

# 4. Outline Project

## 4.1. Schedule

|  |  |  |
| --- | --- | --- |
| Week | Activity | Milestone |
| 1 | * Kick-off the project * Create Project Plan Draft * Setup GIT repository * Roles defined * Meeting minutes | * Project plan completed - Draft * Tasks divided |
| 2 | * Writing Agenda plan * Meeting Minutes * Presentation – Topic * Begin Research (Data Gathering) | * Project plan completed * Have/find initial code structure |
| 3 | * Make/utilize mathematical model * Writing Agenda plan * Meeting Minutes | * Decide on the sample data * Implement mathematical model in code |
| 4 | * *Privacy and Ethics* | * Decide on the representation of data |
| 5 | * Update report * Writing Agenda plan * Meeting Minutes | * Decide on tools that can be used to analyse the data * Decide how calculations be automated |
| 6 | * Update report * Writing Agenda * Meeting Minutes | * Focus on presentation |
| 7 | * *Presentations* | * Delineate project according to feedback |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

## 4.2. Work Division

|  |  |
| --- | --- |
| Name | Position |
| Adu, Stephen | Archivist |
| Andreicha, Semida | Chairman/Minute Maker |
| Buaron, Tal | Project lead |
| Boswijk, Marik | Code Lead |

## 4.3. Contact Information

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| --- | --- |
| Name: | Hollink, Vera |
| E-mail: | [vera.hollink@inholland.nl](mailto:vera.hollink@inholland.nl) |
| Meeting Schedule: | A face to face meeting scheduled once a week. |
|  |  |
| Name: | Janszen, Bas |
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| Meeting Schedule: | A face to face meeting scheduled once a week. |
| Name: | Adu, Stephen |
| E-mail: | E-mail: [572481@student.inholland.nl](mailto:572481@student.inholland.nl)  Skype: reall.blue |
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|  |  |
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|  |  |
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|  |  |

# 5. Bibliography