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PROJECT PLAN VERSION4

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

Migration has become a hotly-discussed topic in recent times. Economic reasons influence the rapidly increasing global migration. It is important to understand the scope of this phenomenon so the exact extent of the problem can be assessed.

## 1.2. Purpose

The purpose of this research is to analyse migration rates and citizen nationalities between countries, to determine how they will influence one another.

# 2. Central research question and sub-questions

## 2.1. Research Question

The Main Research Question for this research is based on the immigration and emigration between countries:

How will the migration ratios between countries affect citizen national demographics?

## 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. What are the current national demographics and migration rates in countries?
2. How to model the data to draw conclusions in regards to migration rates?
3. What concepts can be used to analyse migrations between countries?
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, “What are the current national demographics and migration rates in countries?” implies a solution based on the use of literature reading. This is to be done from various sources to gather data pertaining to migration rates and national demographics. In addition, the concept of national demographics will be defined more concisely to better answer the main request question.

In order to answer the second sub-question, the first step is by further analysis of the problem. Having the subject of the problem how the migration rates gathered can be modelled. Once various possible solutions have been gathered, the second step will be to choose an ideal model. Subsequently, the ideal solution would be a model which helps in finding a solution for the third sub-question.

To answer the third sub-question, further research over the solution from the previous sub-question has to be done in order to gather more data about which ideal concepts can be used. Based on those concepts, a solution can be drawn in order to analyse the migration between countries. Once an ideal solution is acquired, a small sample of our total data gathered will be tested to test both our models and analytical techniques applied onto said models. The analytical techniques we will use will rely on the studies we did previously on Graph Theory.

In order to answer the fourth sub-question, a research over the possible tools has to be done in order to help automate the analysing of the models. In case a tool could not be found, an application will be created in order to automate the analysing of the models. The application will be created using Java.

# 4. Outline Project

## 4.1. Schedule

|  |  |  |
| --- | --- | --- |
| Week | Activity | Milestone |
| 1 | * Kick-off the project * Create Final Project Plan * Setup GIT repository * Roles defined * Meeting minutes |  |
| 2 | * Writing Agenda plan * Meeting Minutes |  |
| 3 |  |  |
| 4 | *Privacy and Ethics?* |  |
| 5 |  |  |
| 6 |  |  |
| 7 | *Presentations* |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

## 4.2. Work Division

|  |  |
| --- | --- |
| Name | Position |
| Adu, Stephen | Research / Git |
| Andreicha, Semida | Implementation |
| Buaron, Tal | Project lead / Tool research |
| Boswijk, Marik | Implementation |

## 4.3. Contact Information

|  |  |
| --- | --- |
| Name: | Vera Hollink |
| E-mail: | [vera.hollink@inholland.nl](mailto:vera.hollink@inholland.nl) |
| Meeting Schedule: | Every Friday face to face. |
|  |  |
| 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: | On social media any time. |
|  |  |
| Name: | Andreicha, Semida |
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|  |  |

# Bibliography

*Placeholder.*