3/16/2017

PROJECT PLAN VERSION2

Inholland University of Applied Science: Project Web Science

Project By:

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# Introduction

Mathematical engineering is based on developing application models for finding desirable solutions to real-life problematic situations. While working towards the development of an application, one comes across several challenges which change the approach of the development. Challenges can be encountered when determining the (model) of the application. 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 application which gives output as statistical numbers but as graphs.

## 1.1. Context

Migration has become a hotly-discussed topic in recent times, due in no small part to a large influx in the western world of migrants and refugees from the middle-east. It’s sometimes said that such an influx will destroy culture when the migrants and refugees don’t integrate, and that integration is something they don’t have much incentive to do in large numbers. It’s important to understand the scope of this phenomenon so the exact extent of the problem can be assessed. This project aims to do a part of that.

## 1.2. Purpose

The intention of this paper is to work towards a possible solution of a problem, which has been taken from the emigration and immigration status of the citizens who have an American nationality and the citizens whose nationality underlies as one of the middle-eastern countries. The solution will be implemented based on a mathematical graph models, graphical illustrated and will hold the predicted effects of the proposed measures on the ecosystem.

# 2. Central research question and sub-questions

## 2.1. Research Question

The Main Research Question for this research paper is based on the immigration and emigration between America and middle-eastern countries:

How will the immigration and emigration ratios between the USA and middle-eastern 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 paper.

Sub-Research Questions for this research paper:

1. What are the current national demographics in the USA and middle-eastern countries?
2. What are the immigration and emigration rates of the USA to and from each middle-eastern country?
3. What Graph Theory aspects can be implemented to have a better understanding of the immigration and emigration rates?
4. Which states suffering the most from immigration? (Which states suffering the most from emigration?)

# 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 methodology explored in this project reflects the immigration and emigration demographics between the United States of America and middle-eastern countries. By means of collecting data and modelling theoretical graphs based on the data, the research will then attempt to provide an application which has as an input of countries and their numbers of emigrants/immigrants and an outcome of graph based on that fluctuating data. From the graph information will show a relational relationship between the countries.

The process of development has several phases that are being implemented to get a final result. The first phase, is based on **data collection**. This is the point at which all the information necessary to proceed with any of the further steps, is going to be gathered. It should be stated however, that data collection is a process that is ongoing throughout all phases.

The second phase of the research is fully focus on **data analysation**. Once the data collection process will be finalized, the creation of the application model will begin. By creating class models of UML [[1]](#footnote-1)will help to visualize how the application will look like and what it should do. As soon as, the UML model for the application will be completed the focus then turns to the back-end work, implemented using Java.

The third phase of research will cover the representation of data analysed. The resultant data will be shown in a graph. Subsequently, each one of these steps will help answer the research sub-questions which in turn will provide a solution to this paper’s research question.

# 4. Outline Project

## 4.1. Schedule

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

## 4.2. Work Division

|  |  |
| --- | --- |
| Name | Position |
| Adu, Stephen |  |
| Andreicha, Semida |  |
| Buaron, Tal |  |
| Boswijk, Marik |  |

## 5. 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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|  |  |
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| Meeting Schedule: | On social media any time. |
|  |  |
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|  |  |

# 6. Bibliography

1. UML – Unified Modeling Language is a general-purpose, developmental, modeling language in the field of software engineering, which intends to provide a standard way to visualize the design of a system. [↑](#footnote-ref-1)