CT60A2411 Object-Oriented Programming

Implementation Plan

Lappeenranta-Lahti University of Technology LUT

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Group

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1.0. Introduction

Our project aims to close the gap between information about municipalities and the end user by presenting an Android application that not only meets the basic requirement of displaying Finnish municipalities' population statistics, changes in population, workplace self-sufficiency, and employment rates, but also enhances the user experience with optional features. These features include a historical view of population changes, a comparison between the municipality's population to the total population of Finland, the year of the municipality foundation, the year of peak population, and providing information on the economic aspects such as the income and exports in euros.

By combining these features, our app aims to provide a comprehensive and engaging interface for users looking for detailed insights into Finnish municipalities, for a better understanding of demographic and economic trends in Finland. Through this project, we hope to demonstrate our technical skills and innovative approach to using technology to make complex data more accessible and understandable to the public.

2.0. Features

Our Android application takes a user-centric approach, emphasizing accessibility and engagement through a collection of features that address a wide range of informational needs about Finnish municipalities. The app, designed for Android devices, ensures broad compatibility and ease of use, making it available to a large audience interested in Finnish

demographic and economic data. The following are the mandatory and elective features of our application:

Mandatory Features	
Population Statistics	Users can view current population figures for each municipality.
Population Change Tracking	The app will monitor population changes, providing insights into long-term trends such as growth or decline.
Workplace Self-Sufficiency	The app will provide an overview of how municipalities maintain their workforce, emphasizing the balance between local jobs and commuting patterns.
Employment Rate Display	Employment rates are important economic indicators, and our app will display this data, allowing users to assess the economic health and job market vitality of various municipalities.
Elective Features	
Historical Population Change	This feature will enhance the user's understanding of the demographic evolution of each municipality in Finland.
Municipal Population Proportion	This feature will compare the population of a municipality to the entire country.
Peak Population Year	Our app will provide a unique perspective on the most successful periods for municipalities, which can be useful for historical and sociological research.
Income and Export Data (€)	This feature will provide a comprehensive view of municipalities' economic standing and productivity.

Through these features, we hope to provide a comprehensive tool that encourages users to explore and comprehend the many aspects of Finnish municipalities.

2.1. Sources

The app uses multiple open API sources to deliver up-to-date and comprehensive information about Finnish municipalities directly to the Android application. Each feature within the app is developed with data sourced from the respected database, ensuring that the information provided is accurate, timely, and insightful. Below are the API sources utilized for the key features:
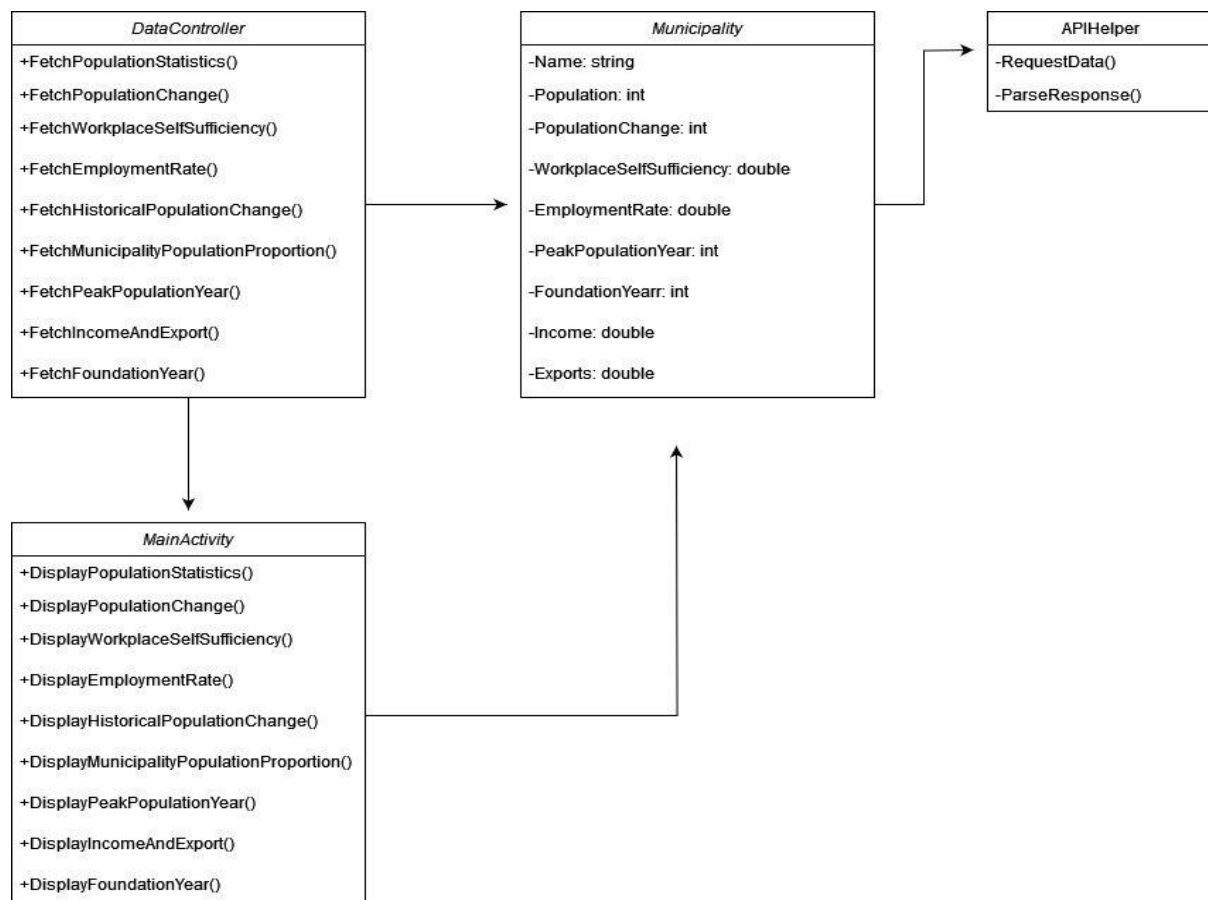
Features	API Source
Population Statistics	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/
Population Change Tracking	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/
Workplace Self-Sufficiency	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__tyokay/statfin_tyokay_pxt_125s.px/
Employment Rate Display	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__tyokay/statfin_tyokay_pxt_115x.px/
Historical Population Change	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/
Municipal Population Proportion	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/
Peak Population Year	https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/
Income and Export Data (€)	https://pxdata.stat.fi/PxWeb/pxweb/fi/StatFin/StatFin__velk/statfin_velk_pxt_13kw.px/

3.0. Group Members

Our team members consist of Jesse Mahkonen and Humaira Mohd Rozaini, who are both first-year students pursuing a bachelor's degree in software and systems engineering. To ensure equal participation and contribution from both group members, both coding and documentation tasks are divided evenly to promote the project's success. Our approach involves regular offline and online meetings where we collectively discuss our progress and plan our project. The first of these meetings occurred offline on March 21st, 2024, where the elective features for the project's implementation plan were selected.
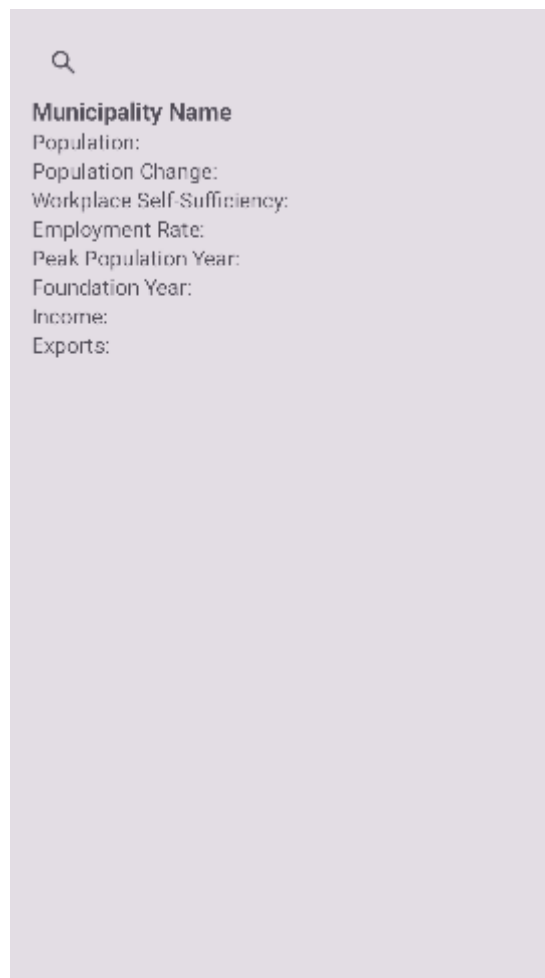
4.0. Modelling

4.1. Class Diagram

5.0.<u>User Interface</u>

    5.1<u>. Activities, Functionalities, and Usage</u>

        The main view of the application will include a search bar that allows users to search

        for a municipality, if such a municipality exists, it will display all the data gathered

        under the search bar.

    5.2<u>. Mockups</u>

6.0. References

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/%20

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/%20

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__tyokay/statfin_tyokay_pxt_125s.px/

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__tyokay/statfin_tyokay_pxt_115x.px/%20

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin__synt/statfin_synt_pxt_12dy.px/%20

https://pxdata.stat.fi/PxWeb/pxweb/fi/StatFin/StatFin__velk/statfin_velk_pxt_13kw.px/