

# Data Visualization Final Project Proposal

## Basic Information

- **Project Title:** Sweden's COVID-19 approach, a success or a failure?
- **Name:** Karl Josefsson
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- **GitHub Repository:** <https://github.com/karldif01/DataViz-FinalProject>
- **Project Website:** <https://karldif01.github.io/DataViz-FinalProject/>

## Background and Motivation

The COVID-19 pandemic forced governments around the world to make urgent, high-stakes decisions. In the Nordic region, Sweden took a dramatically different route by avoiding lockdowns, while neighboring Norway and Denmark implemented strict restrictions. These three culturally and economically similar countries provide a natural experiment to analyze the impact of contrasting public health strategies. This project aims to visually compare Sweden's unique response with those of Norway and Denmark across health, economic, and social aspects, helping users understand the real-world consequences of pandemic policy choices.

## Main Objective

The core goal of this project is to answer the following question:

**How did Sweden's no-lockdown approach to COVID-19 compare to Norway and Denmark's stricter lockdown strategies in terms of public health and economic outcomes?**

Through a series of data-driven visualizations, this project will help users explore and interpret the consequences and impacts of government decisions during the pandemic.

## Project Objectives

1. **Economic Impact Analysis, Visualization:** *GDP Time Series Line Chart*

An interactive line chart comparing GDP trends from 2019 through 2022 for Sweden, Norway, and Denmark. This visualization will show the magnitude and duration of economic downturns and recovery patterns, highlighting how each country's economy was affected under different policy regimes.

## 2. **Unemployment Rate Comparison, Visualization:** *Unemployment Rate Time Series*

A dynamic line graph or a grid of country-specific unemployment charts to show how job markets responded to the pandemic and government interventions. Users will be able to compare spikes in unemployment rates during lockdowns or phases of reopening.

## 3. **Health Outcomes: COVID-19 Case Counts, Visualization:** *Scandinavia Choropleth Map*

A choropleth map of Scandinavia shaded by total COVID-19 cases (or deaths per capita), allowing users to visually assess which country was hit the hardest.

## 4. **Hospitality Occupancy, Visualization:** Small multiples

An interactive view over the different magnitudes of hospital occupancy during the pandemic.

## 5. **Health Outcomes: COVID-19 Mortality per 10M, Visualization:** Animated Scatter/Line Plot

An animated and interactive plot to see the mortality rate over time, being able to navigate through different dates showing the differences between the three countries.

# Data

- <https://github.com/owid/covid-19-data>
- <https://www.statista.com/statistics/586271/monthly-unemployment-rate-in-denmark/>
- <https://www.statista.com/statistics/527418/sweden-monthly-unemployment-rate/>
- <https://www.statista.com/statistics/1289653/monthly-unemployment-rate-norway/>
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# Data Processing

Almost all my data is in an existing covid-19 github repository. The biggest task when it comes to organizing this data is filtering out the information we need. Getting rid of unused columns and rows which in this case means filtering out the Scandinavian countries as well as keeping the relevant information, such as cases, hospitality rates etc. Considering the heavy size of the data set, I created a subset and wrote simple java code to filter away all the countries and excess column metrics we do not need.

# Must-Have Features

Timeline over government policy changes in regards to COVID-19

Choropleth Map of Scandinavia with a slider to scroll through different dates.

GDP and Unemployment graphs connected, being able to highlight one country, highlights it on both.

Animated Scatter plot to see deaths over the course of the pandemic.

## **Optional Features**

Annotations over important periods.

Add a slider for the animated graph to be able to stop at certain points.

# **Project Schedule**

## **Week 1 (March 28 - April 3)**

- **Get and finalize data sets to use for the project**
- **Create a webpage for the project**
- **Start writing Python code to read and start cleaning the data files**

## **Week 2 (April 4 - April 10)**

- **Have the data cleaned**
- **Have all the static visualizations done for Alpha Release**
- **Deadline: Prepare for Alpha Release due on April 11**

## **Week 3 (April 11 - April 17)**

- **ALPHA RELEASE DUE: APRIL 11**
- **Start implementing interactions for the visuals to make them dynamic**
- **Finalize layout and project design to prepare for Beta Release**

## **Week 4 (April 18 - April 24)**

- **BETA RELEASE Week**
- **Address any issues or feedback from Beta Release**
- **Plan out Beta Release**
- **Complete and finalize all visualizations for Beta Release**
- **Complete and finalize the structure, layout and ordering for Beta Release**
- **BETA RELEASE DUE: APRIL 24**

## **Week 5 (April 25 - May 1)**

- **Start preparing and writing Project Report**
- **Address any issues or feedback from Beta Release**
- **Create slides for presentation**

- Prepare talking points and presentation structure
- Start practicing for the presentation

#### **Week 6 (May 2 - May 8)**

- Continue preparing and writing Project Report
- Start preparing DEMO for final submission
- Start cleaning and preparing all code and data used for final submission
- Start User Manual
- Fix any remaining bugs or issues
- Make final improvements based on feedback
- Make sure everything works on different browsers
- Finalize all presentation content
- Finalize talking points for the presentation
- Practice presentation
- PROJECT PRESENTATION: MAY 5

#### **Week 7 (May 9 - May 14)**

- Finish Project Report Draft
- PROJECT REPORT DRAFT: MAY 10
- Finalize Demo for final submission
- Finalize User Manual
- Finalize all cleaned code and data for final submission
- Address any issues or feedback from FINAL REPORT DRAFT
- PROJECT FINAL SUBMISSION: MAY 14