Designing a Thematic Atlas on the Geospatial Impact of COVID-19 **Diploma Thesis**



Introduction

Being the first pandemic in the modern age, the usage of digital technology during the pandemic has also increased as compared to the pre-pandemic period (De' et al., 2020). As the data production on COVID-19 increases every day, the pandemic also highlighted the role of technology in the rapid proliferation of information about a global issue both positively and negatively. Infodemic, or the rapid spike in the volume of information due to a certain event, has become a critical issue arising together with the pandemic itself (WHO, 2020).

Given the inherent geographical nature of pandemics in general, maps have been frequently used in communicating information for various aspects of the COVID-19 phenomenon. In her paper, Griffin (2020) outlined some of the potential aspects of misinformation through maps during the COVID-19 pandemic. Several challenges in the visual representation of COVID-19 maps were also summarized by (Mocnik et al., 2020). While there have been limited studies on how largely maps contribute to the infodemic, it can be inferred that there have been inappropriate uses of maps in the depiction of the pandemic or some aspects of it.

In line with this, the thesis was developed to produce a cartographic product in the form of a thematic atlas about the COVID-19 pandemic incorporating appropriate cartographic and map design principles as the need for the proper use of maps during the pandemic has become evident. Since most of the maps generated today center on the current status of the pandemic, this atlas intends to visualize the impact of the pandemic on various aspects of society. As global datasets are being generated by various institutions independently, a consolidated source of reliable visualizations provides a holistic understanding of the pandemic that would not be otherwise possible with individual products alone.

Objectives

The main goal of this diploma thesis is to generate a cartographic product in the form of a thematic atlas focusing on the direct and indirect impact of the COVID-19 pandemic on society and the environment. Along with the actual atlas, it also aims to outline a streamlined methodology on the creation of a thematic atlas of a global topic from project definition to pre-press. This atlas utilizes data from various authoritative sources for global datasets such as the Johns Hopkins University Coronavirus Resource Center (JHU-CRC), the Oxford COVID-19 Government Response Tracker (OxCGRT), the World Bank (WB), the International Monetary Fund (IMF), and the Copernicus Services.

To realize these goals, the work objectives were divided into theoretical and practical parts.

ESULTS

Theoretical goals:

- Describe the cartographic project definition
- Research on the current state of mapping during the pandemic
- Identify the atlas contents and potential data sources

Practical goals:

- Collect relevant datasets
- Harmonize and organize the gathered datasets
- Compile the atlas contents and layout
- Perform atlas usability testing

COMBINICUS MASTER



Data Sources

IMF The World Bank IATA ILO



Objective specifications

- Project specifications
 - Atlas contents

C®VID-19 ATLAS



80

52

64% • 50% Passing Grade 60% Passing Grade 44% 70% Passing Grade

Diploma Thesis Appendix 4

Olomouc, 2021