Simplifying GIS: Developing web-applications for Atlas

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This thesis encapsulates the combined work and effort of group 21 and group 22 on two projects developed for the company Atlas (atlas.co) in order to complete our bachelor's degrees. These two projects involve developing web applications, in an attempt to modernize aspects of traditional Geographic Information Systems (GIS). Specifically, one project attempt to simplify a process called georeferencing, and the other attempt to create an introductory tool for creating maps utilizing AI based on text input.

Utilizing a tech-stack comprised of primarily Python and Next.js, we also explore different methodologies and tools for project management, such as the Scrum framework. We describe how we utilized the various methodologies and tools, and explain the implementation and development of the projects. We describe some more technical aspects of the projects, such as describing deployment pipelines. We further argue on the quality aspects of the projects, and present the final products of each project, as well as deliberating on the projects' journies and results.

In assessing our project goals, we acknowledge the progress made in simplifying GIS functionalities with Image2Map and Text2Map. Although Image2Map streamlines georeferencing, it lacks advanced image manipulation and GeoTIFF modification features. Text2Map succeeds in query-based visualization, but requires refinement in data input and map shareability. Despite these limitations, both applications offer valuable features and lay a foundation for future development. The groups have gained significant experience, meeting personal academic standards. Although not fully meeting initial expectations, a satisfactory note from Atlas, as well as our experiences as a collective group, suggests that we have completed the projects in a respectable, professional, and satisfactory manner.

Vedlegg

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