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Course: Advanced Web GIS (AWG720S)
Assessment 4 (Project)

Marks [50] **Weight**: 40% **Due Date: 7 November 2022 16:30PM**

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Moderator: Mattias Metz

DEVELOPING A FULLY-FEATURE WEB MAPPING APPLICATION USING OPEN STANDARD SOFTWARE

1. INTRODUCTION

In both courses which are prerequisites to this course, you worked with HTML documents in the production of websites. In the course Web Development Fundamentals you must have dealt with HTML and objects that can be included in these documents. For example, you managed to reference images / pictures and other websites. You managed to create tables and data and action forms and other smart objects. The skills you gained from your previous courses should help you get started ahead with the project.

2. WHAT TO DO?

This is a project to develop a fully featured web mapping application aimed at solving a spatial problem in Namibia. The problem can be national, regional or local and of relevance for the Namibian demographic (e.g. municipal GIS, Health, Protected areas/conservancies, flood management and monitoring, fire management etc.). The main emphasis should be to use web maps as an effective and efficient communication tool. Three types of maps to be disseminated are static maps, static web maps and dynamic maps. However, it must be indicated here that your emphasis should be on dynamic maps. The website must be interactive in nature and should contain smart objects of your choice. The website will be complemented by a simple 'Clearinghouse' strategy (user interface for disseminating spatial information included in your project via the internet). The Clearinghouse will, similar to the web-mapping services, allow users to make known what spatial data exists, the condition of these data and instructions for accessing these data.

So be creative!!

One key requirement is the use of *JavaScript* as a scripting language to embed web maps in HTML documents. Your report will explain the implementation architecture inclusive of all building blocks such as clients, web servers, GIS servers and geodatabases used. Two GIS servers namely MapServer and GeoServer are recommended while Leaflet, OpenLayers and Google Maps would be suitable as GIS clients for interactive mapping. The styling of the map layers is your own choice and should depend on the kind of theme(s) you choose to disseminate. You may select a theme from the UN Sustainable Development Goals (UNSDG) or any other theme that is valid.

You may consult your lecturer if you have any questions.

https://www.undp.org/sustainable-development-goals

3. ASSESSMENT

You will be awarded the following marks:

Website quality rating (Design principles and user interaction)	**10**	Rating: 1=100%, 2=80%, 3 = 75%, 4 = 60%, 5 = 50%, 6 = 40%
Quality of Web maps (cartographic design i.e. styles)	**10**	SLD application, colour definition, etc
Correct application of Standards	**5**	Static web maps and dynamic java classes, client customisation, etc
Effective tool for spatial data dissemination	**5**	User friendliness
Presentation video (**5-minute video**)	**10**	Able to explain ideas, justify choices made, understanding of technology used etc.
Report	**10**	Structure, references, spelling and grammar, etc
Total Score	**50**	

4. REPORT STRUCTURE

Your project report *must not exceed 10 pages* excluding the title page. It is important to familiarise yourself with the writing requirements of each task, be it a project, research or essay. In this project you will be required to provide the following as a guiding principle:

Project Title

This must be clearly marked on the title page. The title must relate to what is being disseminated on your website e.g. *"Developing a Web-Based Namibia Health Information System."*

Project Background

This part will introduce the project by providing the current or future problem your website is attempting to solve. As an example, related to the above-mentioned title, one could say there is no public health web mapping system in the country, and your site will fill this particular gap.

Project Approach

Clearly state the procedures followed. A conceptual model (diagram) will easily communicate this effectively. Show your implementation design architecture of your system, including all the different components. Elaborate on software used such as clients, web servers, GIS servers and application/database servers.

Results

This section outlines your results achieved. You will present the interface of your website with all the smart objects designed. You will also state briefly how your audience should use the website. A short *user manual* can be part of this section as well.

Conclusions and Recommendations

Outline your summary and conclusions here as well as observations made throughout the project time frame. State lessons learnt and how we could improve on them. Your personal reflection of the project, own achievements and recommendations are all welcome here!

DUE DATE: **7 November 2022, 16:30** **(NOT NEGOTIABLE!)**

***Note**: It is important to acknowledge works of others when using their data or information. It is therefore a requirement even for a project document to include references in the body and a reference list must be appended at the end of your document. Remember plagiarism is a crime punishable by law!*