



CARIBBEAN
SCHOOL
OF
DATA

CSOD Course

Capstone - Becoming a
Data Entrepreneur

October 27th, 2021

Course: Capstone Course

Course Description:

Welcome to the Capstone Course "Becoming a Data Entrepreneur". This is the final course in the program Caribbean School of Data (CSOD) LEVEL II program that seeks to empower young adults with the practical and value-creating data skills for today's Digital economy. The courses delivered throughout this Program were designed to address specific competences considered relevant to the Data value chain, including data collection, preparation, analysis and visualization. This Capstone course provides an opportunity for students to reinforce and apply the knowledge and skills gained from the previous three courses to real-world business prospects for creating social and/or economic value from Geospatial Data

This course is broken down into 4 (four) modules namely:

1. Organizing your WorkGroup – Extend your Mapping Dashboard
2. Planning an Interactive Community Mapping Project
3. Preparing your GeoData - Update OpenStreetMap
4. Becoming a Data Entrepreneur – Develop your Business Model

Purpose of the Course:

Data Literacy and the ability to *collect, organise, manage, evaluate and apply* data to various business scenarios and activities is rapidly becoming an essential in-demand employability skill. However Data skills provides many more opportunities for creating social and/or economic value. This Capstone course encourages students to apply the knowledge and skills gained from the previous three courses to real-world business scenarios, as well as to identify potential value-creating opportunities from working with geospatial data.

Learning Objectives:

1. Organize collaborative teams using digital tools and technologies to conceptualize and work virtually on data-enabled initiatives
2. Identify and assess a real-world problem situation that could be addressed using geospatial data and/or location-based services
3. Plan the activities for a real-world Interactive Community Mapping Project to address your identified problem situation
4. Create and edit geospatial data using OpenStreetMap and related digital tools
5. Use the Business Model Canvas to conceptualize your Geospatial Data entrepreneurial venture

Target Audience:

The course is targeted to young adults who have reached the end of high school and/or are beginning to engage in tertiary education, and who have completed the CSOD basic program, or have otherwise acquired digital competencies.

Pedagogical Approach:

Course content has been developed to target young adults who have reached the end of high school and/or are beginning to engage in tertiary education, and who have none-to-basic starting digital competencies.

Content design employs the following pedagogical strategies, suitable for adult learners and amenable to online delivery using web/mobile devices:

- **Adult Learners:** allow for student agency and autonomy; being goal-oriented; heavily practical content and; structured to leverage the learner's experience as well as the local community;
- **Retrieval learning:** Short, modular content with built-in quizzes and repetitive learner assessment in line with content;
- **Alignment:** Module Content has been organized in a logical sequence with clear linkages and alignment to explicit learning objectives
- **Mastery learning:** Modules strive for a progressive, self-paced, directed learning path that allows students to achieve incremental mastery of concepts before moving on to the next
- **Enhanced attention and focus:** Incorporates text and graphical components to create rich, interactive and a much more responsive learner experience
- **Self-Reflection:** Modules provide guides that encourage the student to reflect on the learned concepts and cognitively apply them to familiar contexts

Time Required:

Estimated time to complete each module ranges from 45 – 90 minutes. Additional learning resources are provided to enable students to explore more information on the topics covered.

Programme/Course Assessment:

The assessment done at the course level is based on both formative and summative assessments, and includes:

1. Progressive in-course Assessment (i.e. questions built-into modules)
 - ~ 5-7 questions per module that help students to test and validate their learning and reinforce the concepts
2. Hands-on exercises
 - A series of exercises that require students to apply learned concepts, tools and techniques from previous courses
3. Reflection Questions
 - A series of 1 - 2 short answer, open ended questions that encourage the student to reflect on the learned concepts and cognitively apply them to familiar contexts

Module Outlines:

Below is a brief description, a list of learning objectives and topics for each module of this course:

Module 1: Organizing your WorkGroup – Extend your Mapping Dashboard

Module Description:

Particularly since the COVID19 pandemic, many organizations have moved to remote work using online workgroups and digital tools. The Capstone project will be done using virtual teams. This module requires students to establish their virtual workgroup and organize an online workspace using digital communication and collaboration tools. The teams 1st group exercise is the extension of the Dashboard developed in a previous module

Learning Outcomes:

By the end of the module students will be able to:

1. Organize a virtual team using digital tools and technologies to conceptualize and work virtually on data-enabled initiatives
2. Demonstrate the use of digital productivity tools for collaboration and communication and to share data, information and digital content with others
3. Work collaboratively on dashboard design with geospatial data content

Module Topics:

1. Creating your virtual workgroup
2. Communications netiquette and good practice in online meetings and virtual communities
3. Exercise 1: Setting up the online workspace and resources
4. Exercise 2: Hosting your 1st online Group meeting
5. Exercise 3: Extending the Mapping Dashboard with community population statistics

Module 2: Planning an Interactive Community Mapping Project

Module Description:

The project team will consider various potential applications of Interactive Community Mapping based on the GeoData previously collected in the ICM Course #3. The team will then use the Interactive Community Mapping Process introduced in the ICM course to develop the profile of an ICM project that contemplates different value scenarios

Learning Outcomes:

By the end of the module students will be able to:

1. Brainstorm various applications of Interactive Community Mapping (ICM) in Tourism, Social Development and Business development
2. Consider potential value opportunities for Interactive Community Mapping
3. Specify the Data Model for your ICM project
4. Collaboratively develop a specific ICM Project

Module Topics:

1. Brainstorming: Applications of Interactive Community Mapping (ICM) in Tourism, Social Development and Business development
2. Identifying ICM Value opportunities
3. Building the ICM Data Model
4. Exercise - Interactive Community Mapping Process: *Planning – Preparation - Execution*

Module 3: Preparing your GeoData – Update OpenStreetMap

Module Description:

OpenStreetMap is an online database and global community that demonstrates the power of crowdsourced creation of GeoData and community-based mapping. This module allows student workgroups to collaborate in community mapping with OpenStreetMap, using a combination of data that was previously collected in Course #3 in combination with remote mapping techniques. Students will use various tools from their ICM digital toolkit, including Java OpenStreetMap Editor (JOSM) to select, clean, edit and upload GeoData to OSM.

Learning Outcomes:

By the end of this module students will be able to:

1. Use the Java OpenStreetMap Editor (JOSM) to select, clean, edit and upload Geodata to OSM
2. Demonstrate the use of Remote mapping techniques to create additional map features in your GeoData such as roads and buildings
3. Work collaboratively to update community mapping data in OpenStreetMap
4. Produce/view Map artifacts from OSM

Module Topics:

1. Use the Java OpenStreetMap Editor (JOSM) to clean attribute data
2. Remote Mapping using JOSM
3. Quality Assurance and Data validation
4. Uploading data to OSM
5. ICM Map production and use

Module 4: Becoming a Data Entrepreneur – Develop your Business Model

Module Description:

This CSOD Level II Program began with “*Understanding the Business value of Geospatial data*”, and emphasized the enormous social and economic value in geospatial data and the valuable skill of being able to *collect, analyze and map* geospatial data within a Community setting. This Capstone course has enabled your team to reinforce and apply the knowledge and skills gained from the previous three courses to conceptualizing, planning and executing community mapping projects. How do you monetize this capability as a Data Entrepreneur? One way to start is to conceptualize and develop a Business Model

Learning Outcomes:

By the end of this module students will be able to:

1. Explain the concept of a business model using the business model canvas
2. Brainstorm a business venture that uses GeoData and/or location-based services
3. Develop a business model canvas for your business venture

Module Topics:

1. What is a Business model?
2. The Business Model Canvas
3. A Business Model Canvas illustration
4. Conceptualizing your business venture