CGIS Map Production
Testing Report Specification

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Introduction

Functional requirements for generating maps.

1.1.   Dot density
- 1.1.1.   Select data set
- 1.1.2.   Select data set boundary
- 1.1.3.   Select various attributes
- 1.1.4.   Select data type
- 1.1.5.   Select attribute value
- 1.1.6.   Select thematic map type
- 1.1.7.   Specify number of classes
- 1.1.8.   Select standardisation method
- 1.1.9.   Select colour scheme
- 1.1.10.   Generate map
- 1.1.11.   Manipulate the scale of the maps.
- 1.1.12.   Download map as image.

1.2.   Proportional symbol
- 1.2.1.   Select data set
- 1.2.2.   Select data set boundary
- 1.2.3.   Select various attributes
- 1.2.4.   Select data type
- 1.2.5.   Select attribute value
- 1.2.6.   Select thematic map type
- 1.2.7.   Specify number of classes
- 1.2.8.   Select standardisation method
- 1.2.9.   Select colour scheme
- 1.2.10.   Generate map
- 1.2.11.   Manipulate the scale of the maps.
- 1.2.12.   Download map as image.

1.3.   Choropleth
- 1.3.1.   Select data set
- 1.3.2.   Select data set boundary
- 1.3.3.   Select various attributes
- 1.3.4.   Select data type
- 1.3.5.   Select attribute value
- 1.3.6.   Select thematic map type
- 1.3.7.   Specify number of classes
- 1.3.8.   Select standardisation method
- 1.3.9.   Select colour scheme
- 1.3.10.   Generate map
- 1.3.11.   Manipulate the scale of the maps.
- 1.3.12.   Download map as image.

1.4.   Heat map
- 1.4.1.   Select data set
- 1.4.2.   Select data set boundary
- 1.4.3.   Select various attributes
- 1.4.4.   Select data type

1.4.5. Select attribute value
1.4.6. Select thematic map type
1.4.7. Specify number of classes
1.4.8. Select standardisation method
1.4.9. Select colour scheme
1.4.10. Generate map
1.4.11. Manipulate the scale of the maps.
1.4.12. Download map as image. .

Non-functional requirements

1.5. Performance.
1.6. Availability.
1.7. Scalability.
1.8. Provide security (confidentiality) for the database and locations.

Use cases Test

Robot framework tests results

1) Introduction:

This report documents the testing outcomes of the CGIS Map Production Project. The testing summary report contains unit test made for the subsystems, and results for the overall testing that has been conducted on the system thus far.The Robot Testing Framework was used to test the overall system.

2) Functional requirements for generating maps.

2.1) Dot density
- **Select data set**
  The user must be able to select a specific dataset from the list of available datasets.
- **Select dataset boundary**
  The user must then select a boundary for the selected dataset.
- **Select various attributes**
  After the dataset boundary is selected, the variables associated with that dataset should be available for selection by the user.
- **Select data type**
  The user is able to select whether they will be making use of discrete or continuous data.
- **Select thematic map type**
  The user must then select the type of thematic map they would like to generate.
- **Specify number of classes**
  The user is prompted to specify the number of classes they would liked to be generated in the map.
- **Select standardisation method to be used**
  The user is prompted to specify the standardisation method they would like to be used.
- **Select the colour scheme to be used**
  User should then select the colour scheme they would like to be used for the map.
- **Generate map**
  The user should be able to generate and view the dot density map.
- **Manipulate the scale of the maps**
  The scale of the dot density map created should be able to scale.
- **Download map as image**
  Once the map has been generated, the user should be able to download it.

2.2) Proportional symbol
- **Select data set**
  The user must be able to select a specific dataset from the list of available datasets.
- **Select dataset boundary**
  The user must then select a boundary for the selected dataset.
- **Select various attributes**
  After the dataset boundary is selected, the variables associated with that dataset should be available for selection by the user.
- **Select data type**
  The user is able to select whether they will be making use of discrete or continuous data.
- **Select thematic map type**
  The user must then select the type of thematic map they would like to generate.
- **Specify number of classes**
  The user is prompted to specify the number of classes they would liked to be generated in the map.

- **Select standardisation method to be used**

  The user is prompted to specify the standardisation method they would like to be used.
- **Select the colour scheme to be used**

  User should then select the colour scheme they would like to be used for the map.
- **Generate map**

  The user should be able to generate and view the dot density map.
- **Manipulate the scale of the maps**

  The scale of the proportional map created should be able to scale.
- **Download map as image**

  Once the map has been generated, the user should be able to download it.

2.3) Choropleth

- **Select data set**

  The user must be able to select a specific dataset from the list of available datasets.
- **Select dataset boundary**

  The user must then select a boundary for the selected dataset.
- **Select various attributes**

  After the dataset boundary is selected, the variables associated with that dataset should be available for selection by the user.
- **Select data type**

  The user is able to select whether they will be making use of discrete or continuous data.
- **Select thematic map type**

  The user must then select the type of thematic map they would like to generate.
- **Specify number of classes**

  The user is prompted to specify the number of classes they would liked to be generated in the map.
- **Select standardisation method to be used**

  The user is prompted to specify the standardisation method they would like to be used.
- **Select the colour scheme to be used**

  User should then select the colour scheme they would like to be used for the map.
- **Generate map**

  The user should be able to generate and view the dot density map.
- **Manipulate the scale of the maps**

  The scale of the choropleth map created should be able to scale.
- **Download map as image**

  Once the map has been generated, the user should be able to download it.

2.4) Heat map

- **Select data set**

  The user must be able to select a specific dataset from the list of available datasets.
- **Select dataset boundary**

  The user must then select a boundary for the selected dataset.
- **Select various attributes**

  After the dataset boundary is selected, the variables associated with that dataset should be available for selection by the user.
- **Select data type**

  The user is able to select whether they will be making use of discrete or continuous data.
- **Select thematic map type**

  The user must then select the type of thematic map they would like to generate.
- **Specify number of classes**

  The user is prompted to specify the number of classes they would liked to be generated in the map.

- **Select standardisation method to be used**
  The user is prompted to specify the standardisation method they would like to be used.
- **Select the colour scheme to be used**
  User should then select the colour scheme they would like to be used for the map.
- **Generate map**
  The user should be able to generate and view the dot density map.
- **Manipulate the scale of the maps**
  The scale of the heat map created should be able to scale.
- **Download map as image**
  Once the map has been generated, the user should be able to download it.

3) Use case Tests
The following are use case tests for CGIS Map Production:

- Test basic **dot density** map production
    - Select **CGIS:households** in the dataset dropdown.
    - Select the **CGIS:wards** boundary for the data set
    - Select **wrd_ward** attribute in attributes list
    - Select **Discrete** data type
    - Select attribute value **ward 100**
    - Click the **Next** button
    - Select the **Dot density** thematic map type
    - Input number of classes a **5**
    - Select **Area** standardisation method
    - Select the **Blue** colour scheme option
    - Click the **Next** button
    - Click on **generate** map button
    - Display **Map key**
    - Zoom **in** and **out** to adjust .
    - **Download** map as image

- Test basic **Proportional Symbol** map production
    - Select **CGIS:households** in the dataset dropdown.
    - Select the **CGIS:wards** boundary for the data set
    - Select **ha_water_s** attribute in attributes list
    - Select **Discrete** data type
    - Select attribute value **No**
    - Click the **Next** button
    - Select the **Proportional symbol** thematic map type
    - Input number of classes a **4**
    - Select **Ratio** standardisation method
    - Select the **Red** colour scheme option
    - Click the **Next** button
    - Click on **generate** map button
    - Display **Map key**
    - Zoom **in** and **out** to adjust .
    - **Download** map as image

- Test basic **Choropleth map** production
  - Select **CGIS:households** in the dataset dropdown.
  - Select the **CGIS:wards** boundary for the data set
  - Select **ha_energy_** attribute in attributes list
  - Select **Discrete** data type
  - Select attribute value **Yes**
  - Click the **Next** button
  - Select the **choropleth** thematic map type
  - Input number of classes a **6**
  - Select **Rate** standardisation method
  - Select the **Green** colour scheme option
  - Click the **Next** button
  - Click on **generate** map button
  - Display **Map key**
  - Zoom **in** and **out** to adjust .
  - **Download** map as image

- Test basic **heat map** production
  - Select **CGIS:households** in the dataset dropdown.
  - Select the **CGIS:wards** boundary for the data set
  - Select **ha_toilet_** attribute in attributes list
  - Select **Discrete** data type
  - Select attribute value **No**
  - Click the **Next** button
  - Select the **Heat map** thematic map type
  - Input number of classes a **7**
  - Select **Density** standardisation method
  - Select the **Brown** colour scheme option
  - Click the **Next** button
  - Click on **generate** map button
  - Display **Map key**
  - Zoom **in** and **out** to adjust .
  - **Download** map as image

4 Robot framework tests results

The following links direct you to the testing results of the robot testing framework used for the Use Case Tests.

https://github.com/roberttrankle/COS301--include/tree/master/Test%20Reports/Logs