# Functional requirements:

# User:

# Service contracts:

1. Service GIS request
   * + - 1. Get XYZ coordinates of a named location
2. Add GIS information
3. Add a location with coordinates to the system
4. Modify GIS information
5. Remove GIS information
6. Update GIS Map
7. Verify GIS Map
8. Defects in the look and feel of the user interface
9. Defects in data entry and output display
10. Defects in the actor-system interaction behaviour
11. Defects in error handling
12. Defects in documentation and help facility

# Case 1: Service GIS request

# Input values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input Element | Type | Value Specification | Valid | Invalid | Exceptional Cases |
| Location | string | Non-empty string | Satisfies value specification | Does not satisfy value specification | None |

## Test case generation/use case based test:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | Location | Valid | Expected result | Actual result |
| 1 | Get Current Location | Valid | Receive coordinates of current location | Receive default coordinates |
| 2 | EMB | Valid | Receive coordinates of EMB building | Receive coordinates of EMB building |
| 3 | IT Building | Valid | Receive coordinates of IT building | Receive coordinates in path in front of IT building, inaccurate coordinates. |
| 4 | Amphitheatre | Valid | Receive coordinates of Amphitheatre | Receive coordinates in path in front of Amphitheatre, inaccurate coordinates. |
| 5 | Chapel | Valid | Receive coordinates of Chapel building | Receive coordinates in path in front of Chapel building, inaccurate coordinates. |
| 6 | Engineering1 | Valid | Receive coordinates of Engineering1 building | Receive coordinates in path in front of Engineering1 building, inaccurate coordinates. |

* There is no method to only access a location. In order to see where the EMB building is for example, one has to navigate there from the current position or another location.
* The coordinates given are not accurate. One expects the coordinates of a building to represent the centre of that building not the area in front of it.

# Case 2: Add GIS information

# Input values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input Element | Type | Value Specification | Valid | Invalid | Exceptional Cases |
| Location Name | String | Non-empty string | Satisfies value specification | Does not satisfy value specification |  |
| Coordinates | integer | X and Y coordinates of the location separated by a , | Satisfies value specification | Does not satisfy value specification |  |

## Test case generation/use case based test:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | Username | Valid | Expected result | Actual result |
| 1 |  | Valid |  |  |
| 2 |  | Valid |  |  |
| 3 |  | Valid |  |  |
| 4 |  | Invalid |  |  |
| 5 |  | Invalid |  |  |

# Case 3: Modify GIS information

# Input values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input Element | Type | Value Specification | Valid | Invalid | Exceptional Cases |
|  |  |  |  |  |  |

## Test case generation/use case based test:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | Username | Valid | Expected result | Actual result |
| 1 |  | Valid |  |  |
| 2 |  | Valid |  |  |
| 3 |  | Valid |  |  |
| 4 |  | Invalid |  |  |
| 5 |  | Invalid |  |  |

# Case 4: Remove GIS information

# Input values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input Element | Type | Value Specification | Valid | Invalid | Exceptional Cases |
|  |  |  |  |  |  |

## Test case generation/use case based test:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | Username | Valid | Expected result | Actual result |
| 1 |  | Valid |  |  |
| 2 |  | Valid |  |  |
| 3 |  | Valid |  |  |
| 4 |  | Invalid |  |  |
| 5 |  | Invalid |  |  |

# Case 5: Update GIS Map

# Input values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input Element | Type | Value Specification | Valid | Invalid | Exceptional Cases |
|  |  |  |  |  |  |

## Test case generation/use case based test:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | Username | Valid | Expected result | Actual result |
| 1 |  | Valid |  |  |
| 2 |  | Valid |  |  |
| 3 |  | Valid |  |  |
| 4 |  | Invalid |  |  |
| 5 |  | Invalid |  |  |

# Case 6: Verify GIS Map

# Input values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input Element | Type | Value Specification | Valid | Invalid | Exceptional Cases |
|  |  |  |  |  |  |

## Test case generation/use case based test:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test case | Username | Valid | Expected result | Actual result |
| 1 |  | Valid |  |  |
| 2 |  | Valid |  |  |
| 3 |  | Valid |  |  |
| 4 |  | Invalid |  |  |
| 5 |  | Invalid |  |  |

# Non-functional requirements: