Project case use and its description
System: Physical Geography Database System
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Brief description:
These use cases mainly describes how the data of geography information be inserted, updated, deleted and used by users.

Actors:
1. Geographical Information System [GoeInformationUser]
Description: It is the system which is responsible for maintaining the data of a location. It stores and offers ways to retrieve this data. This data includes latitude and longitude and other geographical information.
KindOf: #User

2. Weather Stations and Regional/Global Satellite [WeatherDepartment]
Description: This is responsible for updating daily weather and monitoring weather of a location. These details are stored into the geographical information system.
KindOf: #User

3. Natural Disaster Management Authority [DisasterManagementUser]
Description: This team is responsible for managing the data on any kind of natural disasters around the world. They store and make the data available for future use.
KindOf: #User

4. Environmental scientists [EnvironmentalScientist]
Description: These are the team of scientists who use information about a location to analyze various factors in climate change and how the climate varies. They are also responsible for maintaining and analyzing the pollution of a region.
KindOf: #User

5. Ministry of Land and Resources [LandAndResourceUser]
Description: The ministry of land and resources keeps data on the land patterns and borders and the various resources that are available in that region of the land.
KindOf: #User

6. General Users [User]
Description: They can be any user who wishes to access the various information like geographical, weather, disaster etc,.
These can include students, travelers, teachers (basically any person).

Use Cases
1:Creating and Updating the earth location database
Actors: Geographical Information System
Step by Step Description:
1.[GIS] The Geographical Information System sends a request to update the location database.

2.[System] The system returns a confirmation message if the request is allowed(that is, if the user has sufficient privilege to update the information).
3.[GIS] GIS selects name of the region.
4.[System]If this region has already had the data for location, the original data for this region is deleted.
5. [GIS] GIS send location data of this region to the system.
6. [System] The system stores the data.
7. [System] The system sends a confirmation message if the data was stored successfully.
8. If there was a failure, the failure message is sent.

2: Updating regional weather information daily
Actors: Weather Stations and Regional/Global Satellite
Step by step description:
1. [Weather Stations and Regional/Global Satellite] Weather stations and regional/global satellite select location and date for a certain region and enter humidity, temperature, air pressure, precipitation and air composition for that region.
2. [System] The system checks if the requested action is allowed.
3. [System] If the access is allowed, the system adds this to the database.
4. [System] The system returns a confirmation message if the insert was successful.
5. [System] If there's a failure, the system sends an error message to the weather updating system.

3: Updating the record of the natural disasters
Actors: Natural Disaster Management Department
Step by Step description:
1.[Natural Disaster Management Department] Natural Disaster Management Department sends a request to update the information for the record of the natural disasters.
2. [System] The system checks if the requested action is allowed.
3 .[Natural Disaster Management Department] Natural Disaster Management Department selects the start/end date and location of the natural disasters.
4. [Natural Disaster Management Department] Natural Disaster Management Department adds the record if the natural disasters to the database system.
5. [System] The system returns a confirmation message if the insert was successful.
6. [System] If there's a failure, the system sends an error message to the weather updating system.

4: Retrieving information about natural disasters
Actors: Natural Disaster Management Department
Step by step:
1.[Natural Disaster Management Department] Natural Disaster Management Department enter any type of data that is closed to the disaster: disaster name, disaster type, damage done and location.
2.[System]The system retrieves all disasters information matching the filter and presents it to the Natural Disaster Management Department if the disaster information exists.
3. [System] If the disaster information doesn't exist, the system presents the user with an appropriate error message

5: Retrieving information to analyze the climate change
Actors: Environmental Scientists
Step by step description:
1.[Environmental Scientists] Enter the location and start/end date(year) of the certain location and research topic which can be global warning, water pollution and so on.
2.[System] database system outputs all the related data which depends on the research topic, for example, if the research topic is global warning, then the system outputs the CO2 emissions, temperature, air compositions of this region.

6: Retrieving the information of the land and resources
Actors: Department of Land and Resources
Step by step description:
1.[Department of Land and Resources] Department of Land and Resources sends a request to retrieve the information of natural resources distribution.
2.[System] The database system returns a confirmation message if the request is allowed
3.[Department of Land and Resources] Department of Land and Resources selects any number of regions and one type of resources.
4.[System] The system returns the information of this selection if the insert was successful
5.[System] If there's a failure, the system notifies the administrator and sends an error message to the Department of Land and Resources.

7: Retrieving general geography information
Actor: general users(no authority access, can be students/travelers)
Step by Step description:
1.[General Users] General users can select more than one region and start/end date.
2.[System] The system returns the information of this selection if the insert was successful.
3.[System] If there's a failure, the system notifies the administrator and sends an error message to general users.

Total Actors: 6
Total Use Cases: 7
Total Steps: 32

Total Points: 45