User Stories for Population Reporting System

1. As a user, I want to view countries organized by the population (world, continent, region).

2. As a user, I want to view the top N populated countries where N is provided (world, continent, region).

3. As a user, I want to view the cities organized by the population (world, continent, region, country, district).

4. As a user, I want to view the top N populated cities where N is being provided (world, continent, region, country, district).

5. As a user, I want to view capital cities organized by the population (world, continent, region).

6. As a user, I want to view the top N populated the capital cities where N is provided (world, continent, region).

7. As a user, I want to view the population distribution between the urban and rural areas (continent, region, country).

8. As a user, I want to view the population of specific areas (world, continent, region, country, district, city).

9. As a user, I want to view the number and percentage of people speaking Chinese, English, Hindi, Spanish, and Arabic, ordered from greatest to smallest.

Use Cases for Population Reporting System:

Use Case 1: Generate Country Report

Actor: User

Description: Generate a report of countries organized by population.

Main Flow:

1. User selects report type (world, continent, or region).
2. User specifies if they want all countries or top N.
3. If top N, user inputs N.
4. System retrieves and sorts country data.
5. System displays report with columns: Code, Name, Continent, Region, Population, Capital.

Use Case 2: Generate City Report

Actor: User

Description: Generate a report of cities organized by population.

Main Flow:

1. User selects report scope (world, continent, region, country, or district).

2. User specifies if they want all cities or top N.

3. If top N, user inputs N.

4. System retrieves and sorts city data.

5. System displays report with columns: Name, Country, District, Population.

Use Case 3: Generate Capital City Report

Actor: User

Description: Generate a report of capital cities organized by population.

Main Flow:

1. User selects report scope (world, continent, or region).

2. User specifies if they want all capital cities or top N.

3. If top N, user inputs N.

4. System retrieves and sorts capital city data.

5. System displays report with columns: Name, Country, Population.

Use Case 4: Generate Population Report

Actor: User

Description: Generate a population report for a geographic area.

Main Flow:

1. User selects report type (continent, region, or country).

2. System retrieves population data.

3. System calculates total population, urban population, and rural population.

4. System displays report with: Name, Total Population, Urban Population (with %), Rural Population (with %).

Use Case 5: Access Specific Population Data

Actor: User

Description: Retrieve population for a specific geographic entity.

Main Flow:

1. User selects entity type (world, continent, region, country, district, or city).

2. If applicable, user specifies the name of the entity.

3. System retrieves and displays the population for the selected entity.

Use Case 6: Generate Language Report

Actor: User

Description: Generate a report on specified language speakers.

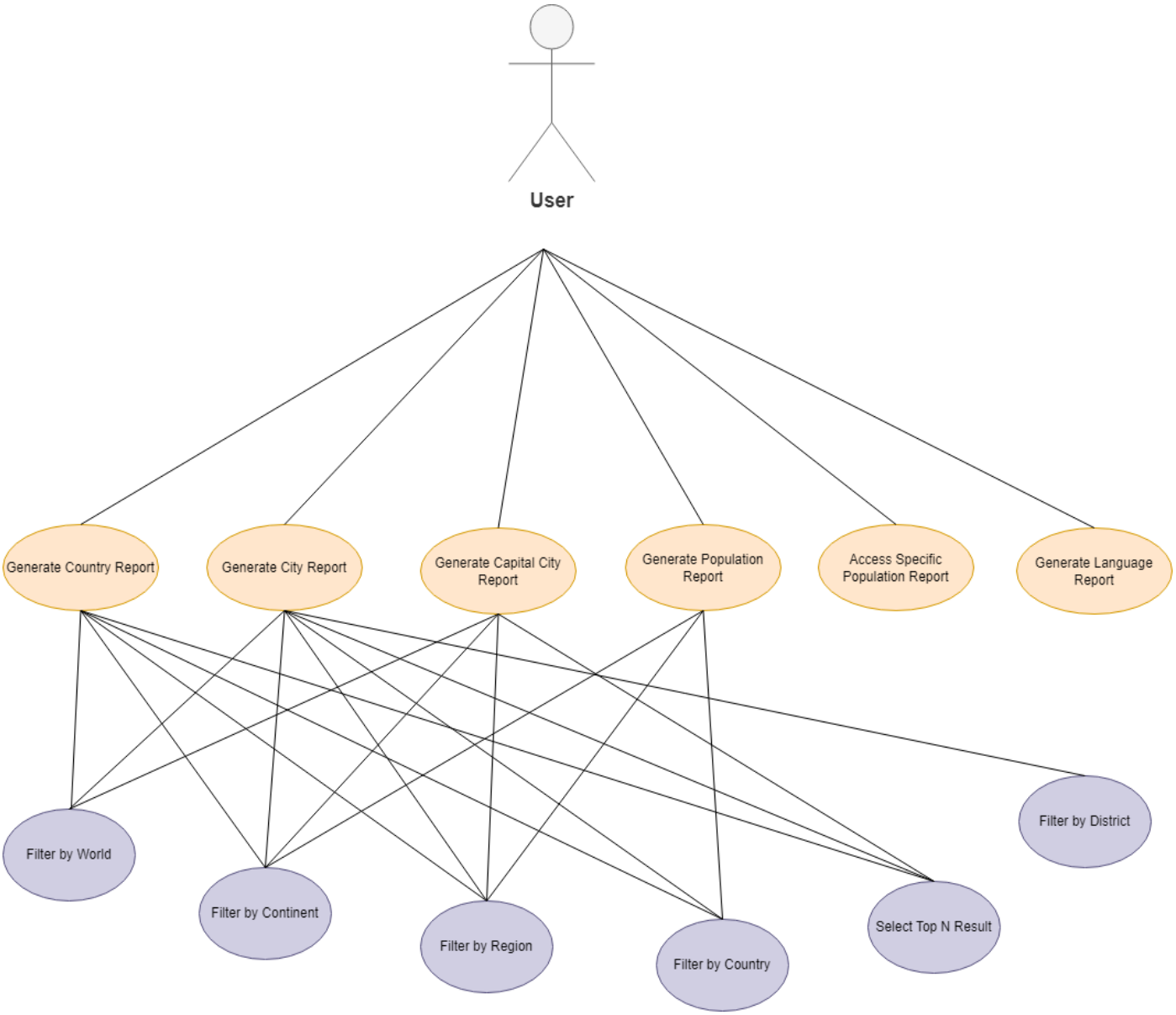
Main Flow:

1. System retrieves data for Chinese, English, Hindi, Spanish, and Arabic speakers.

2. System calculates the number of speakers and percentage of world population for each language.

3. System displays the report sorted from greatest number of speakers to smallest.

Use case Diagram Population Reporting System:



Product Backlog: Population Reporting System:

1. Project Setup and Workflow:

ID:

1.1

Priority:

High

User Story:

As a user, I want to set up the GitHub project for the coursework, so that we can start collaborative development.

ID:

1.2

Priority:

High

User Story:

As a user, I want to create and maintain a Product Backlog, so that we can track all required features and tasks.

ID:

1.3

Priority:

High

User Story:

As a user, I want to set up the project to build a self-contained JAR with Maven, so that we can easily compile and run our application.

ID:

1.4

Priority:

High

User Story:

As a user, I want to create a Dockerfile for the project and ensure it works, so that we can containerize our application.

ID:

1.5

Priority:

High

User Story:

As a user, I want to set up GitHub Actions for project build (JAR and Docker), so that we can implement continuous integration.

ID:

1.6

Priority:

High

User Story:

As a user, I want to create correct branches for GitFlow workflow (master, develop, release), so that we can manage our codebase effectively.

ID:

1.7

Priority:

Medium

User Story:

As a user, I want to create the first release on GitHub, so that we have a baseline version of our project.

ID:

1.8

Priority:

Medium

User Story:

As a user, I want to define a Code of Conduct, so that we have clear guidelines for collaboration.

ID:

1.9

Priority:

High

User Story:

As a user, I want to set up and use Issues on GitHub, so that we can track bugs and feature requests.

ID:

1.10

Priority:

High

User Story:

As a user, I want to create full use cases, so that we have a clear understanding of system interactions.

ID:

1.11

Priority:

Medium

User Story:

As a user, I want to create a use case diagram, so that we have a visual representation of system functionality.

ID:

1.12

Priority:

High

User Story:

As a user, I want to integrate our project with Zube.io, so that we can enhance our project management capabilities.

ID:

1.13

Priority:

High

User Story:

As a user, I want to set up and use a Kanban/Project Board, so that we can visualize and manage our workflow effectively.

2. Database Integration:

ID:

2.1

Priority:

High

User Story:

As a user, I want to set up a connection to the provided SQL database, so that we can access the required data.

ID:

2.2

Priority

High

User Story:

As a user, I want to implement a data access layer for efficient querying, so that we can ensure good system performance.

3. Report Implementation:

ID:

3.1

Priority:

High

User Story:

As a user, I want to view all countries in the world organized by largest population to smallest.

ID:

3.2

Priority:

High

User Story:

As a user, I want to view all countries in a continent organized by largest population to smallest.

ID:

3.3

Priority:

High

User Story:

As a user, I want to view all countries in a region organized by largest population to smallest.

ID:

3.4

Priority:

Medium

User Story:

As a user, I want to view the top N populated countries in the world where N is provided by me.

ID:

3.5

Priority:

Medium

User Story:

As a user, I want to view the top N populated countries in a continent where N is provided by me.

ID:

3.6

Priority:

Medium

User Story:

As a user, I want to view the top N populated countries in a region where N is provided by me.

ID:

3.7

Priority:

High

User Story:

As a user, I want to view all cities in the world organized by largest population to smallest.

ID:

3.8

Priority:

High

User Story:

As a user, I want to view all cities in a continent organized by largest population to smallest.

ID:

3.9

Priority:

High

User Story:

As a user, I want to view all cities in a region organized by largest population to smallest.

ID:

3.10

Priority:

Medium

User Story:

As a user, I want to view all cities in a country organized by largest population to smallest.

ID:

3.11

Priority:

Medium

User Story:

As a user, I want to view all cities in a district organized by largest population to smallest.

ID:

3.12

Priority:

Medium

User Story:

As a user, I want to view the top N populated cities in the world where N is provided by me.

ID:

3.13

Priority:

Medium

User Story:

As a user, I want to view the top N populated cities in a continent where N is provided by me.

ID:

3.14

Priority:

Medium

User Story:

As a user, I want to view the top N populated cities in a region where N is provided by me.

ID:

3.15

Priority:

Medium

User Story:

As a user, I want to view the top N populated cities in a country where N is provided by me.

ID:

3.16

Priority:

Low

User Story:

As a user, I want to view the top N populated cities in a district where N is provided by me.

ID:

3.17

Priority:

High

User Story:

As a user, I want to view all capital cities in the world organized by largest population to smallest.

ID:

3.18

Priority:

High

User Story:

As a user, I want to view all capital cities in a continent organized by largest population to smallest.

ID:

3.19

Priority:

High

User Story:

As a user, I want to view all capital cities in a region organized by largest to smallest.

ID:

3.20

Priority:

Medium

User Story:

As a user, I want to view the top N populated capital cities in the world where N is provided by me.

ID:

3.21

Priority:

Medium

User Story:

As a user, I want to view the top N populated capital cities in a continent where N is provided by me.

ID:

3.22

Priority:

Medium

User Story:

As a user, I want to view the top N populated capital cities in a region where N is provided by me.

ID:

3.23

Priority:

High

User Story:

As a user, I want to view the population of people, people living in cities, and people not living in cities in each continent.

ID:

3.24

Priority:

High

User Story:

As a user, I want to view the population of people, people living in cities, and people not living in cities in each region.

ID:

3.25

Priority:

High

User Story:

As a user, I want to view the population of people, people living in cities, and people not living in cities in each country.

4. Additional Queries:

ID:

4.1

Priority:

High

User Story:

As a user, I want to view the population of the world.

ID:

4.2

Priority:

High

User Story:

As a user, I want to view the population of a continent.

ID:

4.3

Priority:

High

User Story:

As a user, I want to view the population of a region.

ID:

4.4

Priority:

High

User Story:

As a user, I want to view the population of a country.

ID:

4.5

Priority:

Medium

User Story:

As a user, I want to view the population of a district.

ID:

4.6

Priority:

Medium

User Story:

As a user, I want to view the population of a city.

5. Language Report:

ID:

5.1

Priority:

High

User Story:

As a user, I want to view the number of people who speak Chinese, English, Hindi, Spanish, and Arabic, from greatest number to smallest, including the percentage of the world population.

6. Testing and Quality Assurance:

ID:

6.1

Priority:

High

User Story:

As a user, I want to implement suitable unit tests, so that we can ensure individual components work correctly.

ID:

6.2

Priority:

High

User Story:

As a user, I want to implement integration tests, so that we can verify different parts of the system work together.

ID:

6.3

Priority:

High

User Story:

As a user, I want to set up tests to run on GitHub Actions, so that we can automate our testing process.

7. Deployment and Documentation:

ID:

7.1

Priority:

High

User Story:

As a user, I want to set up the deployment process, so that we can easily deploy our application.

ID:

7.2

Priority:

Medium

User Story:

As a user, I want to implement a bug reporting system, so that users can report issues they encounter.

ID:

7.3

Priority:

Medium

User Story:

As a user, I want to create comprehensive user documentation, so that users understand how to use the system effectively.