

Milestone 2

COSC2803 – Java Programming Studio 1

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GitHub repo link (Code)

Repository: <https://github.com/princekhadka900-hue/prince>

Builds in Codespaces:

```
mvn clean package -DskipTests=true -Dmaven.compiler.release=11
unset JAVA_TOOL_OPTIONS
java -jar target/global-vax-1.0.0.jar
```

Live Codespaces: <https://orange-succotash-7vj6vr6xxpqv3p64g-8080.app.github.dev>

Test URLs:

- <https://orange-succotash-7vj6vr6xxpqv3p64g-8080.app.github.dev/api/health>
- <https://orange-succotash-7vj6vr6xxpqv3p64g-8080.app.github.dev/api/indicators>
- <https://orange-succotash-7vj6vr6xxpqv3p64g-8080.app.github.dev/api/compare?antigen=MCV2&countries=Nepal,India&start=2019&end=2024>

Participant Information Form (PIF)

Project Title: Global Vaccination Initiatives Web Application

Purpose:

The key purpose of this Usability testing session is to evaluate the navigation flow, usability and clarity of vaccination data visualization shown in the *Global Vaccination Initiatives* web application. These finding will help improve how effectively different group of people such as student researches and general public can access interpret global immunization information.

Procedure:

Participants will be invited to see a prototype of the website and perform a small set of guided tasks. Then each participant will complete a survey which is design to gather feedback on usability and clarity. The entire session will take approximately 10min and can be do online or either in person. There will not be right and wrong answer the main aim of the survey is to observe how real users interact with the system and identify areas for improvement.

Confidentiality:

During the session we are not allowed to collect the the personal or sensitive information. All notes, user interaction and feedback will be only related to the website. All the collected information will be confidential and use only in the university project for the educational purpose. Participants' names or personal identifiers will not appear in any reports or presentations derived from this research.

Voluntary Participation and Consent:

Participation in this study is entirely voluntary. Participants may choose to withdraw at any stage of the session without any penalty or need to provide a reason. Choosing not to participate will not affect any relationship with the research team or the university. By agreeing to take part in this usability testing session, you acknowledge that you have read and understood the purpose and procedures of the study, that you voluntarily consent to participate, and that you understand how the collected data will be used withdraw at any time.

Usability Test Tasks

Each participant will complete the following tasks while being observed by the moderator.

1. User will use the navigation to the vaccination data page and locate MCV2 coverage for two countries.

Participants will use home page to reach the Vaccination data pages and identify the MCV2(Measles-Containing Vaccine, Second Dose) coverage between two countries according to their choice. This test will clarify the the navigation and data presentation support basic information retrieval

2. User will use filter to compare the data between the year 2019 and 2024

Participants will use the filter and apply time and category and compare the vaccination coverage between 2019 and 2024. And the moderator will observe and see the filter were resulting charts are easy to interpret.

3. It will help to identify which country have the highest zero-dose reduction.

The given dataset will determine the largest decrease in the country of zero-dose children.

4. Find the indicator definitions and revision year on the page.

Participants will locate supporting information such as indicator definitions and the dataset's revision year. This checks whether contextual data and metadata are easy to find and clearly linked to the visualizations.

5. Participant will download the data or chart and note the source and last update date

Moderator Guide

Moderator: Prince Khadka

Before Session: Welcome the participant, explain the test purpose, and assure them that the website is being tested, not them.

During Session: Observe navigation, ask open-ended questions such as 'What are you looking for?' or 'What do you expect to see next?'

After Session: Thank the participant and administer the post-test survey.

Post-Test Survey

Participants will answer the following questions after the test:

1. How easy was it to find the data you needed? (1–5)
2. How clear were the charts and labels? (1–5)
3. Did you understand the indicator definitions? (Yes/No)
4. How likely are you to use this tool again? (1–5)
5. What improvements would you suggest for the site?

References

1. World Health Organization (WHO) 2025, *Global Vaccine Action Plan*, viewed 3 November 2025, <https://www.who.int/teams/immunization-vaccines-and-biologicals/strategies/global-vaccine-action-plan>.
2. World Health Organization (WHO) & United Nations Children's Fund (UNICEF) 2025, *WHO/UNICEF estimates of national immunization coverage*, viewed 3 November 2025, <https://www.who.int/teams/immunization-vaccines-and-biologicals/immunization-analysis-and-insights/global-monitoring/immunization-coverage/who-unicef-estimates-of-national-immunization-coverage>.
3. Gavi, the Vaccine Alliance (2022) *Data – Health systems & immunization strengthening*, viewed 3 November 2025, <https://www.gavi.org/types-support/health-system-and-immunisation-strengthening/data>.