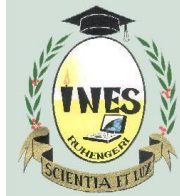


INSTITUT D'ENSEIGNEMENT SUPÉRIEUR DE RUHENGARI



Scientia et Lux

Accredited by Ministerial Order N°005/2010/MINÉDUC of 16 June 2010

27th February, 2025

TEST Case: Flood Emergency Response Advisor

Faculty: AFS

Department: Computer Science

Class: SWE A year3

Course: Artificial Intelligence

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INTRODUCTION:

This document highlights the test cases of our Flood Emergency Response Advisor (FERA) expert system that was built and tailored to the African context. The system features a very straightforward and simple-to-use user interface. After accessing the system, the user is supposed to check boxes that are relevant to his current situation and will get advice and information based on that. The system was built using Django with a web interface build in HTML, CSS, and a bit of JS.

1. Test Environment

- Platform: Web-based / Jupyter Notebook
- Input Method: Checkboxes
- Output: Alert Level and Recommended Actions

2. Test Cases

Test Case ID	Test Scenario	Input Conditions	Expected Output	Status
FERA_TC-01	User checks weather forecast	Heavy rainfall forecast is issued (>100mm)	ORANGE ALERT: Be prepared for evacuation	Pass
FERA_TC-02	User checks weather and water levels	Heavy rainfall (>100mm) and rising water levels	RED ALERT: Immediate evacuation recommended	Pass
FERA_TC-03	User encounters flooded roads	Roads are impassable	Advice: Avoid flooded roads and seek alternative routes	Pass
FERA_TC-04	User does not have access to clean water	Clean water is unavailable	Advice: Use purification tablets or boil water	Pass
FERA_TC-05	User's community is isolated	Community is isolated	Advice: Contact emergency services (112 or 115)	Pass
FERA_TC-06	User selects multiple critical conditions	Heavy rainfall, rising water levels, roads impassable, no clean water, community isolated	RED ALERT: Immediate evacuation + All relevant advice (avoid roads, purify water, contact emergency services)	Pass
FERA_TC-07	User selects no conditions	No checkboxes selected	No Alert Issued: Normal conditions	Pass

Conclusion

Each test case was conducted to make sure that the system satisfies user requirements and works as expected, proving that implementation was successful.