

**COMPUTER SCIENCE DEPARTMENT**

OBJECT ORIENTED PROGRAMMING

23217

**PROJECT DEFINITION**

For V2.0

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**GROUP’S INFORMATION**

Group 5: Edi-Sons

**PROJECT’S NAME**

“War Game”

**PROBLEM**

The War Gamesimulation currently lacks a structured and efficient system for tracking its progress and managing its key activities. The most pressing issues identified include:

* Difficulty in assigning roles and allocating resources, often leading to overlaps or gaps in responsibilities.
* Inefficient monitoring of ongoing tasks and critical events, resulting in delays and reduced situational awareness.
* Absence of a centralized timer or countdown interface, which hinders participants’ ability to manage and synchronize actions within the simulation’s time constraints.
* Limited traceability and reporting, which hampers post-simulation analysis and the evaluation of decision-making processes.

These deficiencies reduce the effectiveness of the simulation and weaken the required feedback, essential for improving emergency response strategies.

**OVERVIEW**

The War Game is a joint military simulation exercise designed to replicate emergency scenarios such as natural disasters (e.g., floods, earthquakes) or armed conflict. Its primary objective is to evaluate the operational readiness, coordination capacity, and procedural adherence of military units (and associated state entities).

Participants must act in accordance with pre-established protocols, report key events within specific timeframes, and collaborate with other governmental agencies, such as the National Police and the Secretariat of Risk Management.

**BACKGROUND**

1. **Emergency simulations**

Simulations like the War Game are essential tools for preparing institutions to respond to high-risk events, such as potential natural or human-made threats. These exercises allow civil, military, and governmental bodies to test their reaction time, interoperability, and command structures in controlled environments. According to organizations such as the United Nations and the International Red Cross, such simulations are critical for:

* Improving coordination across agencies.
* Identifying procedural weaknesses before real crises occur.
* Reinforcing trust and communication channels between institutions.

1. **Process Automation in Emergency Management**

Automation plays a vital role in improving decision-making during emergency scenarios. It reduces the margin of human error, allowing:

* Faster role assignment and resource deployment.
* Real-time monitoring of field operations.
* Automated event logging, improving traceability and accountability.

With our code, it's possible to perform tasks such as role assignments, activity monitoring, and real-time event logging. This is especially useful in "War Game" simulations, where every second matters, as multiple institutions are involved.

The use of our software looks up for improving the traceability of actions and allow the issuance of detailed reports at the end of the exercise, providing speed, precision, and centralized control.

1. **Information Systems for Security and Defense**

Information systems for national defense and security are developed under criteria of accuracy, confidentiality, interoperability, and high availability. In simulations such as the "War Game," these systems must integrate with platforms from entities such as the National Police, the Armed Forces, or the Secretariat of Risk Management. An appropriate software architecture can ensure that alerts, reports, and decisions flow in a structured and efficient manner among the stakeholders involved.

1. **Importance of monitoring and reporting**

In simulated and real-life scenarios, constant monitoring of actions and proper event recording are essential elements for evaluating institutional performance. An automated system can record each reported event, time its response, and generate final reports that identify strengths and weaknesses in the procedures followed by staff.

**ANALYST COMPARISON**

The project aims to design a management system that solves the specific problems of the War Game simulation. The system will:

* Enable structured assignment of roles and distribution of resources.
* Improve event tracking and data collection during the simulation.
* Support real-time coordination among authorities and stakeholders.
* Provide comprehensive reports.

Ultimately, the solution will enhance operational readiness, streamline decision-making, and strengthen inter-institutional coordination during emergency simulations.