

1. COVER PAGE

Project Name: ResiliAI Engage: The AI-Powered & Gamified Disaster Response Platform

Submitted for: ServiceNow University Hackathon India 2025

Problem Statement: Enhancing Community Preparedness and Response to Disasters.

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3. SUBMISSION ESSENTIALS

Problem Statement: Enhancing Community Preparedness and Response to Disasters.

Summary: During natural disasters, coordination among authorities, volunteers, and citizens is fragmented, causing delays and inefficient resource allocation. Our solution unifies these efforts in a single, automated ServiceNow platform. We aim to solve this critical challenge by providing real-time situational awareness, intelligent

Innovation:

- **AI-Powered Situational Synthesis:** Our Generative AI engine transforms chaotic, unstructured reports (e.g., social media, citizen submissions) into concise, actionable "Situational Awareness Reports," solving information overload in real-time.
- **Gamified Community Engagement:** We uniquely integrate gamification (points, badges, leaderboards) to incentivize consistent citizen reporting and rapid volunteer task completion, fostering a proactive and resilient community.

4. SOLUTION DETAILS

Team Name: SixNow Coders

College Name: Pragati Engineering College, Surampalem, AP

Team Members & Roles:

1. **Rajeev Boddu** - Team Leader & Solution Architect
2. **Yarlapati Venkata Naga Durga Varun** - ServiceNow Developer (Back-end)
3. **Sabbarapu Kumar Ganesh** - ServiceNow Developer (Front-end)
4. **Jenna Meghanadh** - AI/NLU Specialist
5. **Vignesh Mullangi** - Data & Reporting Specialist
6. **Vennapu Lingeswara rao** - Quality Assurance & Documentation

Chosen Problem Statement

- **Chosen Problem:** Enhancing Community Preparedness and Response to Disasters.
- **Why this challenge matters and what core issues exist:** Real-time information sharing and task management are critically important for effective disaster response, especially in regions prone to natural calamities like India. The core issues are:

- **Slow Aid Distribution:** Manual reporting and resource request processes cause critical delays in delivering vital aid to affected populations. Authorities lack real- time, consolidated visibility into on-ground needs, leading to suboptimal and reactive deployment of volunteers and supplies.
- **Low Community Engagement:** Without clear incentives or recognition, consistent citizen reporting and volunteer participation can be challenging to sustain.

Proposed Solution:

Our solution, "**ResiliAI Engage: The AI-Powered & Gamified Disaster Response Platform**," is a comprehensive ServiceNow platform that acts as a central nervous system for disaster response. It transcends basic communication and task management by leveraging Generative AI as a cognitive assistant to intelligently orchestrate the entire process, from a citizen's initial report to a coordinated, real- time response, **further enhanced by a dynamic gamification engine to drive sustained community engagement.**

- **AI-Powered Situational Awareness:** The platform's core is an intelligent AI engine. Citizens and volunteers can submit incident reports via simple **Forms** on a custom **Service Portal** or **Mobile App**. This AI then uses **Generative AI** to aggregate and synthesize unstructured data from these reports and other sources (e.g., simulated social media feeds, weather alerts).
- **Gamified Community Engagement:** To foster sustained participation and resilience, our platform incorporates a dynamic gamification engine. Citizens earn points and badges for submitting high-quality incident reports, especially those with verified photos/videos. Volunteers are rewarded with points, badges (e.g., "First Responder," "Lifesaver"), and recognition on leaderboards for accepting and completing critical tasks, reaching milestones, or contributing significant hours. This incentivizes active involvement and builds a sense of community achievement.

5. IMPLEMENTATION PLAN

Our implementation plan is meticulously phased to ensure a functional and compelling prototype can be built efficiently within the hackathon timeframe, demonstrating the core innovations.

Phase 1: Foundation (15% of time)

- **Objectives:** Set up custom tables, portals, and basic reporting logic.
- **Key Tasks:**
 - Provision ServiceNow Personal Developer Instance (PDI).
 - Create **Custom Tables** for Incidents, Volunteers, Tasks, Resources, and Gamification_Metrics (e.g., points, badges).
 - Build the foundational **Service Portal** for citizen reporting and volunteer sign-up, including basic **Forms**.
 - Develop a simplified **Mobile App** interface for on-the-go reporting.

Phase 2: Core Workflows (50% of time)

- **Objectives:** Implement incident lifecycle management, task creation, assignment, and basic gamification.
- **Key Tasks:**
 - Implement **Flow Automation** to manage incident lifecycle, task creation, and assignment based on predefined rules.
 - Set up automated **Notifications** for alerts to citizens and task updates for volunteers.
 - Integrate gamification: points awarded upon report submission/task completion via Workflow automation

Phase 3: AI & Innovation Mock-up (25% of time)

- **Objectives:** Demonstrate core AI and advanced integration capabilities.
- **Key Tasks:**
 - **Generative AI Engine Mock-up:** This will be demonstrated via a script or Business Rule. When sample incident data is submitted, this script will be triggered to generate a pre-written, intelligent "Situational Awareness Report" and "Task Recommendations" in a journal field on the Incident record. This effectively simulates the AI's synthesis and planning capabilities.

Phase 4: Polish & Presentation (10% of time)

- **Objectives:** Finalize UI/UX, dashboards, and prepare for demo.
- **Key Tasks:**
 - Finalize the **Dashboards** to visually represent incident reports, volunteer engagement, resource allocation, and **gamification leaderboards**.
 - Prepare a compelling demo video showcasing the end-to-end flow from a citizen reporting an incident to the AI generating a plan, a volunteer receiving a notification and earning points/badges.

Tools and Technologies

- **ServiceNow Modules:** Our solution will primarily utilize **App Engine Studio** (for custom application development), **Service Portal**, **Flow Designer** (for Workflow Automation), **Mobile App**, **Custom Tables**, **Notifications**, and **Dashboards & Reporting**.
- **Add-ons and Integrations:** We will leverage **IntegrationHub** to simulate external data ingestion (e.g., social media, weather alerts) and a mocked-up API for the Generative AI engine.

6. TEAM STRUCTURE

Role Assignment

Our team of 6 members is strategically assigned to maximize efficiency and expertise across all development phases.

- **Team Leader & Solution Architect:** Oversees overall project vision, coordination, and ensures alignment with the problem statement and ServiceNow capabilities. (Leverages CSA & CAD certifications for architectural understanding).
- **ServiceNow Developer (Back-end):** Focuses on core workflows, **Custom Tables**, and server-side logic, ensuring robust data management and process automation, including gamification mechanics. (Utilizes CAD certification).
- **ServiceNow Developer (Front-end):** Focuses on the **Service Portal** and **Mobile App** interface, ensuring an intuitive and engaging user experience, including gamification visuals. (Utilizes CAD certification).
- **AI/NLU Specialist:** Designs the AI logic, configures NLU models, and implements the Generative AI mock-up for intelligent synthesis and planning.
- **Data & Reporting Specialist:** Focuses on setting up dynamic **Dashboards**, analytics, and ensuring the data model supports key performance indicators for effective command and control, including gamification metrics.
- **Quality Assurance & Documentation:** Ensures the solution's functionality, identifies bugs, and compiles the comprehensive submission documentation and demo script.

7. WORKING PROCEDURE

This section outlines the step-by-step flow of "ResiliAI Engage" in action, demonstrating how AI and gamification are seamlessly integrated into the disaster response process.

Step 1: Citizen Reports Incident (Gamified)

- **Flow:** [Citizen] → [Mobile App/Service Portal Form] → [Incident Record Created] → [Gamification: Points Awarded]
- **Details:** A citizen submits an incident report (e.g., "flooding on Main St.") via the intuitive **Mobile App** or **Service Portal**, including location, description, and optional photo/video. Upon submission, the citizen is immediately awarded points for their proactive contribution, encouraging future reporting.

Step 2: AI Synthesizes Situational Awareness

- **Flow:** [Incident Record & External Data] → [AI Engine (Script/Business Rule)] → [Situational Awareness Report Generated]
- **Details:** Our AI engine (simulated via script) aggregates data from the incident report and mock external feeds (e.g., social media, weather alerts).

Step 3: AI Generates Response Plan & Task Orchestration

- **Flow:** [Situational Awareness Report] → [GenAI] → [Optimal Response Plan] → [Workflow Automation]
- **Details:** Based on the AI's synthesized report, Generative AI dynamically generates an optimal response plan (e.g., "Dispatch medical team to X, search-and-rescue to Y"). This plan is then automatically translated into actionable tasks.

Step 4: Intelligent Task Assignment & Gamified Dispatch

- **Flow:** [Response Plan Tasks] → [Workflow Automation] → [Volunteer/Authority Task Assigned] → [Notification] → [Gamification: Badges/Bonus Points]
- **Details:** Tasks are automatically assigned to the most suitable volunteers/authorities (based on skills, location) via **Flow Designer**. Upon accepting a high-priority task, volunteers are awarded "First Responder" badges or bonus points, incentivizing rapid action.

Step 5: Real-time Tracking & Gamified Updates

- **Flow:** [Volunteer/Authority] → [Mobile App Task Update] → [Dashboard Update] → [Gamification: Points/Badges for Completion]
- **Details:** Volunteers update task status on the **Mobile App** (e.g., "En Route," "Resolved"). This real-time feedback updates the central **Dashboard** and awards further gamification points/badges upon task completion, reinforcing positive action and tracking overall community contribution.

Step 6: Centralized Monitoring & Analytics

- **Flow:** [Manager/Authority Logs In] → [Dashboard Access] → [View Alerts, Trends, Gamification Leaderboards]
- **Details:** Authorities use the dynamic **Dashboard** for a single-pane-of-glass view of incidents, resource allocation, and volunteer engagement, including prominent gamification leaderboards. This provides comprehensive insights for effective command and control, and for recognizing top contributors.

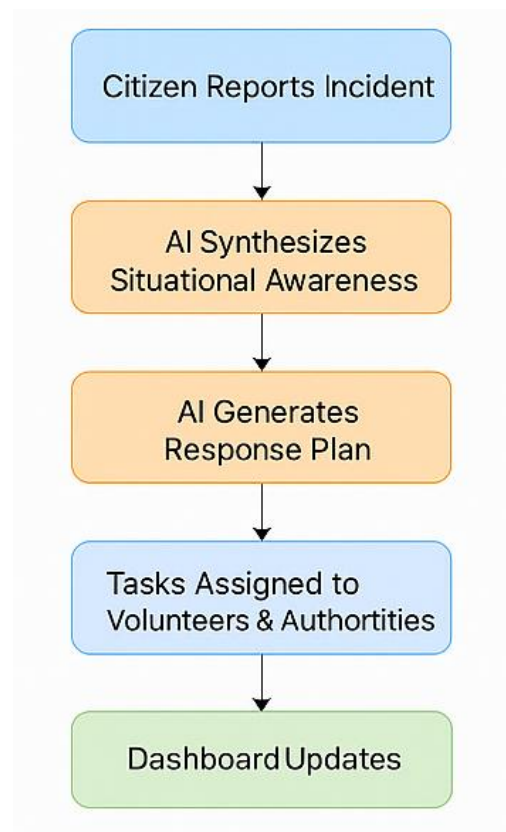
8. VISUAL AIDS

We will include the following visual aids to enhance clarity, creativity, and demonstrate feasibility:

- **Flowchart: End-to-End Disaster Response Orchestration**

Purpose: This flowchart will visually map the entire journey of an incident within ResiliAI Engage, citizen report to AI-driven task assignment, gamification updates, and resolution. It will clearly show the seamless flow of information and actions.

Impact: This diagram will demonstrate the clarity and feasibility of our automated processes, highlighting how the AI and gamification seamlessly integrate into the workflow to ensure rapid and coordinated response.



Dashboard Visual: Real-time Incident Command Centre with Leaderboard

- **Purpose:** This visual will present a compelling view of the **Dashboards** available to authorities. It will feature a map-based interface displaying real-time incident locations, color-coded by severity, alongside live metrics on volunteer engagement, resource allocation, **and a dedicated section for the gamification leaderboard.**
- **Impact:** This dashboard immediately conveys the **impact** and **innovation** of ResiliAI Engage by showing how authorities gain a single-pane-of-glass view for effective command and control, enabling data-driven decision-making and recognizing community heroes during a crisis.

9. REFERENCES

- Hackathon Problem Statements.pptx
- Hackathon Submission Template_V1.docx