

Coding/Programming Advanced Category

(18 - 25 Years Old)



The Premium Supporters/Partners of STEM Festival Port Harcourt 2024



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Summary for Emergency Response App: Coding Advanced Category Competition

This document outlines the competition rules for the STEM Festival Advanced Category, focusing on the development of an "Emergency Response App." Participants in this category, aged 18-25 years, are challenged to create a mobile or web application that provides real-time guidance on performing emergency first-aid procedures, including CPR, and facilitates quick communication with rescue services. This competition encourages participants to leverage their advanced skills in mobile/web development, user experience design, and healthcare knowledge to address the critical issue of emergency response in urban environments.

Key Points:

- **Participants:** Ages 18-25 years.
- **Objective:** Create an emergency response app that provides real-time first-aid guidance and connects users to rescue services.
- **Duration:** 2 to 3 months for development and testing.

Ethics Code for Teams:

- Participating and learning are more important than winning the prizes.
- Teams are encouraged to learn and master new skills while having fun together.
- It is not whether you win or lose, but how much you learn that counts.
- Join the global community of inventors and practical problem-solvers across Africa and the globe at STEM Festival.

STEM Festival Team

Safe Cities

Coding Advanced Category (18 - 25 years old)

Category Focus: **Emergency Response App**

Introduction:

Dedicated to **Jnr Pope**, a beloved Nollywood star whose life was tragically lost due to drowning and the absence of proper emergency response.

Welcome to the Advanced Category of the STEM Festival, where participants are invited to develop innovative solutions for critical urban challenges. In this category, participants will focus on creating an Emergency Response App that offers real-time first-aid guidance, particularly for situations like drowning, and ensures quick access to emergency services. This initiative aims to improve immediate response times and outcomes in emergency scenarios.

Mission:

The mission for participants in the Advanced Category is to design and develop a mobile or web application that serves as an effective tool for emergency response. By incorporating real-time instructions and connectivity to emergency services, participants will create a platform that enhances public safety and saves lives.

Tasks:

1. User Registration and Emergency Contacts:

- Develop a user-friendly registration system that allows users to set up personal profiles and input emergency contacts.
- Enable users to store critical health information that can be accessed during emergencies.

2. Real-Time First-Aid Guidance:

- Implement interactive and easy-to-follow tutorials for performing CPR, the Heimlich maneuver, and other emergency procedures.

- Use multimedia elements such as videos, animations, and voice instructions to enhance understanding and execution of first-aid techniques.

3. Emergency Communication:

- Integrate features for quickly contacting local emergency services, such as a one-touch SOS button.
- Allow the app to automatically send the user's location and critical information to emergency contacts and rescue services.

4. Incident Reporting and Tracking:

- Develop a system for users to report incidents and track the status of their emergency requests.
- Provide real-time updates and estimated arrival times for emergency responders.

5. Community and Training Resources:

- Create a section within the app for accessing educational materials on first-aid and emergency preparedness.
- Implement features for users to sign up for first-aid training courses and community safety programs.

Sample Image



Design Tools/Programming Software (Your Free Choice):

- **Front-End Development:**
 - HTML, CSS, JavaScript, React Native for mobile interfaces.
 - Swift for iOS, Kotlin for Android for native app development.
- **Back-End Development:**
 - Python, Node.js, Java for server-side processing and database management.
- **APIs and Libraries:**
 - Google Maps API for location tracking.
 - Twilio for SMS and call functionalities.

Earning Points/Scoring:

Section 1: Real-Time First-Aid Guidance

Criteria	Description	Points Awarded (Max: 30)
Clarity and Accuracy	Effectiveness of the instructions and accuracy of the first-aid guidance provided.	30

Section 2: User Registration and Emergency Contacts

Criteria	Description	Points Awarded (Max: 20)
Usability and Accessibility	Ease of use and accessibility of the registration system and emergency contact features.	20

Section 3: Emergency Communication

Criteria	Description	Points Awarded (Max: 25)
Speed and Reliability	Efficiency and reliability of the communication features, including location tracking and emergency contact.	25

Section 4: Incident Reporting and Tracking

Criteria	Description	Points Awarded (Max: 15)
Transparency and Updates	Effectiveness of incident reporting and the provision of real-time updates and tracking information.	15

Section 5: Community and Training Resources

Criteria	Description	Points Awarded (Max: 10)
Educational Value and Engagement	Quality and engagement level of the training resources and community safety programs offered within the app.	10

Bonus Points:

- Judges may award bonus points for exceptional performance, unique functionalities, or innovative solutions beyond the core requirements. (Up to 10 points)

Overall Comments and Conclusion:

Participants are encouraged to develop an Emergency Response App that prioritizes usability, reliability, and real-time functionality. Emphasizing clear instructions, quick access to emergency services, and comprehensive user support will be crucial for creating a valuable and life-saving tool. Best of luck to all participants in developing their Emergency Response Apps!

