

Disaster App

Objective:

To develop a comprehensive mobile application to predict, alert and support users during natural disasters, ensuring user safety through timely alerts, real-time updates and active participation in relief efforts.

Features:

1. *Early Warning System*: Implement a disaster warning system that notifies users when a natural disaster is nearby, allowing them to take proactive measures for their safety.
2. *Government Portal*: Build a government portal to provide updates and relay official warnings. Only authorized government officials would be allowed to access this portal.
3. *Real-time Rescue Operation Updates*: Provide users with real-time updates on ongoing rescue operations, evacuation procedures and emergency services in their vicinity to enhance situational awareness.
4. *SOS Functionality*: Include an SOS feature that enables users to quickly send distress signals to emergency contacts, local authorities and nearby users of the app for immediate assistance.
5. *Relief Fund Donations*: Facilitate a seamless and secure donation process within the app, allowing users to contribute to relief funds supporting affected communities. Implement transparency features to showcase the impact of donations.
6. *Community Collaboration*: Integrate features that foster community collaboration for better disaster preparedness.

Brownie Points:

1. *Progress/Activity Tracking*: Enable users to track the utilization of funds and planned future activities.
2. *Crowdfunding Facility*: Provide a crowdfunding feature for users wishing to organize philanthropic events during natural disasters.
3. *Multilingual Support*: Offer multilingual support to cater to diverse user communities, especially in areas prone to natural disasters.

Evaluation Criteria:

1. User Interface and Experience
2. Accuracy and Timeliness of Alerts
3. Integration with Government Warning Systems
4. Effectiveness of SOS Feature
5. Transparency and Security in Donation Process
6. Overall Impact on Community Resilience

Additional Resources : <https://reliefweb.int/help/api>

LinguaConnect

Objective:

To design and develop an interactive online platform that connects language learners with teachers for personalized online lessons by offering a platform where learners can choose a tutor based on their target language, fluency, budget and schedule.

Features:

→ A user must be able to register themselves as a tutor (for a set of languages) or a student.

For students:

→ Implement a tutor search feature where students can filter by language, experience and pricing.

→ Add a scheduling feature where students can choose to learn from available time slots for a given tutor. Also add the option to choose from various lesson lengths such as 45, 60 or 90 minute sessions.

→ Implement a section where a student can store flashcards for a particular language. Design options to add and remove flashcards and review them whenever needed.

For tutors:

→ Tutors should be able to set up classes based on their availability. Classes will be set according to time slots.

→ Tutors should be able to set their own pricing. Add the option to charge different prices based on the level of teaching.

General:

→ Design a one to one video call feature through which the classes will be conducted. The tutor and the student should be able to share their screens to discuss and share ideas.

→ Implement a subscription based payment model. For a student, this should be the final part when selecting a tutor.

Brownie Points:

→ Implement a feature that'll allow tutors to broadcast a live session to multiple students. The scheduling of such a session will be decided by the tutor. Students must receive appropriate notifications regarding such a session.

→ Implement a feature that'll allow tutors to assess students by arranging personalized tests for each student. Upon completion, the tutor should be able to send appropriate feedback for each question to the student. Additionally add a section where a student can review past tests.

Test Formatter

Idea: A site where students can upload pdf of question papers of exams such as JEE and get an online mock for the same question paper. It can also be used by different institutes to conduct online assessments.

Resource: Tool to perform Optical Character Recognition(OCR) with API <https://ocr.space>.

Features:

1. *Test Generator*: Users can upload a PDF/Image and get an online mock assessment(text only) of the same with an option to upload an image for each question.
2. *Answer Key*: The user can upload the PDF/Image of the answer key along with the question paper and get their attempt corrected automatically.
3. *Timer*: Add a timer so that the user can track the remaining time while attempting the mock.
4. *Tool*: Users can directly make a manual online assessment(text and image) without needing a PDF.
5. *Social Space*: Users can make their test public and different users can attempt and discuss it.
6. *Test Review*: Create an interface to review and finalize the test before making it public.
7. *Analytical Side*: Analysis of the attempt with different fields of information such as time spent on a question and on a subject(Physics, Chemistry, Maths), Time wasted on a question, total score, negatives, comparison with peers, etc

Brownie Points:

1. *Image Extraction*: Automatic image extraction from the pdf and correct alignment with the associated question.
2. *Personal Space*: Users can add friends and form groups with them.

3. *Wider support:* Support for different formats not limited to just JEE exam.
4. *Ratings:* Allow people to upvote a public test to distinguish between the good and bad tests uploaded.