KONERU LAKSHMAIAH EDUCATIONAL FOUNDATION

(DEEMED TO BE UNIVERSITY)

Department of **COMPUTER SCIENCE & ENGINEERING**

Presents

K L HACKLEAGUE

DOMAIN: ENVIRONMENT

*Note: The participating team can extract more constraints and create more options to make the design availed with many viable operations.

Sample Abstract Format

Domain of the problem: **Team Leader:**

Team Name: **Type: Own/Given Statement**

College Name:

Problem Statement

Solution/Idea for the above Problem Statement.

Technology Stack Used

Use Case (If Any)

1. **Statement:** Develop a strategic means to identify filled up dustbins and inform the concerned bodies to empty them.

Domain: Environment

Description: Dustbins with sensors are already available in the market. But it is observed that the sensors cannot work to that extent when it comes to wet waste (the sensors get spoiled in the process of accumulating the wet waste). Hence the Government of India is in need for an alternative to empty the dustbins in a cleaner way. This alternative must be useful in notifying the concerned authority regarding the level upto which the dustbins are filled and help them empty the dustbin once it is full.

Constraints:

→ The design should be sending the notifications to the concerned authority which is responsible for emptying the dustbins.

→ The dustbin should notify the authority with its identification number, place and area.

→ The design should contain an access to the concerned authority to alter the updates and notifications of the responsible workers in that particular area or region.

→ This must suggest the number of dustbins to be put up in addition to the present ones.

→ The design must also work efficiently in remote areas.

→ The implementation should also locate the nearest place to dump the collected waste.

2. **Statement:** Design an app that deals with monitoring cleanliness and reporting to the concerned local bodies in case of unhygienic environment.

Domain: Environment

Description: India, known for cultural diversity, is also known for maintaining the unhygienic environment. For that scenario and perspectives needs to be changed, an app you design must contain such options where the person can submit their grievances online and know the progress of the actions to be taken by the concerned authority.

Constraints:

→ The app must provide both grievance handling and also redressal facility only notified to the concerned user who made the grievance.

→ The user interface of the app should be interactive and also be available in every language with which the user is comfortable with (India) with having a perspective in bigger picture even.

→ The app must also display the statistics of grievances and their effective handling measures taken to every hierarchical level of administration bodies and officials.

→ User friendly interfaces and design are preferred.

→ You can employ any kind of service into your implementation to handle the grievances where you must address remote area people after the grievance is made online.

3. Statement: Design a solution to handle smart waste management.

Domain: Environment

Description: We are burning plastics and other harmful materials thinking nothing's going to happen to us. That negligence is one of the major causes to Global Warming. Develop a solution to enlighten people with various factors that affect the earth's atmosphere or the human health. For example, it can be done based on different facts consisting of various statistics explaining the future effects.

Constraints:

→ The design must show the volume of wastes generated under their particular category from particular place.

→ The design must also show possible utilisations of the waste for further purposes and the possible outcome that will be generated from that waste.

→ Develop a portal where public and concerned government bodies where they are liberated to express their views about this mission that is been taking place in their locality.

→ The data must be available to the authorised users only.

→ Employ the ranking system for each city/town/village based on the measures how they are generating the outcomes (generation of renewable resources) from each category of the waste obtained.

4. Statement: Provide methodologies for cultivation in the agricultural sector.

Domain: Environment

Description: India is an agricultural country where most of the production is based on agricultural products backing the economy. There are many technologies that provide support to the farmers with different features related to their work. Many of these technologies lack to provide proper assistance to set of people who are not used to such kind of technologies. Create a design where it can provide the assistance that can enhance the agricultural production in the country by exposing them to different methodologies in field of agriculture that would help farmers to yield better crops.

Constraints:

→ The design must include the classification based on each kind of crop in every aspect, based on soil, water, weather, etc.

→ It should contain an option of giving input where the design will give the predictions or also give the suggestive measures.

→ It is recommended that the design must concentrate on getting accurate data which should be referred from real time government database.

→ The output to the user can be availed in form of a video, audio or text document based on sources that are available.

→ The suggestions that are acquired in form of source should be only from authorized person or the dignitaries that are assigned.

→ The design must redirect the suggestions from the nearby located area with the relevance of crops grown in that area.

→ Integrate NLP and speech analysis to perform the analysis for the inputs that are being provided by the area.

→ The design should also be able to predict the details of harvest duration of the crop.

5. **Statement**: Design the detection of harmful gases and giving solution to the public.

   Domain : Environment

Description: Pollution has always been the problem in the current world we live. Where there are many harmful gases present damaging the atmosphere. A device must be introduced where it can detect the gases that are harmful to the atmosphere to provide the data and the solutions required to avoid this problem.

Constraints:

→ The device must be able to detect the possible gases harmful to the   surroundings.

→ The data acquired must be directed to the government authorities to take further precautions needed

 → It should also be able to suggest the alternative measures to be taken that can reduce amount of harmful gases.

→ The areas identified as prone to that kind of harmful gases must be spotted and reported as harmful zones.

→ The device must predict the type of trees that can lead to decrease the amount of one specific gas and also the number of trees.

6. **Statement**: A feasible platform for disaster relief donation.
   Domain : Environment.

Description: For the effective and efficient relief of disaster. There should be platform where all the statistics of the tragedy must be updated where the information can be shared through the application .With this the information can be known to most of the people not just in India but across the world.The interested people may donate through the application itself .

Constraints:
   → The solution design in such a way that the donated money should be transparent to the public.

   → The solution design must send the alert messages through out worldwide.

   → The solution design must have live feed that should be taken from the media using AI and ML.
   → It should be able to display all the statistics of the incident that happened previously and also of that happening now.

7. **Statement:** To alert those people near the dams, about the release of dam water and also to manage the disasters by communicating with satellites.
   Domain : Environment.

Description: Design an effective solution to notify/ alert the people near the dams regarding the sudden release of dam water. Also the design should maintain a contact with satellites, and get to know about the near happening disasters and alert the villagers regarding those issues.

Constraints:
   → Cost effective and offline.

8. **Statement:** Introduce the mechanism which evaluate the harmful radiation levels in working environment on human society and suggest the possible measure to improve conditions.

Domain : Environment

Description: In the working environment where we are unaware of radiation levels. This can cause many health problems. There are no suggestive measures to stop radiation from emitting devices. We can avoid them by introducing such device where it reads the radiation levels and alert the people in that respective area. Through this we can save people from these radiations and health problems that occurs from it.

Constraints:

   → It should be able to read the radiation levels in the area.

   → It should show prevention techniques out of that situation of severity observed.

9. **Statement:** Design a solution for filtering pollutants which are emitted from vehicle exhaust pipe.

Description: In motor vehicles where they produce many harmful products through exhaust pipe. To prevent these products from introducing to atmosphere create a filtering mechanism where it filters different types of gaseous chemicals. The filter should be fixed to the exhaust pipe of a vehicle which is used as catalyst.

Constraints:

   → It should detect all the harmful gases.

   → It should find the best solution to reduce the amount of gases produced by the vehicles.

   → It should suggest the disposal techniques of the residue produced.

   → It should be able to find the alternative use of the residue.

10.Statement: Come up with a solution to detect and address the issue of oil spilling in oceans.

Description: Oil spills are majorly caused due to the spillage of oil from the damaged tankers and pipelines .The oil eventually stops floating on the water's surface and begins to sink into the marine, which will have a very adverse effects on the underwater ecosystems, killing or contaminating fish and smaller organisms that are essential links in the global food chain. The main aspect of the problem is that the applicant must come up with innovative ideas.

Constraints:

→ The solution design can be semi-automated or fully automated , to have minimum human involvement.

→ The solution design must be capable to filter the collected oil and should be made reusable

→ The solution design must identify the location of oil spill.

11.Statement : Develop a solution to establish a Industrial Water filter

 Description: There are tons of waste water released into the rivers and canals, and there are many inhabitants living across the river and canals .And usage of this water will be hazardous to the people living around. So to avoid such problems, the water must be filtered before it is led into the rivers .The applicant must design the solution that eradicates such issues .

Constraints:

→ The solution must be capable of acquiring chemical composition in the water content

→ The solution must be capable of eradicating the impurities in it.

→ The design must employ reports at each individual workplace sectors in the industry.

→ The user interface for this can make use of both the admin and user priviliges.