# AVS COLLEGE OF TECHNOLOGY

IDEATION PHASE

IOT-SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY

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# Problem statement

- Design Intelligent Wirelessly connected smart road signs capable of displaying different speeds for different weather conditions, traffic and route traffic through the quickest and safest possible way.
- PROBLEM 1: Rain makes brakes inefficient and leads to accidents
- PROBLEM 2: Fog reduces visibility and increases the probability of accidents
- PROBLEM 3: School Zone fags slow down traffic even when schools are closed/ operating
- PROBLEM 4 : Road quality varies over time but static road signs don't
- PROBLEM 5: Traffic diversion requires human intervention

# 2.BRAINSTORM

- Brainstorm Write down any ideas that come to mind that address your problem statement.
- AI based algorithms to predict weather from images every sign post measures surrounding traffic emergency vehicles passage and alerts Dynamic traffic sign capable of allowing peds to cross the road Fun things to display during red light traffic Yuvashree R AI based image

processing to detect rain/ wet roads School and hospital

# BRAIN STORM:

- zones dynamically set road signs speed vehicle based speed and lane display accident detection and diversion Timer displaying how much time for traffic toclear out
- Camera attached to every traffic sign to monitor traffic Schools timings set to road signs Camera monitors road quality and speed is assigned based on road quality Lane map so emergency vehicles can easilypass through traffic Remote view capability to plan route

- Using camera to measure visibility cloud server calculates speed for every point in map using open weather.

# GROUP IDEA:

- Group ideas Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.
- cloud server calculates speed for every point in map Using camera to measure visibility AI based algorithms to predict weather from images AI based image processing to detect rain/ wet roads Camera attached to every traffic sign to monitor traffic Camera monitors road quality and speedis assigned based on road quality using open weather api to get data on weather Remote view capability to plan route Schools timings set to road signs Fun things to display during red light traffic Dynamic traffic sign capable of allowing to cross the road every sign post measures surrounding traffic emergency vehicles passage and alerts vehicle based speed and lane display School and hospital zones dynamically set road

signs speed Timer displaying how much time for traffic to clear out accidentdetection and diversion Lane map so emergency vehicles can easily pass through traffic automatic traffic diversions sign color.

# PRIORITIZE:

- Prioritize Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.
- Feasibility Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.) If each of these tasks could get done without any difficulty or cost, which would have the most positive impact? Importance Schools timings set to road signs Fun things to display during red light traffic
- Dynamic traffic sign capable of allowing peds to cross the road signcolor change based on environmental lighting conditions School and hospital zones dynamically set road signs speed vehicle basedspeed and lane display Lane map so emergency vehicles can easily pass through traffic accident detection and

diversion

emergency vehicles passage and alerts automatic trafc diversions Remote view capability to plan route using open weather api to get data on