# AVS COLLEGE OF TECHNOLOGY

IDEATION PHASE

IOT-SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY

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# 1.Problem statement

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

processing to detect rain/ wet roads School and hospital

# 2.BRAIN STORM

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

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

# 3.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 trafc sign to monitor traffic Camera monitors road quality and speed is 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 trafc sign capable of allowing peds to cross the road every sign post measures surrounding trafc 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 trafc to clear out accident detection and diversion Lane mapper so emergency vehicles can easily pass through trafc automatic trafc diversions sign color.

# 4.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 difculty 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 trafc sign capable of allowing peds to cross the road sign color change based on environmental lighting conditions School and hospital zones dynamically set road signs speed vehicle based speed and lane display Lane mapper so emergency vehicles can easily pass through trafc 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