The problem I’m choosing is resource tracking for emergency response management. EMS needs quick access to resources like medical supplies or personel.

The current solutions are a road map from The Federal Emergency Management Agency (FEMA) that helps local governments manage their resources. There’s also a disaster management software called Crisis Track that not only helps manage resources but also helps with damage assessment.

I chose this problem because I felt that being able to track and move resources fast and efficiently during emergencies can help save lives or minimize the emergency. Hopefully making just a part of the process that ems uses faster, will improve response times as a whole.

For my solution on making an emergency response resource management program. I would like to have emergency responders track needed resources in real time during disasters or other emergencies. I also want it to have an alert for when resources need to be restocked or are available. It would also need to have Inventory management for the alert. I want my program to not only be used for local governments or agencies but also be used in households.

EMS program

\\keep track of resources

function resource(type, quantity, location):

If type not in resources:

Resources = []

\\alerts for resource

Function resourceStatus

If resource == 0L:

Display alert (resourcetype, out of stock)

If resource < minimum:

Display alert (resourcetype, running low)

//resource availability

Function resourcesAvailable

Function AssignAmbulance(ambulances, call, trafficData):

# Step 1: Find available ambulances

availableAmbulances = GetAvailableAmbulances(ambulances)

# Step 2: Calculate estimated time to reach the call for each ambulance

bestAmbulance = null

shortestTime = infinity

For each ambulance in availableAmbulances:

estimatedTime = CalculateTime(ambulance.location, call.location, trafficData)

If estimatedTime < shortestTime:

bestAmbulance = ambulance

shortestTime = estimatedTime

# Step 3: Assign the ambulance and update its status

UpdateAmbulanceStatus(bestAmbulance, 'on the way')

SendRouteToAmbulance(bestAmbulance, call.location)

# Step 4: Notify hospital with patient info

SendPatientInfoToHospital(call.location, bestAmbulance)

# Return the assigned ambulance

Return bestAmbulance

Findings

<https://www.fema.gov/emergency-managers/practitioners/recovery-resources>

<https://crisistrack.juvare.com/>

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[*https://go.openathens.net/redirector/pima.edu?url=https://www.proquest.com/scholarly-journals/impact-ambulance-diversion-on-ems-resource/docview/221114260/se-2?accountid=13194*](https://go.openathens.net/redirector/pima.edu?url=https://www.proquest.com/scholarly-journals/impact-ambulance-diversion-on-ems-resource/docview/221114260/se-2?accountid=13194)

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<https://www.juvare.com/webeoc/>

<https://pubmed.ncbi.nlm.nih.gov/9709336/>