

Disaster Warning & Management System

Part - II

- Usability Evaluation
 - Selected users
 - Performed heuristic evaluation
 - Noted the results
- Refinements to the System
- Final Product Design
- General Scenario
- Conclusion



Usability Evaluation

- Conducted 3 tests
 - An IIT student (Mr. Narsimha)
 - A medium-sized shopping mall
 - A residential society



Results of Usability Evaluation

- Problems
 - Camera in a public place may be mis-used
 - What about pranks?
 - Somewhat confusing to use 'coz of so many buttons
 - Can this be integrated with any other common device?
 - Might be costly to purchase & maintain




Refinements wrt Usability Evaluation

- The new system will now have hotline connections to DMP & CDMR, speaker system; camera is optional (and at purchaser's risk)
- Nothing much can be done with pranks; they can be caused anyways, thru other means
- The special buttons will have symbolic pictures and will be contrasted with a particular background color, to improve visibility



Refinements ... *Contd*

- The DIB is fully integrated with common PCO; no special lines will be required
 - Cost analysis:
 - Integrating speaker & and hotline mechanism with a PCO box will cost under Rs. 500/-
 - Govt. can make money by selling these units (can be made mandatory in sensitive/important public places)
 - Phone calls made from these units to cost cheaper (to attract usage)
- 

Overview of the Final Product

- Front-end – Disaster Information Box (DIB)
 - A PCO, with special buttons for signaling a disaster
 - A loud speaker
- Backend
 - DIBs connected to Disaster Management Points (DMP) e.g. police station, hospitals, fire stations, etc.
 - DMPs connected to a Central Disaster Management Room (CDMR)



Display screen/ advertisement space

DIB Hotline interface

PCO Dialling interface

Handset

Speaker for broadcast
of messages





FIRE

EXPLOSION

ACCIDENT

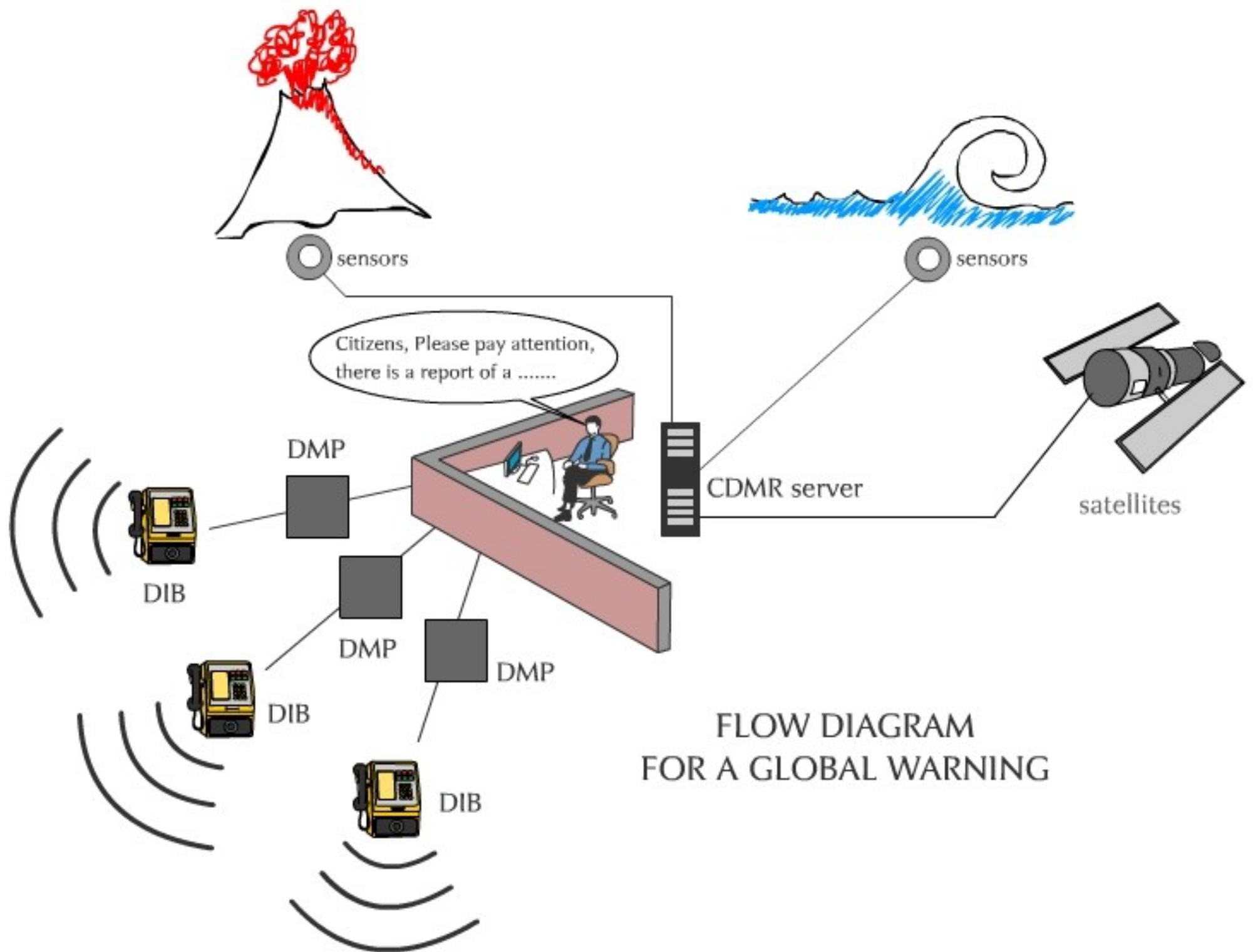
PATIENTS

COLLAPSES

HELP

Overview ...*Contd.*

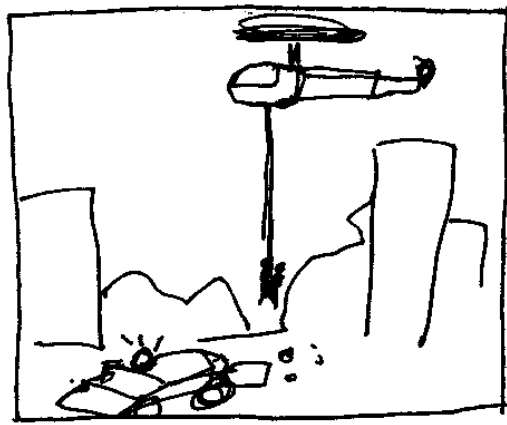
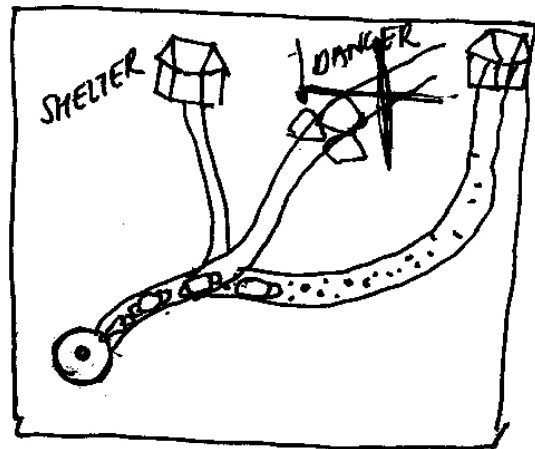
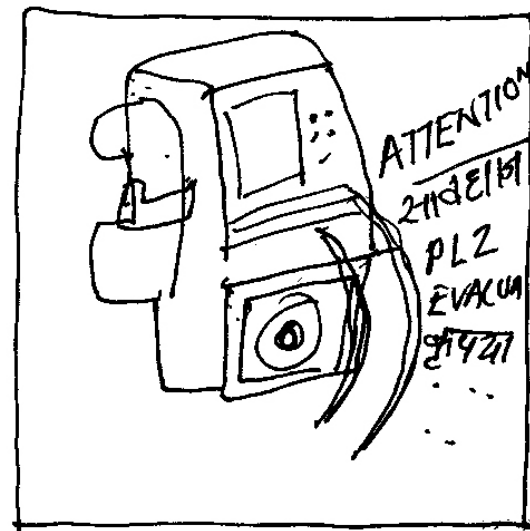
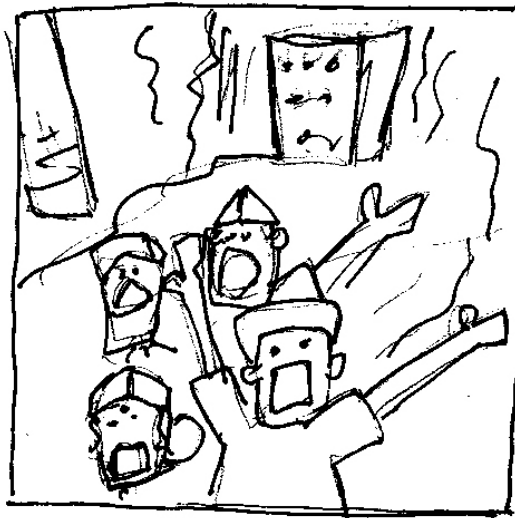
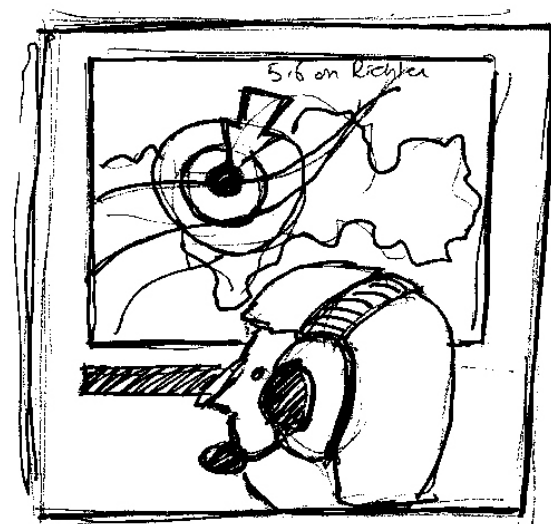
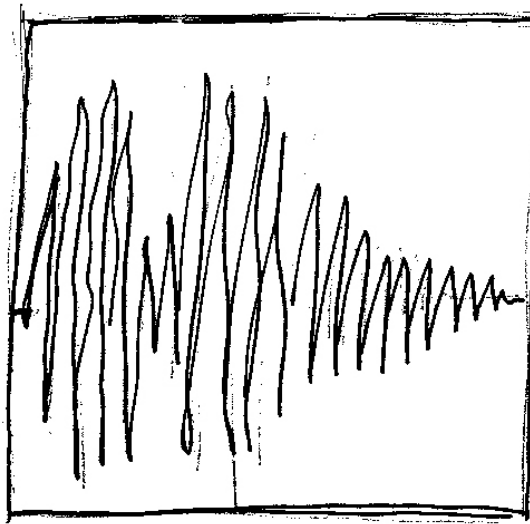
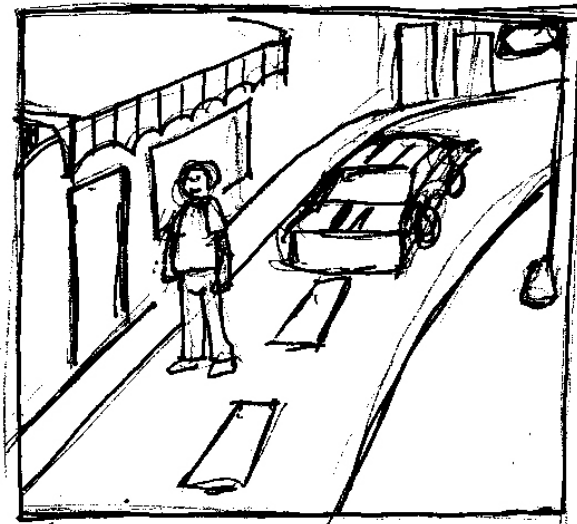
- CDMR having sophisticated sensors and communication infrastructure
 - Conducts regular training sessions
 - Advertisements are shown on television making people aware how to use the device in case of any neighbouring disaster !!
 - Provides data storage facility for any corporation / individual (paid service to generate revenue)
 - DMPs manned by trained officers, capable of managing disasters and coordinating with others
- 



Scenario for a Global Disaster

- CDMR senses incoming disaster *minutes / hours before its arrival*
- Instantaneous notification to DMPs, media, etc. with directions and proper information
- Starts to coordinate with transport agencies (bus, trains, etc.)
- Disaster hits with full force
- Specific announcements thru DIBs according to location; preventing sudden bottlenecks





Scenario ...*Contd*

- Buses and road routes ready at strategic points
- DMPs get continuous feedback of current situation
- People continuously informed of
 - Safe routes
 - Precautionary measures
 - Shelter places

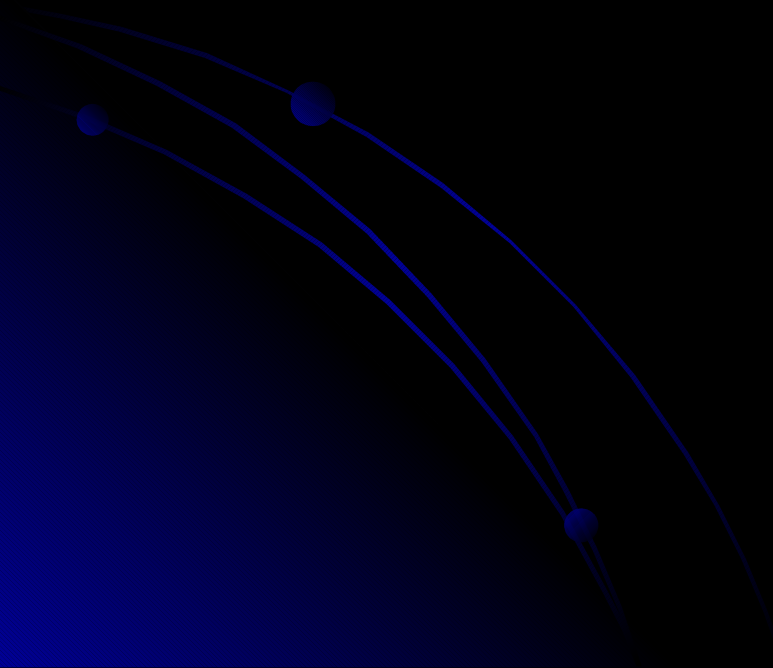


Conclusion

- Owing to quick response and help, countless lives can be saved
- We recommend the Government of India to implement this system
- Definitely NOT too costly to implement



THANK YOU



The Team

- **Rhushabh Goradia**
- **Anand Yeolekar**
- **Anjan Kumar**
- **Harikrishnan Panicker**

