APP DEVELOPMENT FOR SURVEY AND MONITORING

TD 390 (Technology and Development Supervised Learning)

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Problem Description - Surveys

❑ Survey collection is one of the important steps in any planning and development process

❑ Surveys often give us a rough idea about the population features. However, number of problems in the traditional survey collection model

❑ Is there a better way?

	Survey Development
Uses/Benefits	Getting adequate information about region of interest before any developmental process
	Regional assessment so as to provide cater to specific needs of rural population
	Enabling just distribution of resources depending upon vulnerabilities
Resources used	• Man Power • Loads of paper • Transport of forms • Time wastage • Electricity (PCs)
Potential problems	Data entry not properly done due to tedious process, loss of forms during transport and other such human errors causing wrong final results

Problem Description - Monitoring

- ❑ Project monitoring- the need of the hour

- ❑ Need to hold appropriate authorities responsible in order to eliminate any shortcomings

- ❑ Maharashtra government – Jalyukt Shivar Abhiyan (But lots of flaws)

- ❑ What can we do?

	Project Monitoring
Uses/Benefits	Keeping check on the overall process flow of any developmental process
	Remove any unwanted delays that might occur by providing adequate resources
	Accounting concerned people responsible for delays so as to increase overall efficiency
Resources used	• Man Power • Loads of paper • Time wastage
Potential problems	Faulty reporting, delay in generating report may lead to blame game scenario, with nobody actually completing the work

# Findings from the Site Visit

❑ Baseline survey conducted followed by specialized survey in some cases

❑ PRA tools used to arrive at expectations

❑ Each survey done with the help of volunteers, 12th passed students, who are familiar with android phones

❑ Lots of delay, inefficiencies in the entire process

❑ Scope for usage of modern technology

Description	Expenses
Form printing	Rs. 2000 – 3000
Volunteer wages	Rs. 4000 – 5000
Data processing	Monthly wages

Findings from the Site Visit

❑ Lots of manual work to be done

❑ Single computer, hence more delay

❑ Storing forms for future use is also a tedious job due to paperwork

❑ Forms lost here and there, tendency of error in results is high

❑ Important problem as it is causing lots of losses and errors
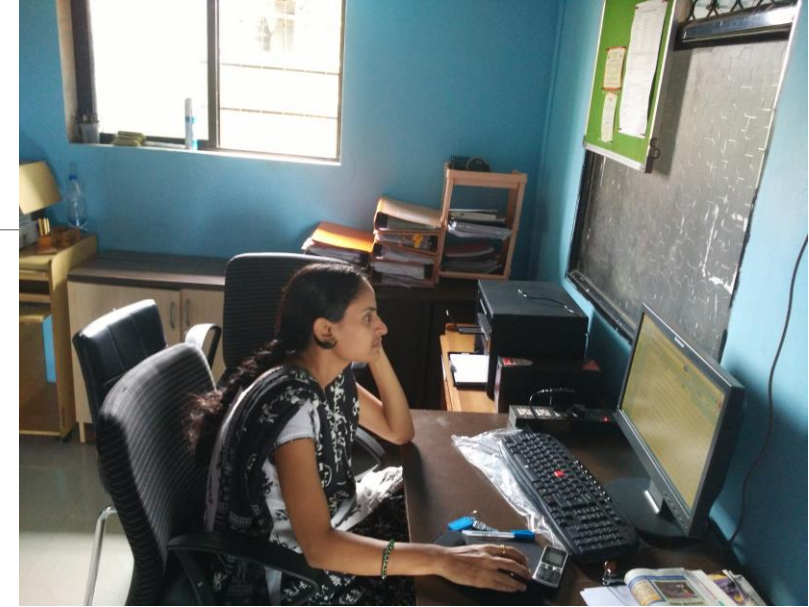
Proposed solution & Methodology

- ❑ ODK (Open Data Kit) - Open source set of tools which help organizations author, field and manage mobile data collection solution

- ❑ ODK based app for survey collection, compilation and analysis

- ❑ Database server are MySQL or PostgreSQL (Currently VM based)

- ❑ Volunteers to be given smartphones with app installed, thereby eliminating any paperwork

- ❑ No need for data entry as app directly linked to server and sends data to backend

Description	Projected
Form printing	Nil
Volunteer wages	Reduced
Data processing	Reduced

App design strategy

❑ Survey in Marathi, input taken in Marathi for convenience for the rural people

❑ Gives options to make field compulsory or not

❑ Support for multiple option, single option, text

❑ Barcode, GPS, Image, Video all can be taken as input

❑ Survey can be designed by ODK build and can be transferred to mobile phone (xml file)

❑ Customizable surveys, Easy to use interface

Project Management Portal

❑ App to collect project related data, which can be then sent to server

❑ Data such as stage of project, location, measurements, village info, view can be handled

❑ Interactive front end designed taking into account cross platform integration

❑ Can allot a person on field for collecting data via app and then send it to portal through app
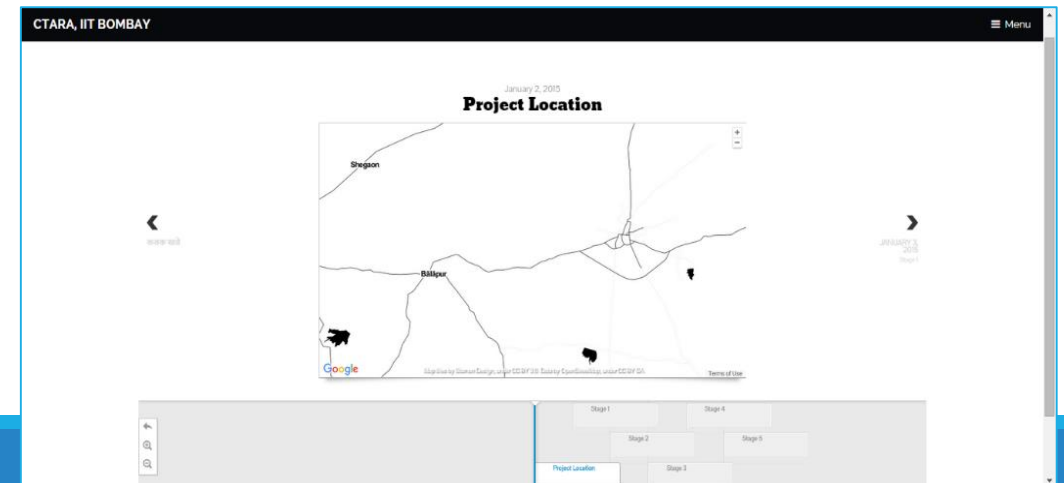
Uses and Benefits

❑ Eliminating needs of paper work – entire digital platform

❑ Easy to use interface, no old frameworks used unlike Jalyukt Shivar Abhiyaan (JSA)

❑ Less constraints on user registration and data download as compared to JSA

❑ Can be used for different kinds of surveys
  ➢ Baseline survey (Carried out for overall analysis)
  ➢ Specific survey (Education, Health, Crops, etc)
  ➢ Periodic surveys (Due to ease of customizability)

❑ Reducing inefficiencies of labour, cost, errors in overall process

❑ Personalized surveys can be made (making fields required or not)

❑ Verification of data (GPS can be counterchecked with Location entered)

Conclusion & Future Work

❑ The entire system has successfully solved the initial requirements we had in mind

❑ This can be extended easily to other uses – verification of authorities (bar code of adhar), video recording, etc

❑ PRA tools can also be converted into a GUI based app

❑ Very much scalable product, with wide range of applications

❑ One step closer to digitization of daily processes, without much hassles therein and improvement in efficiency