

Project Management System

with open source software

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BharatNet Challenges

- ‡ More than 2,50,000 locations of the project
- ‡ Multitude of technologies – MPLS, GPON, UG, OH, Radio, Satellite
- ‡ A number of stakeholders – State Governments, State Agencies, Private Implementing Agencies, Third Party Auditors etc.
- ‡ Dynamic identification of technology for a Gram Panchayat

BharatNet Challenges

- ‡ GIS dependence
- ‡ A large number of distributed concurrent users
- ‡ Data capture at locations not covered by any communication network

Project Management for BharatNet

- | Work Breakdown Structure
- | Graphic Network Diagram
- | Critical Path Method Analysis
- | PERT Model
- | Resource Allocation/ Mapping
- | Hierarchies of Organizations and Users

Work Breakdown Structure

Project Mana x

localhost:8000/wbs/1/

BharatNet

test Welcome, test

- Projects
- My Tasks
- Project Configuration
- Mobile Application
- User Management

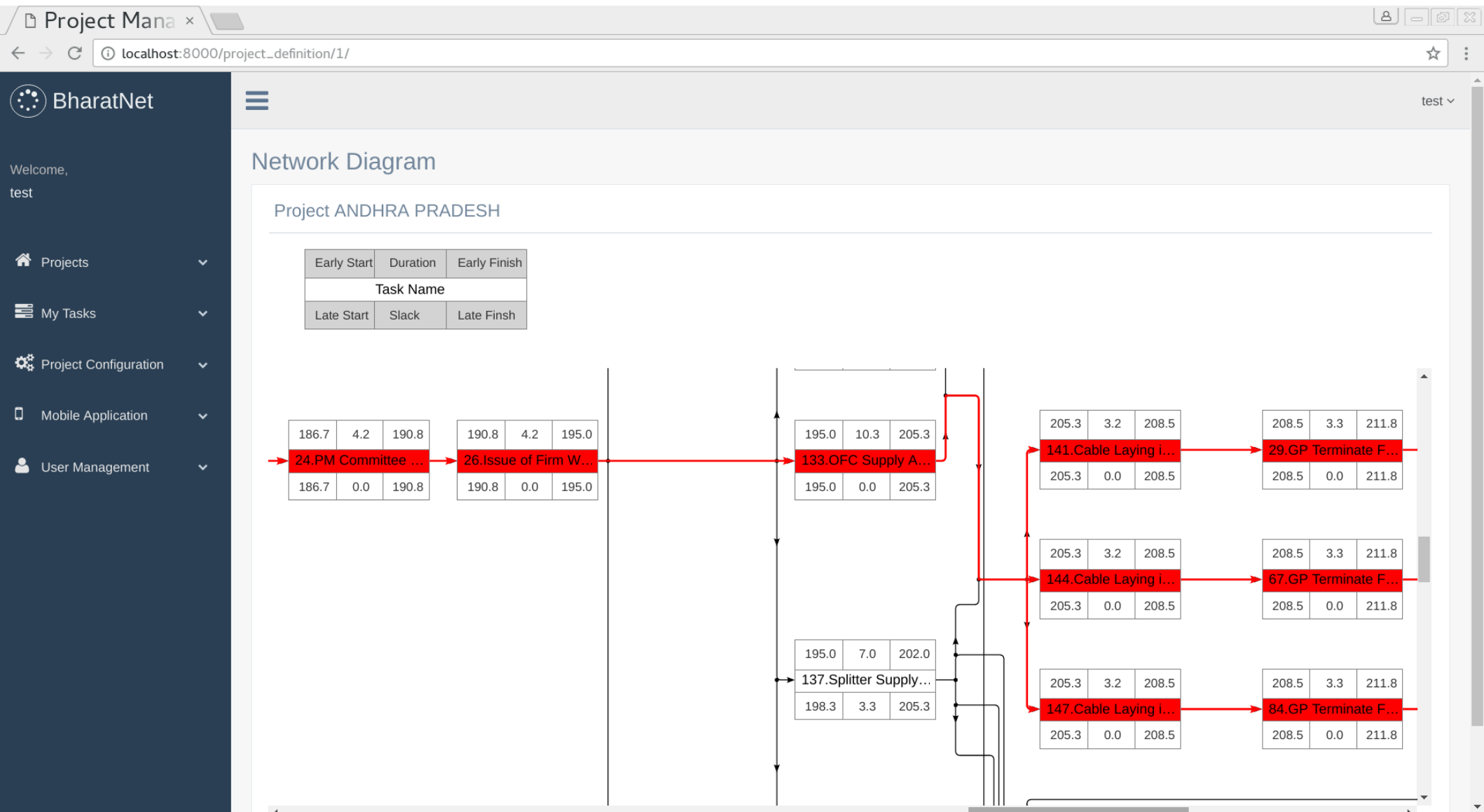
Work Breakdown Structure

- Project ANDHRA PRADESH (6)
 - Start ANDHRA PRADESH (0)
 - DPR and RFP Related Activities (2)
 - DPR Related Activities (7)
 - RFP Related Activities (12)
 - Site Survey Related Activities (6)
 - Duct and Cable Laying (3)

Show 10 entries Search:

Update	Task Name	Location	Predecessors	Successors	Task Progress	Start Date	End Date	Is Completed
	Submit DPR ANDHR...	ANDHRA PRADESH	Start ANDHRA PRADESH	Examine DPR ANDH...	100% <div style="width: 100%;"></div>	11 Jan 2018	31 Jan 2018	Completed
	Examine DPR ANDH...	ANDHRA PRADESH	Submit DPR ANDHR...	Approve DPR ANDH...	100% <div style="width: 100%;"></div>	11 Jan 2018	31 Jan 2018	Completed
	Approve DPR ANDH...	ANDHRA PRADESH	Examine DPR ANDH...	Sign MOU ANDHRA ...	100% <div style="width: 100%;"></div>	11 Jan 2018	31 Jan 2018	Completed
	Sign MOU ANDHRA ...	ANDHRA PRADESH	Approve DPR ANDH...	Raise 10% Mobili...	100% <div style="width: 100%;"></div>	11 Jan 2018	31 Jan 2018	Completed
	Raise 10% Mobili...	ANDHRA PRADESH	Sign MOU ANDHRA ...	Provide Bank Det...	100% <div style="width: 100%;"></div>	11 Jan 2018	13 Jan 2018	Completed

Network Diagram (CPM)



PERT Model

Project ANDHRA PRADESH

PERT Probability Model

No.of.Days to Complete Project*

[Predict](#)

Probability to complete the project in 230 days is **0.92** .

PERT Duration Model

Probability to complete the project*

[Predict](#)

No.of.Days to complete the project with Probability .75 is **224.67** .

[View Network Diagram](#)

Dashboard

Project Mana x

localhost:8000/dashboard/

BharatNet

test Welcome, test

test

Projects

- Dashboard
- Projects
- Work Breakdown
- Network Diagram
- PERT Model
- Schedule Project
- Analyze Project
- Inventory

My Tasks

Project Configuration

Mobile Application

User Management

test

All Locations

Dashboard

Work Order Progress

[View Details](#)

Activity	Target	Progress
DPR Approved	8	7
DPR Examined	8	7
DPR Submitted	8	7
Financial Bids Evaluated	8	2

Physical Progress

[View Details](#)

Activity	Target	Progress
Broadband Wi-Fi Tested	40	0
Cable Laid	181Km	110Km
Duct Laid	167Km	4Km
GP Fiber Termination	40	0
GP Lit	1	0

Material/Equipment Supply

[View Details](#)

Material Name	Target	Progress
Duct	45000Km	5000Km
Junction Box	900Nos	200Nos
OFC	45000Km	10000Km
OLT	2700Nos	600Nos
ONT	18000Nos	2000Nos

Financial Progress

Payments	Amount (Rs. Crore)
10% Mobilization Dema...	464.602
Payment made to State	431.939

Implementations	Price (Rs.)	Value (Rs.)	Unit
OFC	50000.0000	5310000	Km
Splitter	10.0000	60	Nos
Total		5310060	

Project Management for BharatNet

- Auto Task Creation for Multiple Locations
- GIS Integration
- Upload of Geospatial Data
- Upload of Documents and Images
- Multiple Interlinked Projects

GIS Integration

Project Mana x Fiber Grid M x Fiber Grid M x

bharatnetprogress.nic.in/admin.html?sname=MADHYA%20PRADESH&dname=Ashok%20Nagar&bname=ASHOKNAGAR&code=3740&accesswith=Block#

Layers Back To Dashboard Measure Logout

State Name: MADHYA PRADESH

Identify Pop up

Route Id :tejas001_20170601_120454

No.of Points Found :3

Current Position :0

Point Selected: 2-3

Locational Details

- State: MADHYA PRADESH
- District: Ashok Nagar
- Block: CHANDERI
- Gpname: SUREL
- Date: 1/6/2017 12:04:54
- Type of Activity: GPON Installation
- Latitude: 24.689349
- Longitude: 77.9327023

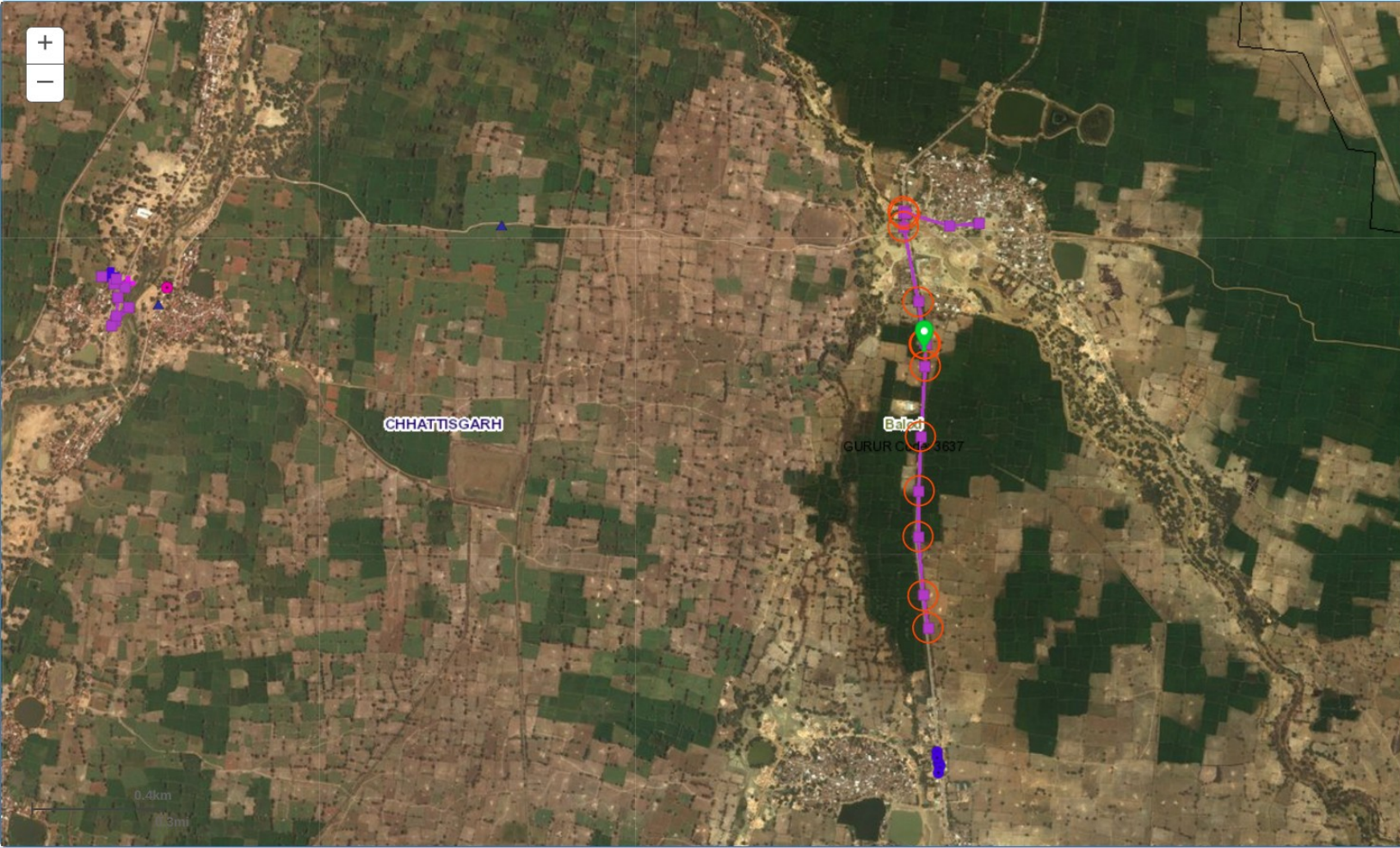
Verification Status	
Agency	18/01/2018

GIS Integration

Project Mana x BharatNet x Fiber Grid M x

bharatnetprogress.nic.in/admin.html?sname=CHHATTISGARH&dname=BALOD&bname=BALOD&code=3629&accesswith=Block#

State Name: CHHATTISGARH



DHAMTARI Code 3625

CHHATTISGARH

Balod

GURUR C 1837

0.4km

0.3mi

Identify Pop up


Select Section Select Point

Route Id :pkgautam_20170413_110316

No.of Points Found :15

Current Position :11

← Point Selected: 12-15 →



Locational Details

- State: CHHATTISGARH
- District: BALOD
- Block: GURUR
- Gpname: PHAGUNDAH
- Date: 13/4/2017 11:17:32
- Type of Activity: Ducting
- Latitude: 20.7157715
- Longitude: 81.4729926

Verification Status	

Mobile Application

- ‡ Mobile Application for Project Updates
- ‡ Dynamic Data Input Screens
- ‡ GIS Route Survey
- ‡ Configure Dynamic Survey Information Sets
- ‡ Upload images and Documents

Open Source Components

- ▮ Django – Web Development Framework
 - Fast Design Implementation
 - Object-relational Mapping (ORM)
 - Django Templates
 - Python Libraries e.g. json, requests, vincenty
 - Possible to include Python based ML tools e.g. theano, scikit-learn for data analysis

Open Source Components

- ‡ uWSGI – serve Python applications
- ‡ Nginx – web server
- ‡ Openssl – encryption
- ‡ MariaDB – database
- ‡ Linux – everyone knows

Questions?