

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

NAME OF CATEGORY- 'INNOVATIVE USE OF MOBILE TECHNOLOGY IN e- GOVERNANCE'

1. Coverage – Geographical and Demographic :-

(i) Comprehensiveness of reach of delivery centres,

Complete J&K; it started with Border Area Development Program (BADP) in 11 districts and now extended to complete State for the Power development department (PDD).

(ii) Number of delivery centres

Approx 400 employees under BADP and approx 700 in Power Development Department

(iii) Geographical

(a) National level – Number of State covered

1

(b) State/UT level- Number of District covered

22

(c) District level- Number of Blocks covered

ALL

Please give specific details:-

Real time Monitoring of the Schemes/Works in J&K

Mobile Application/ Frontend:

- Android Based Mobile Application (supported on android 2.1 or above)
- Geo Stamp and Time Stamp
- Capture details of the Inspecting Officer and Live Comments
- Offline feature for Poor connectivity areas
- Reverse Communication messages as "Priority Message"
- Auto updates of the application – new patches get installed automatically.

Web Application/ Backend:

- Dashboard to see the Works : Inspected, Pending, Counts, etc
- Reports in XLS and PDF

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- a. XLS – Replicate the existing reporting formats of the BADP
- b. PDF – Replicate the existing reporting formats of the BADP along with Last Inspections details : Picture, Time-Geo Tag, Inspecting Officer, Comments, etc
- Reverse Communication / Messaging to the ground staff

(iv) Demographic spread (percentage of population covered)

Currently an application used by the government officials

2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project) :

The biggest bottleneck was the legacy in the manual reporting system where the progress of the works used to come to the Sr. Administration only during the review meetings. Administration witnessed instances where the reporting of the schemes was false and misappropriating. So the need was to tag the pictures of the works with geo codes so that there is no false reporting.

Therefore the application intends to replace the existing Manual Process with the efficient online Automated Process. There were many issues like earlier District wise/ Division wise Reports creation used to take a lot of time, actual pic of the site was not visible, etc therefore the Sr. administration desired a system which can:

- a. Facilitate inspections of Works using mobile technology.
- b. Encourage regular visits of the officer on ground.
- c. Remove connectivity challenge-as SMSs unreliable and were banned in J&K (prepaid)
- d. Geo Tagging and Time Stamping a picture in order to prevent false reporting
- e. Facilitate Real time reporting to improve transparency at all levels of administration.
- f. Facilitate MIS with Pictures and the comments of the official inspecting

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the site.

- g. Facilitate extracting Reports in standard formats on real time basis.
- h. Facilitate the Administration to Reverse communicate with the ground level users.

3. **Scope of Services** (Relevance of application for e-governance, Extent to which service is delivered through mobile #)

Completely a mobile based application.

The idea is very innovative in nature and is constructed based on the need of having a solution to get away with the manual government process system and get equipped with the totally online / automated and efficient e governed system for the monitoring the progress of schemes/ works of the department.

Only the mobile is used to report the progress of any work for the complete cycle. The officer/ officers whenever visit the project site clicks the photographs of the ongoing work and the progress is reported on real time server.

The Web based application allows to see and extract custom reports as per the access credentials given to the user.

4. Strategy Adopted

(i) The details of base line study done,

Initially the SMS application was thought off and explored but was discarded considering only the text based approach and non availability of the real time images of the site.

The idea of extending cloud based technology "dropbox" was explored and prototype was developed. This was also discarded, as the MIS handling, custom reports and user role management was a challenge in this mode.

Therefore, the SOA based architecture was adopted where the inspections

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would hit the central server with a dedicated database and based on the access type and role defined the MIS would be visible to the users. MIS and reports creation was also managed properly in this architecture.

(ii) Problems identified,

- a. Non regular Inspections of Works by the official on ground.
- b. Actual situation of the scheme/ work on ground not known so issues in fund releases etc.
- c. Misleading reporting
- d. Improve transparency at all levels of administration.
- e. Sr. Adm. Desired the comments of the officer who inspected the work site.
- f. Creating Reports in manual way takes time.
- g. Reverse communicate with the ground level users was a challenge.

(iii) Roll out/implementation model,

For BADP: District wise rollout was planned and Deputy Commissioner were made the nodal officers for the distribution of handsets and implementation on ground.

For PDD: Rollout started in both the divisions of the J&K i.e. Jammu and Kashmir and Chief Engineers of these divisions are the nodal officers for the handsets and implementation on ground.

IT department/ JaKeGA is providing the technical knowhow and capacity building of the officials.

(iv) Communication and dissemination strategy and approach used.):

The capacity building is being carried out by way of a presentation and supplementing the flow with the actual demonstration of the mobile and web application (by creating a dummy scheme/ work in the live application) for the trainings.

The hardware configuration and dissemination is being done by the respective nodal officers and is properly documented. The mobile hardware is

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being given to users (as designation) and during transfer/ reliving the users are supposed to return the handset to the nodal officer for the replacement.

5. Technology Platform used-

(i) Description,

1. Mobile App:

The Mobile Application is developed for Android phones and the Android is based upon java. This is open-source from Google.

The current app supports the devices from version 2.1+

The app is hosted in Google Play/ android app store (link: <https://play.google.com/store/search?q=jkpulse>) and the updated version of the same can be downloaded from the link.

2. Web App

The backend is developed in DotNet. For this Microsoft .Net Framework 4.0 is needed which is free

The Web app is available at <http://jkpulse.gov.in/>

3. Database

The database used for the application is MySQL version 5.5 which is a free version

4. Others

a. Following are the licensed versions of the software used at the backend

- OS of the server would be Windows 2008
- Internet Information Services (IIS) 7.0 +.
- Microsoft Office 2007 and above versions [MS Excel is needed for the export to excel feature]

b. Following are the free versions of the software used at the backend

- Ajax Tool Kit version 4.0- [i.e.,

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AjaxControlToolkit.Binary.NET4]

- iTextSharp version 5.3.4 - This is a port of the iText open source java library for PDF generation for the .NET platform

(ii) Interoperability

The Application is highly interoperable. Most of the open source tools used ensure that the application can be shifted to any operating environment with a little effort.

(iii) Security concerns

The website and the application has been quality checked by the developer and department has issued order for the security audit of the application also through a CERT empanelled agency.

(iv) Any issue with the technology used

NO

(v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)

Yes

6. Citizen Centricity (Give specific details on the following#)

(i) Impact on effort, time and cost incurred by user,

Incredible, the report preparation used to take a lot of time before introducing this tool however post this application the reports in the desired formats can be extracted in a click of a button.

(ii) Feedback/grievance redressal mechanism,

The Government Order is created and a department specific cell and IT cell is created in order to resolve any issues with the application.

(iii) Audit Trails,

Anything that is uploaded on the application is stored as a history with the proper work/ scheme and can be viewed any time.

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(iv) Interactive platform for service delivery,

Yes

(v) Stakeholder consultation

The application is developed with active guidance from the then Worthy Chief Secretary of the State. Moreover the departmental users and the head of the administrative departments also contributed a lot in development of the application and the rollout & management of the same.

7. Demonstrate Innovation in use of Mobile Technology for e-governance

(Give details about the mobile technology used (platforms, SMS, Pull & Push, Apps, Mobile Payment,), innovation applied in use of mobile technology to deliver information or Services to target audience #)

Completely a Mobile driven application; the following are the salient features:

- a. A very simple application with mobile app as frontend (android based), with very easy interface and usage on mobile and web site as backend with a robust database implementing SOA and databases integration.
- b. Inspecting officer can click photographs of the work/ scheme location through his mobile using the application and can give real time comments and status report. All the inspections (Pictures and comments) are uploaded on the central web server available at <http://jkpulse.gov.in/> with a web backend for the common access of all the levels of the users/ administration.
- c. This application allows the users to capture Pictures of the inspection sites which are embedded with the Geo Stamp and Time Stamp for ensuring the correctness of the site.
- d. The application has the offline feature as well which can be exploited in areas where connectivity is a challenge. i.e if the inspection is carried out in an area where there is no connectivity the inspection report would gets uploaded in the system once the mobile device enters a zone where connectivity is present (either GPRS/ WiFi).
- e. The reports (xls) along with pictures (pdf format) can be extracted at any given point of time instantaneously. The xls format is exactly on the lines of the reporting format of the concerned departments and pdf format is a report format with the scheme relevant information along with the photograph of the last updated inspection along with details of the inspecting officer, geo stamp and

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the comments.

- f. The reverse communication from the administration to the lower levels is also possible through the mobile application. Here the higher level officers can send messages to the lower levels in case there is a priority for the task.
- g. The Picture / Status once captured by the inspecting officer once captured are out of his control to delete or modify.
- h. Every user has a defined role and works according to the role defined. The role defines the access to various districts, blocks, villages, sectors, reports, dashboard, etc

8. **Adaptability and Scalability** (Give details about Local language support, ability to leverage shared Government infrastructure, Standardization of technology used (hardware, software, application etc. #)

English Language used.

9. **Adaptability Analysis**

(i) Measures to ensure adaptability and scalability

The application is adaptable as the user is provided with extremely user friendly interface which is common across the platforms. E.g. a user of PDD who is also handling schemes of BADP will have the common interface in the mobile application. The tabs provided allow him to shift from BADP works to PDD and vice versa.

Regarding the scalability, looking into the success of the application, the application is extended to 3 major departments

PHE, PDD, PWD

Further the IT department has extended the same to the tagging of the CSCs (Khidmat centres) across the state to get the geo map of all the CSCs in the state.

(ii) Measures to ensure replicability

As described, the Administration has decided to replicate the said

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application for monitoring of works in the complete state for following departments:

1. PHE,
2. PDD,
3. PWD
4. CSC's by IT department

(iii) Restrictions, if any, in replication and or scalability

NO

(iv) Risk Analysis

Carried out: the major risk is the down time of the application. The same is resolved by:

Having it hosted on Production Servers with high availability and excellent bandwidth.

Plus having the feature of offline inspections ensure that if the inspections are not uploaded on real-time, they are uploaded once the connectivity is restored.

10. **New Models of Service Delivery** (Give details about type of partnership model used, Links to/Supported by Public/Private Organization, Links provided to relevant websites etc. #)

Standard application dedicated to the Project monitoring tool.
<http://jkpulse.gov.in>

11. **Efficiency Enhancement** (Give specific details about the following #)

(i) Volume of transactions processed,

Over 9750 inspection hits recorded so far (20Aug2014)

(ii) Coping with transaction volume growth

The servers are powerful enough to handle any load.

(iii) Time taken to process transactions,

In 5-8 seconds



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- (iv) Accuracy of output,

Accurate

- (v) Number of delays in service delivery

The connectivity in the mobile device is the only challenge. If the user is at a location where there is no connectivity, the transactions (inspections) will be stored on his mobile memory and as soon as the connectivity is resumed the transactions are uploaded on the server.

12. **User convenience** (Give specific details about the followings #)

- (i) Service delivery channels (Web, email, SMS etc.)

Web

Email

Mobile GPRS

- (ii) Completeness of information provided to the users,

Actual inspection : photo of work inspected and the comments made by the user.

- (iii) Accessibility (Time Window),

Any time with internet connectivity

- (iv) Distance required to travel to Access Points

The user / inspecting officer has to travel to the inspection site in order to carry out the inspection. The geo codes of the location are captured on site.

- (v) Facility for online/offline download and online submission of forms,

YES, available as explained earlier

- (vi) status tracking

YES, available as explained earlier

13. **Sustainability** (Give details about sustainability w.r.t. technology (technology used, user privacy, security of information shared – Digital Encryption etc. #), Organization (hiring trained staff, training etc. #), financial (Scope for revenue generation etc. #))



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1. Technology Used:
 - a) For Mobile : Android with OS 2.1 or higher
 - b) For Web: Any browser.
2. User Privacy: Users are given access credentials to log on to the mobile application and web application. The user access roll/ type is managed at the backend at the time of creating a valid user.
3. Security: The data captured on the mobile is stored in encrypted format until it gets uploaded on the server.
4. Staff:
 - a. the concerned departments have created a cell by nominating Sr. officers in order to handle the operations.
 - b. the IT department has hired 2 resources who are working dedicatedly on this project.
5. The mobile usage / recurring costs are born by the users. The Hosting / training charges are handled by the IT department through e Governance Agency.

14. Result Achieved/ Value Delivered to the beneficiary of the project- (share the results, matrices, key learning's, feedback and stakeholders statements that show a positive difference is being made etc):

(i) To organization

- Considerable time saving
- Quick administrative decisions
- Progress monitoring and tracking
- Operational efficiency
- Geo tagging of works.

(ii) To citizen

- Speedy implementation of works as being monitored on realtime
- Fast grievance resolution



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(iii) Other stakeholders

Users: the comments of the inspecting officer are visible to all the stakeholders which are in supporting of the realtime photographs.

Administration can see which user is working hard on ground and pass necessary directions.

15. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc):

G2G

16. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, change in legal system, rules and regulations

The idea is totally innovative in nature and is constructed based on the need of having a solution to get away with the manual system and get equipped with the totally online / automated and efficient system. The conventional manual system of getting the works inspected by Third Party agencies is now slowly being replaced by self inspections supported by pictorial proofs.

A Government Order (Planning and Development Department : GO No. 22 - PD of 2013, dated: 01-03-2013) issued using the JKPULSE tool to carry out the inspections of all the works under the scheme. Further it is mentioned in the GO that the APRs of the officials shall also be monitored through this tool.

Looking into the benefits, the Sr. Administration has appreciated the idea and have ordered extension of the same to many other departments primarily involved in the engineering works.

17. Other distinctive features/ accomplishments of the project:

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Government of India has asked other States to adopt the same solution for real-time monitoring of on ground works of various departments.

Awards till date:

1. **Manthan Award** – South Asia & Asia Pasific in e Governance Category
2. **SKOCH Platinum Award** - Sep 2013, New Delhi as “Highest Scoring Projects in India during 2013”
3. **eIndia Award**: Award for Excellence in Innovation, July 2013 Hyderabad

This is just an indicative list of indicators. Applicant can add on more information based on suitability of the project nominated.


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