Works and Accounts Management Information System (WAMIS)

Mobile Application Version:-1.0

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Project Title: Implementation of Works and Accounts Management Information System (WAMIS)

User Department: All Engineering Department

Purpose: Monitoring work progress through geo tagging photograph

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<u>SECTION 1</u>

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1.1. Introduction

Works and Accounts Management Information System (WAMIS) lays special emphasis on the end to end monitoring of civil construction works undertaken by various government departments under the Government of Odisha; It is therefore to ensure that works taken up under various programmes/schemes meet the requisite standards and to asses the actual progress of individual works, a mobile based application has been developed. This application enables the user to capture geo-tagged photographs of an on-going work on the construction site. Photographs thus taken through this mobile-based app can later be viewed through a viewer application deployed as a part of WAMIS along with other details about the concerned work.

1.2. Protocols for Uploading of Photo graphs

Integrated feature of Mobile Handset:-

Feature	Minimum Requirement	Notes
Memory	Card slot - microSD, 2GB included	Application needs minimum RAM to Run.
	Internal - 1 GB ROM, 512 MB RAM	
Display	Type - TFT capacitive touch screen, 65K colors	The current Android interface targets a touch-based HVGA resolution display with a touch-interface no smaller than 4 inches in size. However, smaller displays will suffice for initial porting.
	Size - 240 x 320 pixels, 3.3 inches (~121 ppi pixel density) - TouchWiz v3.0 UI	
Camera	Primary - 5 MP, 2560x1920 pixels, autofocus	Recommended 5MP for better quality
	Features - Geo-tagging	
	Video - Yes, QVGA@15fps	

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	Secondary – Not Required	
GPRS	2G	3G recommended.
AGPS	Required	Required by application
OS	Android 2.3	Android 2.3 or later recommended.

It is suggested that same make handset to be used by all users. (To reduce compatible issue)

Details required for taking Photograph:-

Work id should be available in WAMIS by filling proposal work details
User name and password should be available with the user.
Works need to be mapped with the user id. (Check point no 1.5.5 of this document)

When and how many photos to be taken?

It is suggested that user should upload one photo of each work for which payment is made during the month. However the individual department should decide on frequency and number of photos based on the nature of the work.

1.3.   Installation Steps

For installing the mobile-based work monitoring system on your mobile, follow the steps given below.

a. Open web application using mobile browser. http://164.100.141.59/wamis/apk/wamiscdac.apk
c. Download file "wamiscdac.apk".
d. Go to the directory where the "wamiscdac.apk" is downloaded.
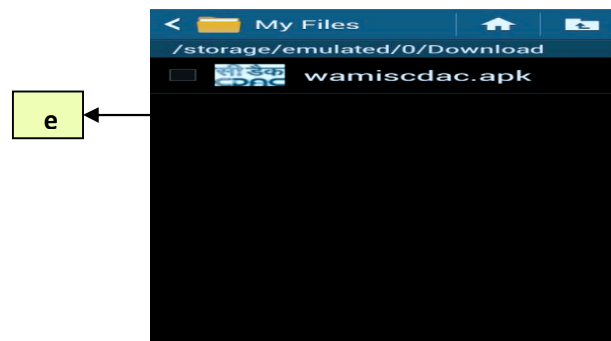e. Click on wamiscdac icon (Fig 1.2.1).

Fig 1.2.1

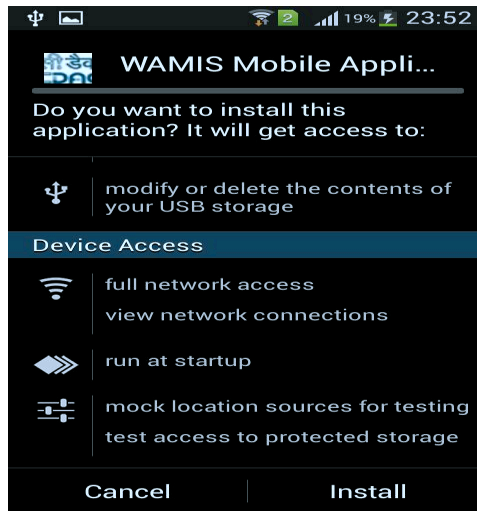_____

f. Click on Install button (Fig 1.2.2).

Fig 1.2.2

g. You can see the progress bar for installation; wait till operation is in progress (Fig 1.2.3)
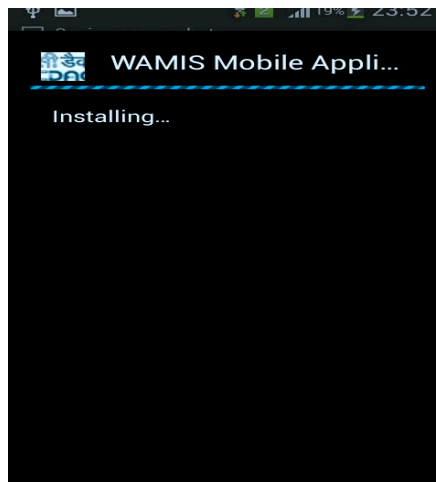

Fig 1.2.3

h. After getting message as "Application installed", you can open the application using "Open" button.

i. For using the application, click on the wamiscdac icon located on the home screen of your mobile, which would take you to the home screen of mobile-based works monitoring system.

1.4.   Login

First click on the wamiscdac icon located on the home screen of your mobile, which would take you to the home screen of mobile-based monitoring system.
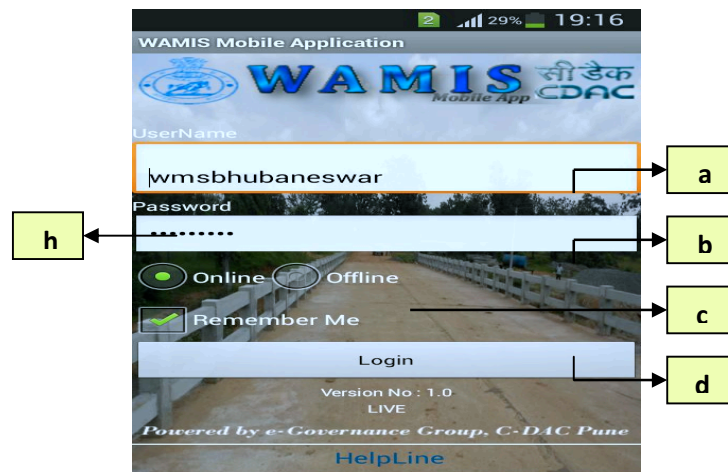

Fig. 1.3.1

This screen allows user to login into application. To login, please follow these instructions. Refer Fig. 1.3.1

a. Type in your User name. The User name is not case sensitive i.e., abc is same as ABC or AbC or abC.
b. Type in your Password. The Password is case sensitive.
c. Select the mode in which you want to login i.e. online/offline. Default mode is Online.
d. Click on Login button, which would take you to the Main Menu.

1.4.1   Online Mode
First time user needs to login using online mode and user can upload photos in the presence of Internet connectivity.

1.4.2   Offline Mode
If connectivity is not available, user can login using offline mode.

1.5. Main Menu

This section covers operational flow under online as well as offline mode. The offline mode doesn't contain submit option for uploading images whereas all other operational flow is same in both the modes.
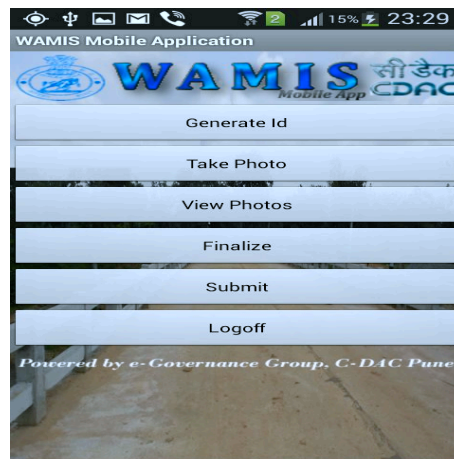

Fig. 1.4.1

1.5.1 Generate Id

Fig 1.4.1.1

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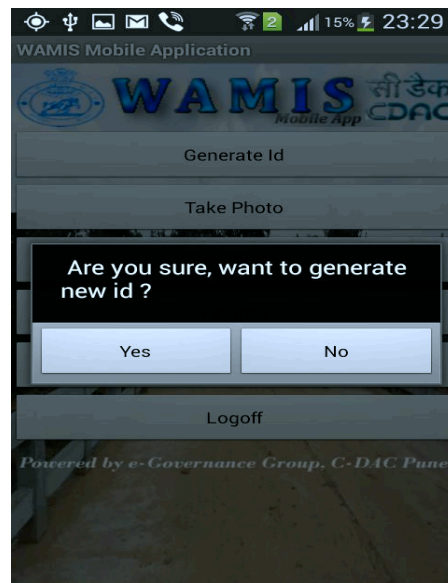
This screen provides facility to link the application to particular work. As unique codes provided in the WAMIS application for each work.

a. To save the generated Id code, click on Yes button.

b. To go back to previous menu without saving the unique code, click on the No button.

This screen provides facility to link the application to particular id. As the schedule will be unplanned, unique code will not be available at the time of inspection. So user needs to provide some id for inspection. On click of "Generate Id" button, application will generate a particular dummy id for work being inspected. User can take photographs for respective work, which then gets automatically mapped to the generated id.

1.5.2   Take Photos

The menu options under "Take Photos" are available to user only after generating new unique id through menu.
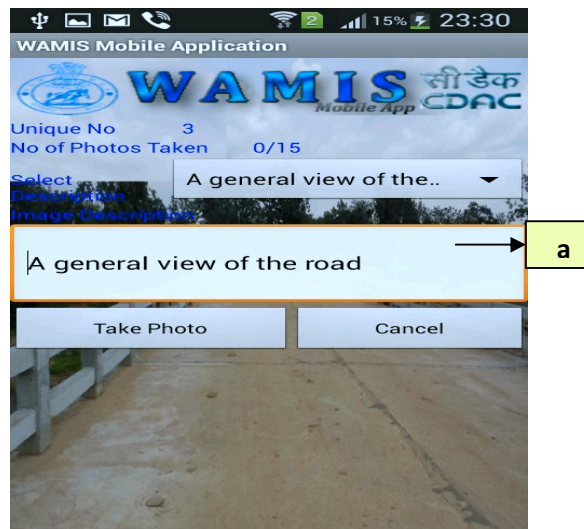

Fig. 1.4.1.2

Before taking photos for the work being inspected, user can provide appropriate comments for photo being taken.

    a. To put comments, choose description option from dropdown and tap on text to add customized comments. Fig. 1.4.1.2

Using the select options user can enter/choose the photo description and take photos. Image description is mandatory for each photo. User can take minimum 1 and maximum 15 photos for a single work.
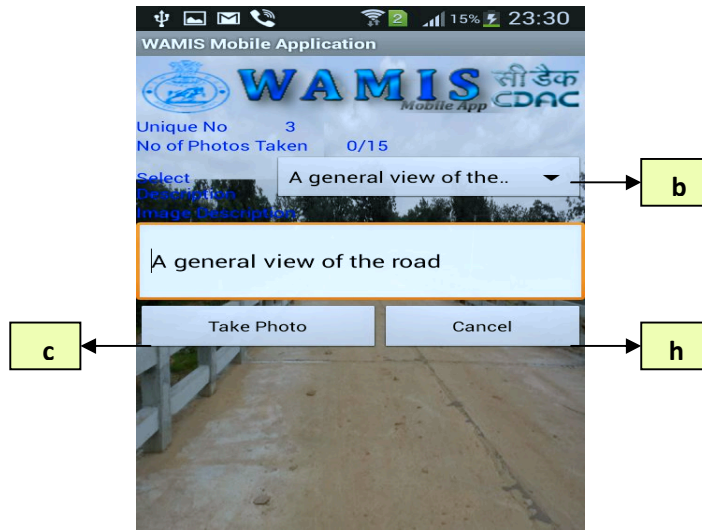
Fig 1.4.1.3

b. To choose appropriate description from the dropdown list already provided, it will appear in the "Image Description " text box. If you want to edit and update it, click on "Image Description" text box it will provide you keypad to type and edit the description. Fig 1.4.1.3

c. Click on take Photo button. Fig 1.4.1.3

d. Capture photo using photo-capturing screen (not shown here).

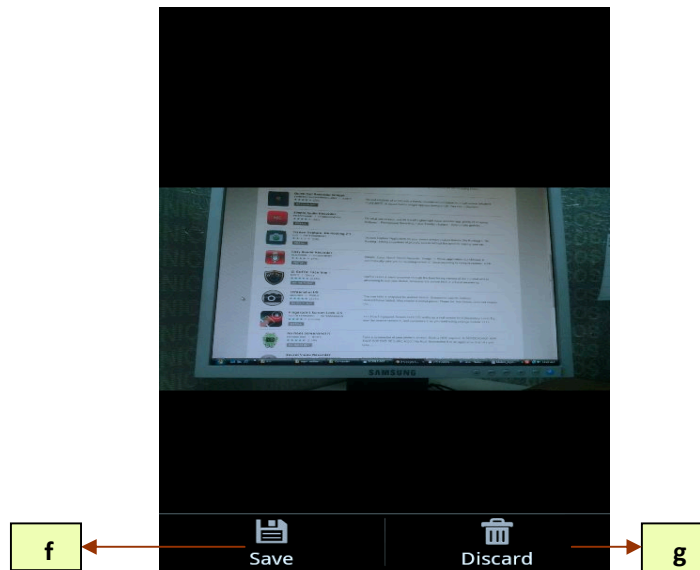h. To cancel whole activity of taking photos, click on "Cancel button". Fig 1.4.1.3

Fig 1.4.1.4

f. To save captured photo, click on "Save" button as shown in Fig 1.1.1.4. above

g. To cancel captured photo, click on "Discard" button as shown in Fig 1.1.1.4 above

1.5.3 Finalize

Using "Finalize" button in menu in Fig 1.4.1, user can finalize the work for submission. Minimum 1 photo is mandatory for finalization of the work. After finalizing only user can submit the details for the inspected work.
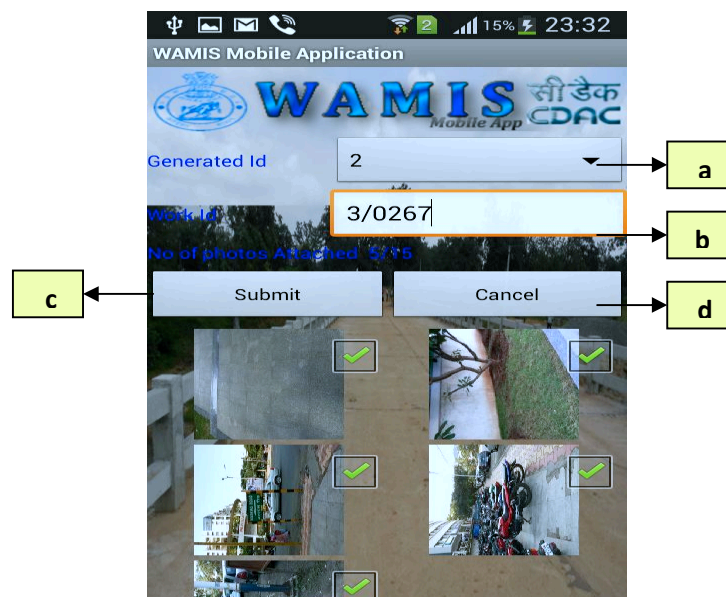
1.5.4 Submit

Fig 1.4.1.5

Using this menu option user can submit inspection details to the server. Screen provides information about number of remaining photos to be checked as well as number of remaining photos to be uploaded.

a. Choose "Generated Id." of the inspected work from the dropdown.
b. Enter Work Number for against which photo(s) are being uploaded. Minimum 1 and maximum 15 photos can be selected for uploading.
c. Click on "Submit" button to upload captured photos to server.
d. To cancel the submit operation, click on "Cancel" button.

User will get confirmation of uploaded details in the form of audio message.

NOTE: - Based on resolution of the camera and network speed, time taken for uploading 15 photographs may vary from 3 min to 6 min. It is recommended to upload the photographs using **3G** network.

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1.5.5   Work User Mapping

If work is not mapped to user follow the following steps:

1. Login in WAMIS application with your wms login.
2. Go to the screen Execution → Upload work photo → Using filters option filter works for which photos to be uploaded by the user. First select the user from users dropdown and then assign works from the list by selecting the checkbox against the work.
3. Click on assign button. It will assign selected works to the user for uploading the photos.
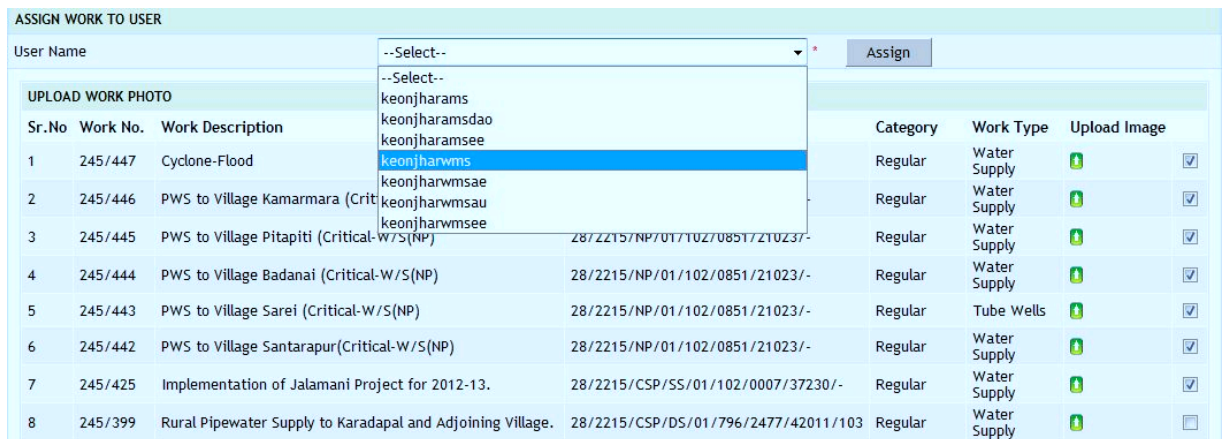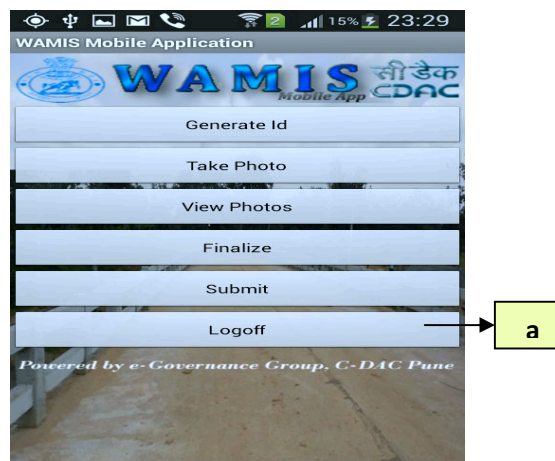

Fig 1.4.1.6

1.5.6   Logoff

Fig 1.4.1.7

a. To exit from the application, click on "Logoff" button in menu in Fig 1.4.7 above

1.6.   Error Messages

This section explains the errors and warnings with corrective action to be taken by the user.

Sr. No.	Error/Warning Message	Reason	Corrective Action
1	Server Error Occurred, Please try again	Server is inaccessible	Report to concern office.
2	Service Not available, Please try again	a. Server is inaccessible b. Internet is disconnected	Check Internet connectivity in your mobile. If disconnected, go to settings & connect it. Otherwise report to concern office
3	Please Enter UserName and Password	UserName & Password field is empty	Fill UserName & Password, click on Login
4	UserName or Password incorrect, Try again	Wrong user name or password	Confirm user name, password & try again
5	Please First Finalize old Entry	Previous entry is not finalized	Finalize previous inspection entry & try again
6	Please Generate Id, and try again	New Id is not generated for respective inspection	Click on Generate Id button & try again
7	Please Enter Image Description, and try again	Image Description field is empty	Select/enter Image Description & try again
8	Image Description should be less than 200 characters	Image Description field contains more than 200 characters	Cut down the Image description to length of maximum 200 characters
9	Image Description can not contain special characters, and try again	Image Description field contains special characters e.g. !,@,&……… etc.	Remove the special characters from Image Description & try again
10	Please wait for current location, try again after few minute	GPS value is not set through mobile device	Wait for some time to get GPS value, confirm once & try again
11	Maximum no. of photos already taken	Exceeded limit for maximum number of photos (15)	Already captured 15 photos for respective inspection so don't go again for capturing.
12	Please Select Work	Work in dropdown is not selected	Select Work & try again
13	Please select 1 image	1 image are not selected before submit	Confirm once that 1 image are selected & try again
14	Application Database Error Occurred, Please try again	Some error occurred in local database of mobile device	Contact with corresponding officials
15	Please Select Generated Id	Generated Id field is empty	Select valid Generated Id & try

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			again
16	Work Number required	Work Number field is empty	Enter Work Number & try again
17	Work is not mapped to user	Entered Work Number is not valid	Enter valid Work Number & try again