BY CENTER FOR GOOD GOVERNANCE

fOR gREATER HYDERABAD MUNICIPAL CORPORATION,

Hyderabad, Telangana

TASk electronic assessment & monitoring (TEAM)

**Software Requirements Specification**

**For Development of Task Electronic Assessment & Monitoring (TEAM)**

**By**

**Centre for Good Governance**

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| **Document Owner** | Centre for Good Governance |

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| **Version** | **Date** | **Description** | **Author** |
| 1.5 | 02-02-2018 | SRS | K. S. ABHISHAKTH KUMAR |

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# OVERVIEW:

1.1 Purpose:

The main objective of this Task Electronic Assessment & Monitoring (TEAM) is to reduce the manual errors in Measurement Book recording and create transparency between the Citizen and GHMC. To achieve this, a comprehensive IT system has to be put in place.

GHMC requested CGG to provide an integrated web application for Engineering Works to monitor, record and generate Bills through online.

1.2 Acronyms and Abbreviations:

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| **Sl. No** | **Word** | **Abbreviation** |
| 1 | GHMC | Greater Hyderabad Municipal Corporation |
| 2 | TEAM | Task Electronic Assessment & Monitoring |
| 3 | CGG | Centre for Good Governance |
| 4 | AEE | Assistant Executive Engineer |
| 5 | DEE | Deputy Executive Engineer |
| 6 | EE | Executive Engineer |
| 7 | SE | Superintend Engineer |
| 8 | HD | Head Draftsman |
| 9 | DAO | Divisional Accounts Officer |

# STAKEHOLDERS:

The **primary stakeholders** of this proposal are:

* 1. **Client Department:** GHMC.
  2. **Solution Provider:** Centre for Good Governance (CGG)

# SCOPE:

**Roles**: 3.1. Assistant Executive Engineer

3.2. Deputy Executive Engineer

3.3. Executive Engineer

Recording of Works Starts only after HD uploading Detailed Estimate, Technical Sanction Details, Agreement Details or LOI Details.

* 1. **AEE:** AEE logs into application and performs the following tasks

1. Work Recording
2. If the Work is new, then Site handover screen will be displayed, in that they have to take contractor signature (Mandatory) , Technical Person (Mandatory) Name, Mobile Number, Signature and Aadhar Number (Optional), Supervisor (Optional) Name, Mobile Number, Aadhar Number, Date pick (Mandatory) between agreement or LOI to current, Photo (Mandatory), and AEE signature. This is one time activity.

Note : AE and contractor signature are mandatory

1. AEE after selecting WIN Numbers they view list of BOQ Items. For BOQ Items information please refer 3.4. List of BOQ Items, Description of that Item, BOQ Number, Rate, Per and Amount will be displayed.
2. If AEE selects a BOQ Item, they can view the BOQ Number, Description, Amount, Quantity and Rate.
3. To record they have to click on Add Record, they can enter Description, Number, Numbers Quantity, Length (L), Breadth (B), Depth (D), Quantity, and remarks.
4. Length, Breadth and Depth Entry, they can be entered in single digit or average of multiple numbers, Negative Values, Binary Values. For this Long press on the respective L, B, D labels.
5. Quantity Calculation – by default the formula is Numbers \* Numbers Qty \* L \* B \* D, to change this Click on the QTY cell. User can edit the Formula, Write their Own formula including power and Pie values.
6. Remarks entry
7. Capture of Photos is not Mandatory.
8. Saving of work is of 2 kinds:
   1. Save Progress
   2. Move to mBook.
9. Save Progress: If the Work is Saved as Save Progress, that will be stored in the Work Progress. Later the User can edit the all values and again can save or moved to mBook.
10. Move to mBook: For this AEE has to do Signature this is Mandatory, Contractor Signature, Public Name, Mobile Number and Aadhar Number are Not Mandatory. Once the record submitted to mBook then No provision to Edit by the AEE. mBook Records only viewed to DEE.
11. Work Progress:
12. Save Progress BOQ Items are shown here.
13. Edit can be done for all the entry values.
14. AEE can again save or can move to mBook.
15. mBook History:
16. AEE submitted mBook entries are shown as per BOQ List.
17. No edit.
18. If any edit is done by DEE and EE it will be reflected in this.
19. Capture Photo:
20. Capture Photo for that WIN Number.

Note: For AEE Recording has to be done 100%.

* 1. **DEE:** DEE logs into application and performs the following tasks

1. Check Measure
2. DEE can view all the List of BOQ Items.
3. DEE after selecting WIN Numbers they view list of BOQ Items. For BOQ Items information please refer 3.4. List of BOQ Items, Description of that Item, BOQ Number, Rate, Per and Amount will be displayed.
4. If DEE selects a BOQ Item, they can view the BOQ Number, Description, Amount, Quantity and Rate. Along with AEE recording if there are any or else they can ADD Recordings.
5. To Check Measure the Recordings they have to select the Check box and start check Measure. If they want to record New Recording they have to click on Add Record, they can enter Description, Number, Numbers Quantity, Length (L), Breadth (B), Depth (D), Quantity, and remarks.
6. Length, Breadth and Depth Entry, they can be entered in single digit or average of multiple numbers, Negative Values, Binary Values. For this Long press on the respective L, B, D labels.
7. Quantity Calculation – by default the formula is Numbers \* Numbers Qty \* L \* B \* D, to change this Click on the QTY cell. User can edit the Formula, Write their Own formula including power and Pie values.
8. Remarks entry
9. Capture of Photos is not Mandatory.
10. Save to mBook. This Record will be sent to EE for Test Check. For Save to mBook DEE has to do Signature this is Mandatory, Contractor Signature, Public Name, Mobile Number and Aadhar Number are Not Mandatory. Once the record submitted to mBook then No provision to Edit by the DEE.
11. mBook History:
12. AEE, DEE submitted mBook entries are shown as per BOQ List.
13. No edit.
14. If any edit is done by EE it will be reflected in this.
15. Capture Photo:
16. Capture Photo for that WIN Number.
17. Contractor Acceptance:
18. All the List of Check Measures of DEE are Shown in a List.
19. Contractor Signature is Mandatory.
20. Contractor can accept or Deny the Recordings.
21. If Accepted- Contractor Sign and DEE sign Mandatory.
22. If Deny – Contractor Sign and DEE Sign along with DEE Remarks are Mandatory.

Note: For AEE Recording has to be done 100%.

* 1. **EE:** EE logs into application.

1. Test Check
2. EE can view all the List of BOQ Items check Measured by DEE.
3. EE after selecting WIN Numbers they view list of BOQ Items. For BOQ Items information please refer 3.4. List of BOQ Items, Description of that Item, BOQ Number, Rate, Per and Amount will be displayed.
4. If EE selects a BOQ Item, they can view the BOQ Number, Description, Amount, Quantity and Rate.
5. To Test Check the Recordings they have to select the Check box and start check Measure. If they want to edit they have to click on Add Record, they can enter Description, Number, Numbers Quantity, Length (L), Breadth (B), Depth (D), Quantity, and remarks.
6. Length, Breadth and Depth Entry, they can be entered in single digit or average of multiple numbers, Negative Values, Binary Values. For this Long press on the respective L, B, D labels.
7. Quantity Calculation – by default the formula is Numbers \* Numbers Qty \* L \* B \* D, to change this Click on the QTY cell. User can edit the Formula, Write their Own formula including power and Pie values.
8. Remarks entry
9. Capture of Photos is not Mandatory.
10. Save to mBook. For Save to mBook EE has to do Signature this is Mandatory, Contractor Signature, Public Name, Mobile Number and Aadhar Number are Not Mandatory. Once the record submitted to mBook then No provision to Edit by the EE.
11. mBook History:
12. AEE, DEE and EE submitted mBook entries are shown as per BOQ List.
13. No edit.
14. Capture Photo:
15. Capture Photo for that WIN Number.

Note: For EE Recording has to be done Min 10% on the Agreement Value.

* 1. **BOQ:**

List of BOQs (Bill of Quantity) will appear for each Work or Win Number. There are 2 types of BOQs:

1. Agreement BOQs
2. Supplementary BOQs

* Agreement BOQs:

The List of Agreement BOQs are uploaded by HD for Particular Work to Concerned AEE,DEE,EE.

* Supplementary BOQs:

The Supplementary BOQs is added if any BOQ Item appears in the Field for which the concerned AEE has to take measurement (Only AE can add new Supplementary Item).But Concerned DEE and EE can View the List of Supplementary Items Which are added by AEE.

* 1. **General:**

1. Create Message: User can sent message to the other users concerned to that WIN Numbers in his Login
2. In Box: Received Messages will be shown in the List.
3. Sent Box: Sent Messages will be Shown in the List.
4. Profile: View of User Name, Designation, Emp Id.
5. View on Maps: List of WIN Numbers on the Google Maps are shown, user can select Directions from his current location to the WIN Number Location.
6. Search: Search of WIN Number, name of the Work, Location can be don’t.

# Functional Requirement:

* 1. Login Authentication

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| Req ID | Requirement | Description | Priority | Note |
| Mobile\_R001\_2/2/18 | Splash | Version Check of Application | High | User when clicks on the Application in the Mobile . Version check is implemented in Splash Screen |
| Mobile\_R002\_2/2/18 | Login | User Has to Enter User Name , Password and Mobile No. | High | User when logins into the application they have to authenticate login credentials. After successful verification of the user login credentials, FCM Key for Push Notification is generated (Concerned User Id is Mapped with FCM Key) |
| Mobile\_R003\_2/2/18 | OTP | User Has to enter OTP (4 digit number) | High | User has to enter the OTP (4 digit number), which will appear in a message to concerned Mobile number which the user entered in Login Screen |
| Mobile\_R004\_2/2/18 | MPIN | User Has to enter MPIN (4 digit number) | High | User has to generate 4 digit MPIN number . |

* 1. AEE

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| Mobile\_R005\_2/2/18 | Home Screen | List of works will appear of Concerned user id | High | List of works of Concerned user id will appear in home screen . For each work we have 4 Functionalities  As follows:   1. Work Record 2. Capture Photo 3. Mbook History 4. Work Progress History |
| Mobile\_R006\_2/2/18 | Site Hand Over | AE has to enter the site handover date |  | AE has to enter the Technical and Supervisor details like Name Mobile number, Aadhaar no. and site handover date (date will be between Agreement date/LOI Date to Current Date) , AEE and Contractor signature are mandatory and finally AE has to capture the picture of site and the click on submit |
| Mobile\_R007\_2/2/18 | BOQ Item Screen | List of BOQ Item will appear | High | On click of Work Record of concerned work List of BOQs will appear .  2 types of BOQs as follows::  1.Aggreement BOQ Items.  2.Supplementary BOQ Items.  Please refer 1.1 to know more about the types of BOQs. |
| Mobile\_R008\_2/2/18 | Work Record | Field Recording | High | For each BOQs AE can enter as many as records in the field, while entering the records AE can change the formula of L,B,D, And Quantity, after entering records he has to capture photo of particular work progress , if AE want to save the data as draft he/she has to click on Save Work Progress or if AE wants to Move the data directly to Mbook he /she has to check the Check box of Move to Mbook and AE has to give ON Screen Signature and Click on Move to MBook Button |
| Mobile\_R009\_2/2/18 | Mbook History | List of records which are moved to  Mbook | High | List of records which are available in Mbook |
| Mobile\_R010\_2/2/18 | Work Progress history | List of records which are saved as a draft |  | List of BOQs will appear and on click of each BOQ item list of records will appear which can be edited and moved to Mbook or AE can again save the record as a draft |
| Mobile\_R011\_2/2/18 | Capture Photo | For concerned Work AE can capture photo | High | For concerned Work AE can capture photo |

**NOTE:** On Click of Each Submit we are capturing Latitude, Longitude, Device Id, IP Address

* 1. DEE

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| Mobile\_R012\_2/2/18 | Home Screen | List of works will appear of Concerned user id | High | List of works of Concerned user id will appear in home screen . For each work we have 4 Functionalities  As follows:   1. Check Measure 2. Capture Photo 3. Mbook History 4. Contractor Acceptance |
| Mobile\_R013\_2/2/18 | BOQ Item Screen | List of BOQ Item will appear | High | On click of Work Record of concerned work List of BOQs will appear .  2 types of BOQs as follows::  1.Aggreement BOQ Items.  2.Supplementary BOQ Items.  Please refer 1.1 to know more about the types of BOQs. |
| Mobile\_R014\_2/2/18 | Check Measure and Work Record | Has to check measure the Records which AE has entered and as wel as DEE can enter the records in the field | High | For each BOQs DE has to check Measure the records which AE has entered in the field and also DE can enter as many as records in the field, while entering the records DE can change the formula of L,B,D, And Quantity, after entering records he has to capture photo of particular work by giving on screen signature and Move the data directly to Mbook on click of Move to Mbook Button |
| Mobile\_R015\_2/2/18 | Mbook History | List of records which are moved to  Mbook | High | List of records which are available in Mbook |
| Mobile\_R016\_2/2/18 | Capture Photo | For concerned Work AE can capture photo | High | For concerned Work DEE can capture photo |
| Mobile\_R017\_2/2/18 | Contractor Acceptance | Contractor can accept /reject the check Measured data of DEE | High | Check Measured data and new record added by DEE will be appear in Contractor Acceptance screen , here we have given provision that contractor can accept/reject the records if Contractor Accepts the records the DEE and Contractor has to give on screen signature and click on submit and if the contractor rejects the records then DEE has to give remarks and DEE has to give on screen signature and click on submit |

**NOTE:** On Click of Each Submit we are capturing Latitude, Longitude, Device Id, IP Address

* 1. EE

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| Mobile\_R018\_2/2/18 | Home Screen | List of works will appear of Concerned user id | High | List of works of Concerned user id will appear in home screen . For each work we have 4 Functionalities  As follows:   1. Super Check 2. Capture Photo 3. Mbook History 4. Contractor Acceptance |
| Mobile\_R019\_2/2/18 | BOQ Item Screen | List of BOQ Item will appear | High | On click of Work Record of concerned work List of BOQs will appear .  2 types of BOQs as follows::  1.Aggreement BOQ Items.  2.Supplementary BOQ Items.  Please refer 1.1 to know more about the types of BOQs. |
| Mobile\_R020\_2/2/18 | Super Check | Has to check measure the Records which AE has entered and as wel as DEE can enter the records in the field | High | For each BOQs EE has to Super Check the records which AE has entered in the field and DE has Check Measured in the field, while Super Check the records EE can change the formula of L,B,D, And Quantity, after entering records he has to capture photo of particular work by giving on screen signature and Move the data directly to Mbook on click of Move to Mbook Button |
| Mobile\_R021\_2/2/18 | Mbook History | List of records which are moved to  Mbook | High | List of records which are available in Mbook |
| Mobile\_R022\_2/2/18 | Capture Photo | For concerned Work AE can capture photo | High | For concerned Work EE can capture photo |

1. Flow:

