KSEB Spot Billing Application
(for both Androd & iOS)

Functional Requirements Specification

Version-I

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1. Introduction

The objective of this document is to provide description of the KSEB spot Billing Mobile Application for meter reading enrty and spot billing. It also explains the requirements for the development and implementation of mobile application in any current mobile platform(both Android and ioS).

1.1 Background

The present scenario for the spot billing is done through propertiory software of leading companies along with their PDA machines. Each day the meter reader downloads customer data on his PDA before he goes on field visits. The meter reader visits customer sites and checks customer details like the last meter reading with a tap of the stylus or through entering the details of the consumer like consumer number. He enters the current meter reading with the numeric pad. The system immediately prepares and prints the bill. The operator can then come back to his office and upload the data to the bill server, updating records for receiving payment from the consumers.

1.2 Scope of Work

The billing application should be able to run in Android / iOS Mobile phone and must be able to connect to a Bluetooth Printer of either Thermal or Impact Dot Matrix type. The Mobile device downloads the prepared consumer bill data of the reader on daily basis based on area code and day code. The meter reader move on to the field based on walking order and select the KSEB Consumer number and enter the Current Meter Reading. The billing has to be done based on the present tariff. The application shall contain of functional requirements and non functional requirements, which is taken together to form a complete description of the system.

Functionalities in Scope

Following are the various functional modules of the KSEBL Billing Software Mobile Application

Meter Reader Login

- Login
- Home page with Section, date and time

General Information

- Area Code
- Day Code
- Walk order

Billing Details

- Display Consumer Number
- Present Meter reading
- Previous Meter Reading
- Unit Consumption

Generate bill
View bill
Print bill
Rebilling
Reprinting

Other Features

Register mobile and email for bill updates
Meter with location - Photo capturing
Tariff calculator
About App
FAQ

Assumptions and Constraints

This section lists the factors that could affect the requirements stated in the requirement specifications document. These factors are not designed constraints on the software, but are rather, any changes to them may affect the overall requirements. Following are the major assumptions and dependencies;

- It is assumed that the system architecture with respect to hardware, software, connectivity and other infrastructure would be available as envisaged for the proper functioning of the application.
- Interfaces to KSEBL applications will be provided as web services based on the formats devised by KSEBL IT Team.
- The external interfaces would be dependent on services provided by other government agencies or service providers.
- All the legal/regulatory/administrative approvals/changes, if any, would be undertaken by the KSEBL to enable the functionality covered in this document.

2. System Requirements

The proposed mobile application shall be to all iOS and Android phones

Functional Requirements

The functional requirement describes the identified detailed functional requirements to be supported by mobile application.

Module	Process	Functionality
Meter Reader Login	Meter Reader Sign Up	Creation of meter reader login user Id and authentication of registered meter reader. (One time procedure)
	Login	Login area for the meter reader. Registered User can login the mobile application with the userId and password.
	Home page with Section, date and time	Dispaly the home page of the application with section, date and time
Download		Download prepared consumer bill data

transaction data		from centralized sever in securred manner
Consumer data	Area Code	Dispaly the area code for a particular section
	Day Code	Display the day code for taking the meter reading
	Walking order	Display the walking order sequence of the meter reader for a particular day code
Billing Details	Display Consumer Number	Display the current consumer number for providing meter reading
	Present Meter reading	Enter the meter reading against the consumer
	Previous Meter Reading	View the previous meter reading of the consumer
	Bill calculation	Calculated value of unit consumption
	Generate bill	Bill generation
	View bill	View of electricity bill before finalizing printing of the bill
	Print bill /	Printing of electricity bill in English/Malayalam with QR code
	Rebilling	Provision for editing and recalculation of electricity bill
	Reprinting	Provision for reprinting of bill
	Submit/ Upload	To Upload the reading and billing data to the centralized server in securred manner
	Copy to SD Card	This option is used to store the uploaded data as backup feature in case of device failure
About App		Provide the Version,Change log, open source licenses etc realeted to the billing software.
Bill Calculator		Bill calculator tool to view bill details based on user inputs – consumed units, billing cycle,purpose,tariff etc
Other Features		Demand side management on the requirement of
	Register mobile and email for bill updates	Provision for updating the mobile and email id of the consumer.
		Pole number updation
	Anomaly	Capture observation when anomaly noted
		Unprepared consumer list

	Photo & Location capturing	Facility to take photo of energy meter including digits displayed on meter and capture the location coordinates, if required
Help	Help	Details on usage of the

Non Functional Requirements

The section identifies non-functional requirements to be supported by the Mobile Application. It also includes the non-functional requirements for the support & management service, Design,development and testing of the service.

Application Requirement description Technology Platform should be
Operating System – iOS and Android

Scalability Requirement description
The mobile application must be scalable

Change requirement Management
During support period any enhancement/customization requirement having of 7 person days should be done without additional charges to KSEBL.

User Manual
The firm should prepare detailed video-based user manuals covering “step-by-step” and “how to use” concepts for the mobile application

Training
Functional Training
This training (Knowledge Transfer) shall be provided to the KSEBL’s Core IT Team members (minimum 10 employees) at Thiruvananthapuram, Kerala.

Training Materials
The firm shall be responsible for preparation of the training materials, handouts covering “step-by-step” and “how to use” concepts for the mobile application

Project Inception
The firm should prepare and submitt a detailed Project Plan detailing all tasks including the person in charge, allocated resources, timelines for each activity, milestones, and deliverables

Requirement study
The firm should review and finalize proposed SRS in discussion with KSEBL and ***submit a detailed SRS to KSEBL***

System Design

Based on the approved SRS the firm should perform detailed system design. As part of this phase the firm should submit design documents.

Time line

The selected firm shall complete the development and commissioning of the application with ***in 3 months*** from the date of issue of Letter of Award

User Acceptance Tests (UAT)

The firm should conduct User Acceptance Tests (UATs) to ascertain whether the application and its sub-system is capable of meeting the functional requirement as per the requirement. Conducting such tests will be responsibility of the vendor. KSEBL will provide full co-operation to the vendor in conduct of the tests.

Documentation

The design documents contents of the application should cover all the required technical information. The complete documentation of the project shall be delivered both in hard copy and soft copy.

Product Support

The entire source code should be transferred to KSEBL. A detailed documentation explaining the structure of code should be submitted along with source code

Security

Ensure the design of the application shall follows the NCIIPC, CERT-In guidelines and *security auditing of the mobile app is also included in the scope of the work.* Vendor also must obtain certificate from CERT-In empaneled agency.
