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Water Billing Solution

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***Abstract*: Web based full featured, affordable, easy to use Water Billing solution Standard Software Package. It integrates seamlessly to make a flexible and user-friendly software package. The Main functions that Administrative Module is to manage User Creation, User Privilege Setting, Change Tap Details, Block User and Collection details with all reports totally it include entire life cycle of water board functionalities. The main objective of water billing solution is to provide easy service to water related functionalities and it overcomes the all difficulties they are facing in manual process. Water billing application is fully features due to it is having different module functionalities like administration, monitor, control, authentication, authorization, ward based privileges settings, master values settings, database settings , one time demand generation, forms based authentication, biometric login validation, SMS alerts for data has been changed and different types of reports like decision making reports, meetings reports, consumer reports, daily collection reports, demand distributed reports, DCB reports.**

***Keywords*: Administrations, Water billing.**

1. Introduction

The Water Billing Solution is Web based full featured, affordable, easy to use Water Tax Standard Software Package. It integrates seamlessly to make a flexible and user-friendly software package. The Main functions that Water billing application is going to manage New Tap Registration, Demand Generation, Demand distribution and Collection details with all reports totally it include entire life cycle of water board functionalities. Existing System: As per our survey existing system is completely manual system that is for different activities undertaking in water boards are handling manually. The water billing services like new tap connection, demand generation, demand distribution, demand collection and different reports generation are manual. Drawbacks of Existing System includes, everything is manual work maintained in catalogue or file system, Unable to keep long-term records. Possible to lose records or damage the records due to physical file storage. Difficulty in searching records Expensive Difficulty to monitor and control the whole system. The proposed system is a web as well as mobile based fully featured and affordable application so we can easily automate all different services in this application as per customer needs. Proposed system had services like customer records maintenance, administration, demand generation and demand distribution. Benefits of the Proposed System includes, Redundancy is avoided., Demand Generation in one click, Report Generation., Authentication, Administration and Control, Mobile based demand distribution, Revenue collection form cash counter module, GPS based report generate, GPS based authentication

Modules of the Water Billing Solution:

- Administrative
- Masters
- Application
- Cash Counter
- SMS
- Reports

Administrative: As you aware of web application ready then definitely you may think there might be an admin module.

Masters: included number of sub modules which are required frequently in our application, totally aim of creation of master pages in our application is create once use many times. These reusability and reduce the user inputs we planned to include another module in our water board web application is Masters.

Application: This module is brain of our water board application because here new tap initiation start also this module consist demand generation, reset the demand, collection details etc.

Cash Counter Module: Cash Counter module is one of the important and very useful Module of WTAX applications. It helps in generating the revenues for the UBL's.

SMS Module: SMS Configuration module helps in sending the daily reports, acknowledgments to staff and also to the public. This module works on flag which has to configure at the database end and keys at the web configuration. In the database if flag is set to 1 then SMS will send. And in the web configuration file.

a. Enable SMS, Enable SMS with Template Id – if these keys are set to true then only SMS will send.
b. Enable Scheduled SMS–If this key is true, then only SMS is Scheduled or else daily reports will Not be sent

Administrative Module [Option]

- Every application is under the control of administrative activities so in the same way in this application also there is admin user. Yes, its right once we successful logged on to application then first module that include in our application

is administrative module. There is question why we want administrative module, simple answer is that to differentiate work, authentication, settings, monitor and control over the application etc.

- There are many more futures include in this Admin module
  - User Creation
  - Privilege Setting
  - Bio Authentication
  - Role Wise Privilege Setting
  - Ward Assignment
  - Mobile Print Fields Setting
  - User Mobile Module
  - Trace User
  - Block User
  - Change taps status
  - Fixed to meter conversion
  - Change Tap Details

2. System Design

The system design document describes the system requirements, operating environment, system and subsystem architecture, files and database design, input formats, output layouts, humans-machine interface, detailed design, processing logic, and external interface.

A. Cascading Style Sheets (CSS)

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable. The CSS specifications are maintained by the World Wide Web Consortium (W3C).

B. Database tables

Login:

Login_tbl: Query(...P_DATA\WATER.MDF) | BlockUser.aspx

UserType	username	pass	UID
Admin	Admin	123	1
User	xyz	123	4
Agent	abc	123	6
User	pqr	123	7
User	rumis	123	8
NULL	NULL	NULL	NULL

Fig. 1. Login Database Design

User Profile:

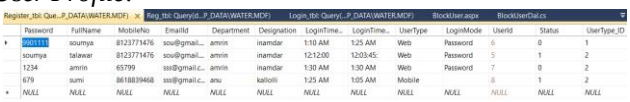


Fig. 2. User Profile database design

Dynamic Concept:

Reg_tbl: Query(d...P_DATA\WATER.MDF)

Department	Designation
amrin	inamdar
amrin	shaik
amrin	jamadar
anu	kallolli
anu	talawar
pinky	patill
pinky	madhabavi
NULL	NULL

Fig. 3. Dynamic Database

User Privilege Setting:

tbl_Module: Quer...P_DATA\WATER.MDF)

ID	ModuleId	Module_Na...
1	1	Home
2	2	Administrat...
3	3	Master
4	4	Application
5	5	Cash Counter
6	6	Report
NULL	NULL	NULL

(a) Module_Tbl

tbl_Module_Authe..._DATA\WATER.MDF) | tbl_Module: Quer...P_

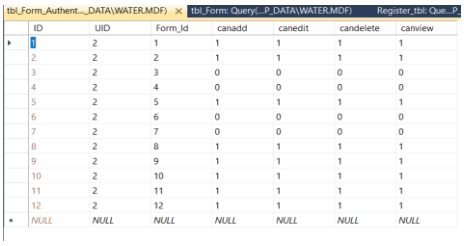
ID	ModuleId	canview	UID
1	1	1	2
2	2	0	2
3	3	1	2
4	4	1	2
5	5	1	2
6	6	1	2
NULL	NULL	NULL	NULL

(b) Module_Authentication_Tbl

tbl_Form: Query(...P_DATA\WATER.MDF) | Register_tbl: Que...P_

ID	ModuleId	Form_Id	Form_Name
1	1	1	Home
2	2	2	Administrat...
3	2	3	xyz
4	2	4	acv
5	3	5	Master
6	3	6	bnc
7	3	7	bnm
8	4	8	Application
9	4	9	xcb
10	4	10	yhv
11	5	11	Cash Counter
12	5	12	dfg
13	6	13	Report
14	6	14	fgh
NULL	NULL	NULL	NULL

(c) Form_Tbl



(d) Form_Authentication-tbl

Fig. 4. User Privilege Setting Design

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C. Forms

Fig. 5. Login page

Fig. 6. Home Page

Fig. 7. Admin Form

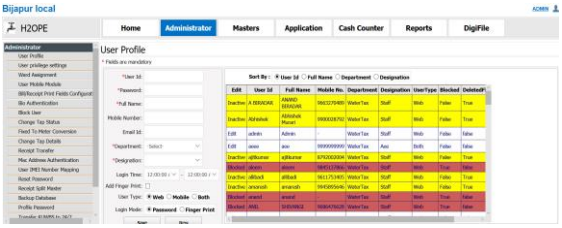

Fig. 8. User Profile

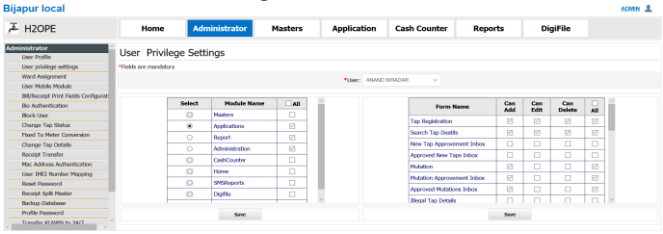

Fig. 9. User Privilege Setting

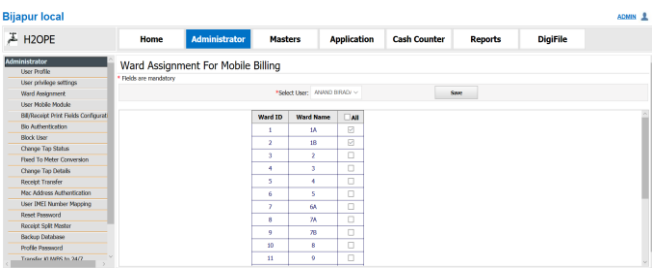

Fig. 10. Ward Assignment

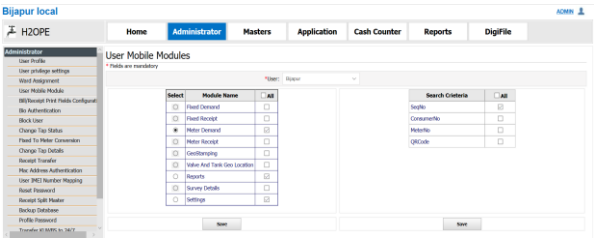

Fig. 11. User Mobile Module

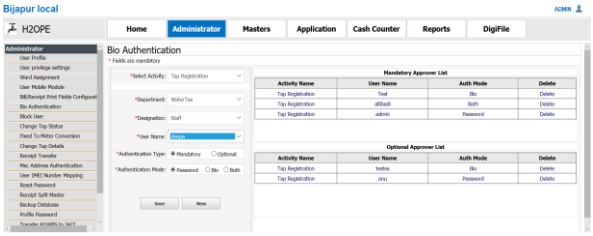

Fig. 12. Bio Authentication

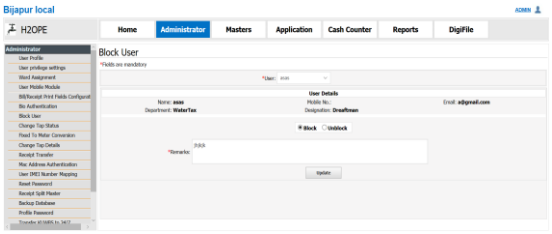

Fig. 13. Block User

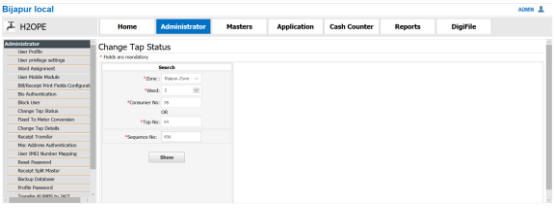

Fig. 14. Change Tap Status

3. Report Generation

In our Water billing solution we are having different types of reports Like,

Fig. 15. Fixed reports

Fig. 16. Daily collection reports

Fig. 17. Ward wise collection reports

4. Conclusion

The primary objective of my project is to provide the interactive service to the employees and higher authorities. Different types of services are provided to both the employees and higher authorities.

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