



Overview

The project involved developing a Windows 7 based application for a device which is used in kiosks and allows its users to perform electronic transactions. It is a B-to-C application and offers both online and offline mechanism to execute the desired action.

Technologies:

- .Net 4.5, C# - Application framework
- SQL Server 2012 Express Edition - Database
- WPF, MVVM - Application architecture
- .xlsx file - for keeping track of Product Maximum/minimum quantity
- Mantin.Controls.Wpf.Notification - For showing Error notifications to User
- Entity Framework - for handling DB entities
- Github - for SCM & versioning.
- Windows 7 - OS for KIOSK

About our Client:

Client Name: Confidential | Location: Myanmar | Industry: Retail

Description:

The team at Mindfire developed a Windows .net WPF application to be used in devices which are made available in a network of kiosks present in stores, offices, banks, etc. The devices allow users to perform electronic transactions e.g. mobile top ups. At the time of the transaction, a user requests a top up type, choosing the mobile network and the denomination (face value). The device in turn connects to the server and pulls down the available top up voucher, which subsequently gets printed on thermal paper after the payment is made.

The first phase of this application was an online version which required the Kiosk to be connected to the Internet at all times so that a top-up can be pulled via API on request basis.

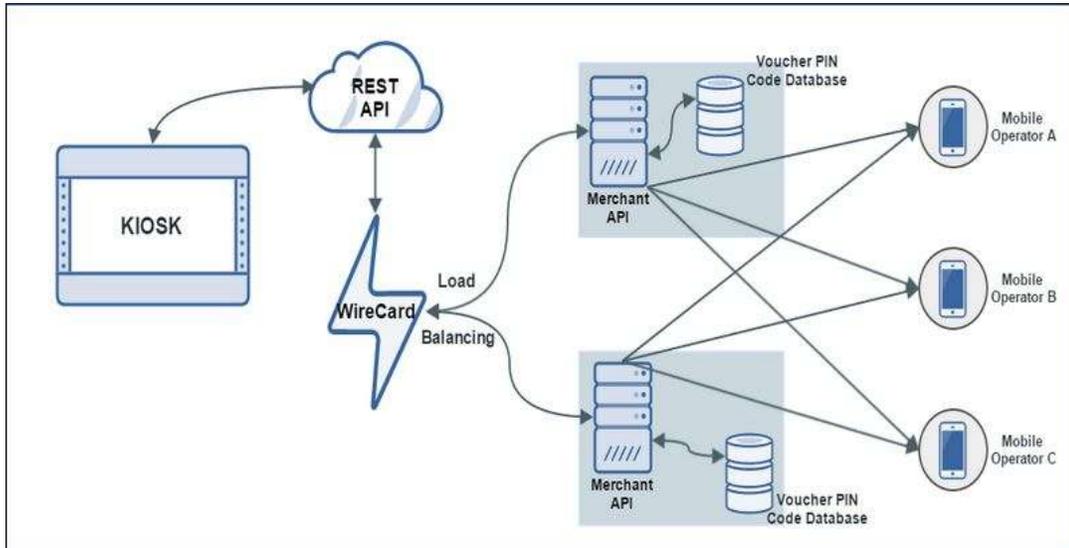
The second phase of development involved building an offline version. Post the implementation the kiosk was required to be connected to the internet only once a day to pull top-up details for



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different operators of varied denominations using API and then save them in the database. Subsequently, on request from a user, instead of going online, the details get pulled from DB.

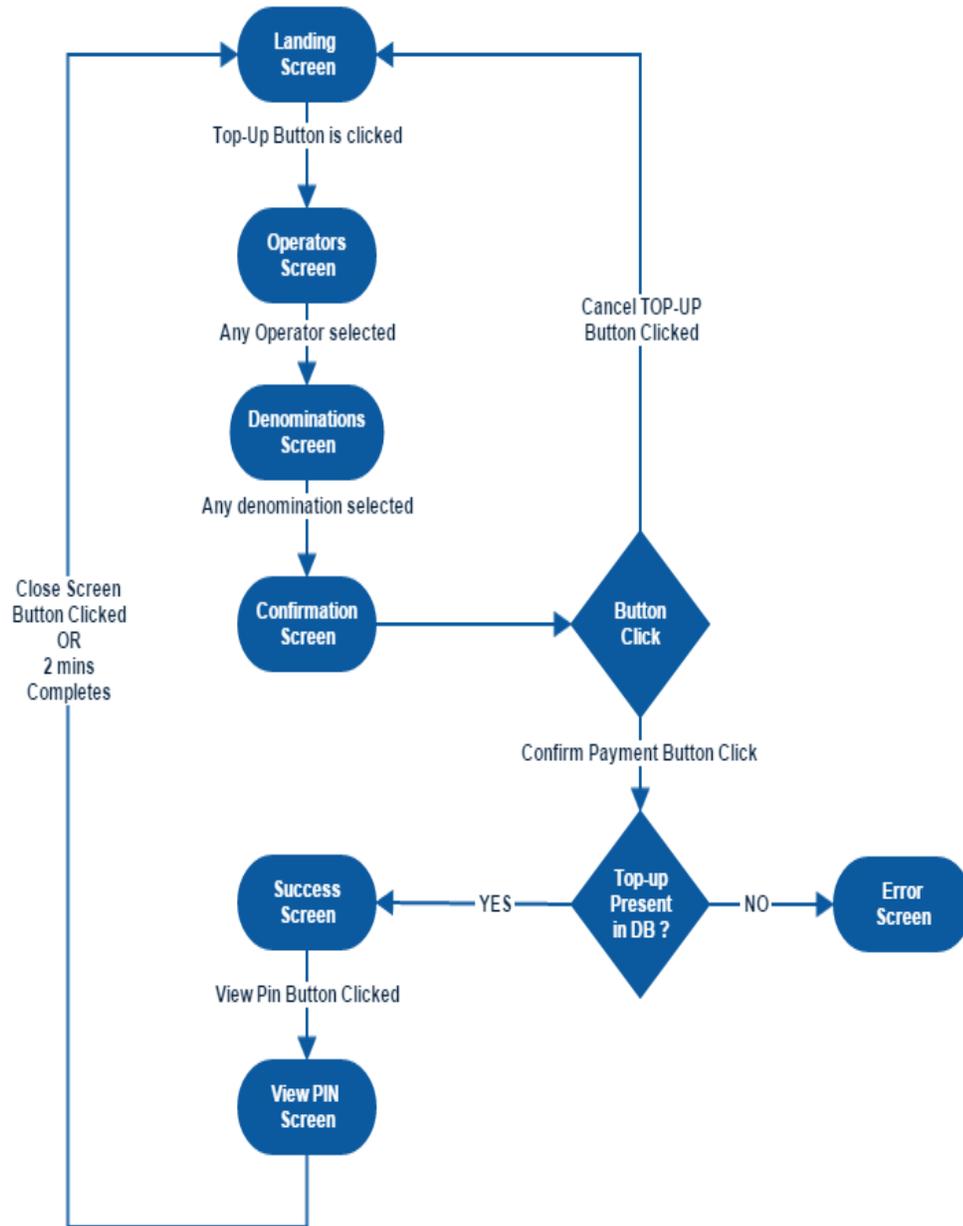
Architecture Design





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Data flow diagram





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Screenshots



Screen 1: Landing screen: This is the first screen which is shown to user when application is launched. This screen has an option to click on Top-up button to proceed to Operators i.e. next screen, and also has an option to change to local language



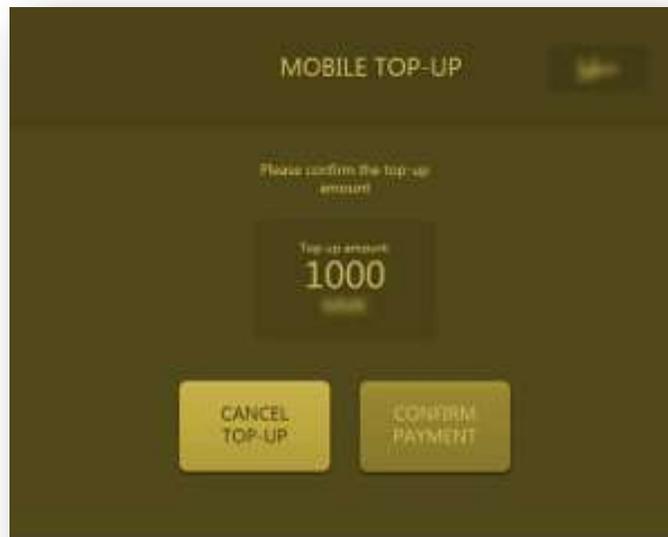
Screen 2: Operator screen: This screen shows list of all operators for which user can generate pin for Top-up. Clicking on any of the operators shown will take user to denominations screen which is the next screen.



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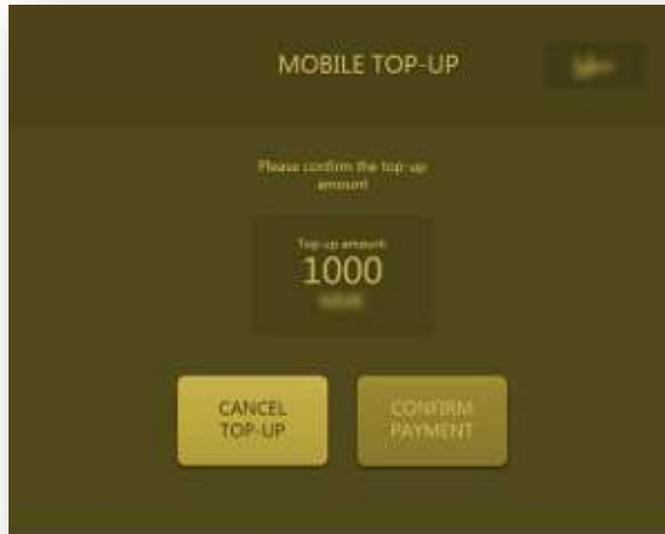
Screen 3: Denomination screen: On this screen, a user can select the amount for which he wants to generate a Top-up PIN. After selecting the denomination of choice, the user will be taken to confirmation screen to confirm the top-up or cancel it.



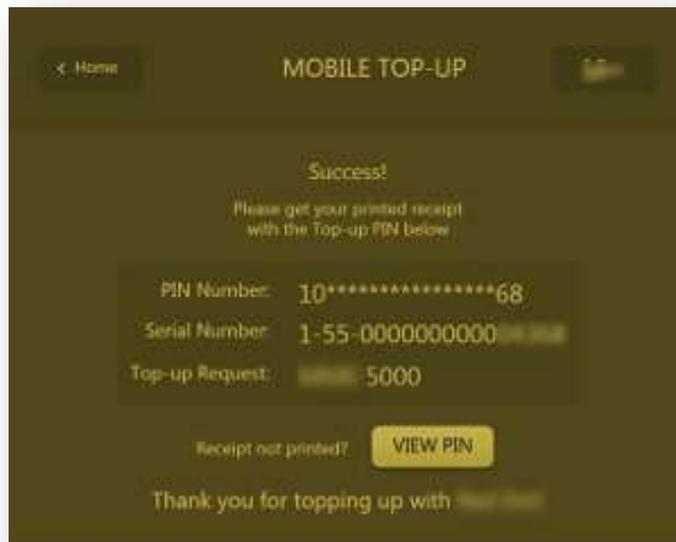
Screen 4: Confirmation screen: Here user can either confirm the Top-up amount or cancel the Top-up. If the User clicks on Cancel, he will be taken back to the Operator screen and if he confirms the top-up then he will be taken to next screen i.e. Insert Money Screen.



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Screen 5: Insert Money Screen: Here the user is required to insert the exact amount, corresponding to the denomination selected, into bill Acceptor in order to get Top-up PIN. After this, the user gets directed to Success Screen.



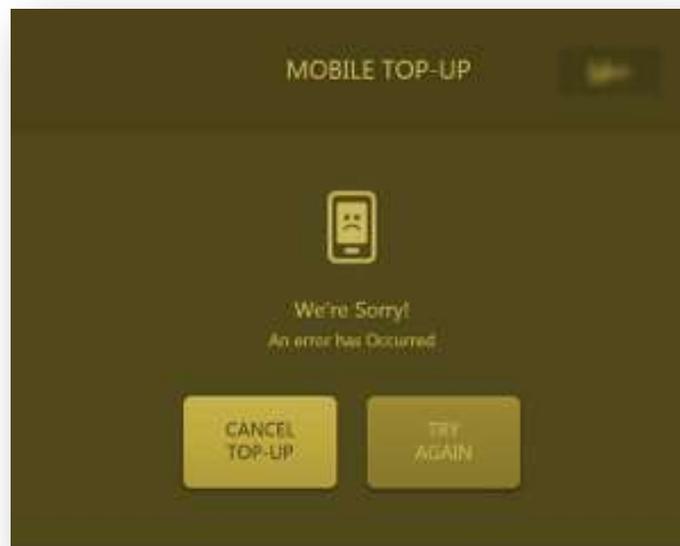
Screen 6: Success Screen: If a printer is attached and has enough paper than a receipt will be generated with PIN Code and PIN will be shown marked with '*' on screen. User will also be provided with an option of View PIN where he can view PIN on screen in case receipt is not printed.



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Screen 7: View PIN Screen: This screen shows PIN Number clearly on screen if the user clicks on View PIN button on Success screen. If user clicks on Close Screen button here then he will be taken to Operator's Screen. This screen is by default only active for 2 minutes, after that user will be automatically taken to the landing page.



Screen 8: Error Screen: In case there is no top-up pin for the selected operator and denomination in Database then the user will be taken to Error Screen after he can click on Confirm payment button in Confirmation screen.