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Winston Mobile App application
Software Architecture Proposal

October 2016, NS Web Development LLC, Novi Sad, Serbia

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Revision History

Version number	Change date	Changed by	Comments
1.0	26.10.2016	….	

References

Number	Document (version)	Created by

Application Overview

Winston mobile application purpose is to show consumer campaigns for JTI products. Consumers can collect rewards points by collecting codes imprinted on cigar boxes or by solving quizzes, questionary or participating in other marketing activities.

Once reward points are collected they can be used to redeem promotion vouches and collect different types of gifts or discounts.

New application will have backend web application for defining Campaign (with target audience), promotion codes and vouchers. Consumer data (and credential) will be integrated from existing JTI CRM.

Basic reporting about campaign performances and export to KA system will be part of application backend processing.

3rd party system will be used for push notification and segmenting the users for campaigns.

Project scope and modules

1. **LOGIN/REGISTRATION**
2. **PROMOTIONAL VOUCHERS/CAMPAIGNS**
3. **LOYALTY / CREDITS**
4. **REDEEMING VOUCHERS (PROMOTIONAL & LOYALTY)**
5. **VOUCHER HANDLING**
6. **REFUNDS TO KA'S**
7. **ANALYSING/TRACKING OF VOUCHERS**
8. **SHOP & HOSTESS FINDER**
9. **MESSAGE CENTER**
10. **ANALYTICS**

System Architecture

Architecture of JTI system follows web API architecture that is proven to be most scalable, secure and easy to implement and maintain mobile/web application

At the bottom of this architecture is database (in this case Microsoft SQL)

All business logic (user management, informations and profiles) are calculated at Web

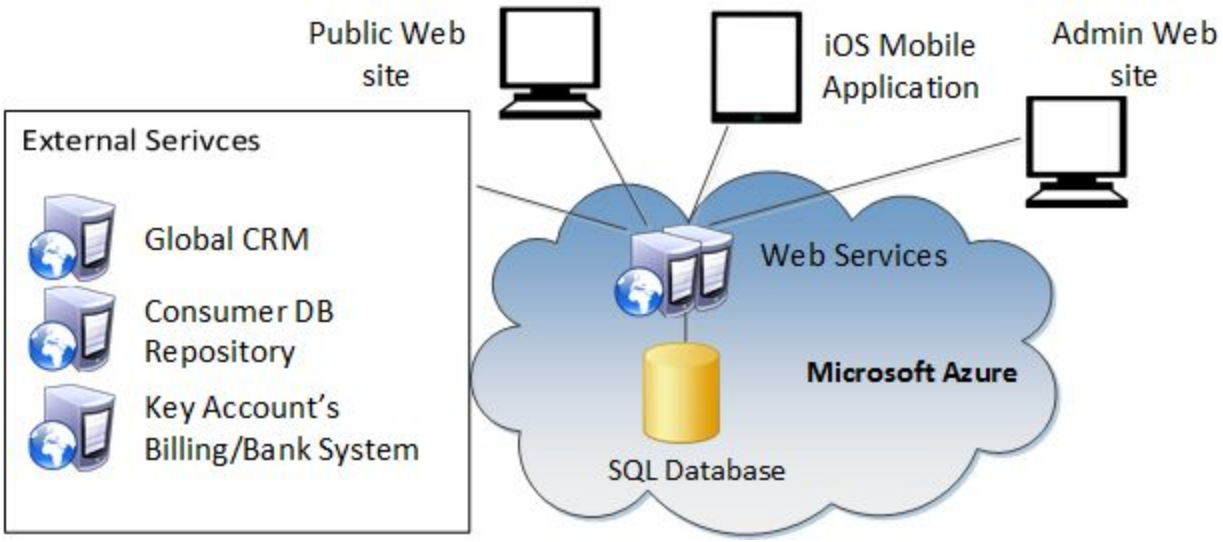
Service layer .

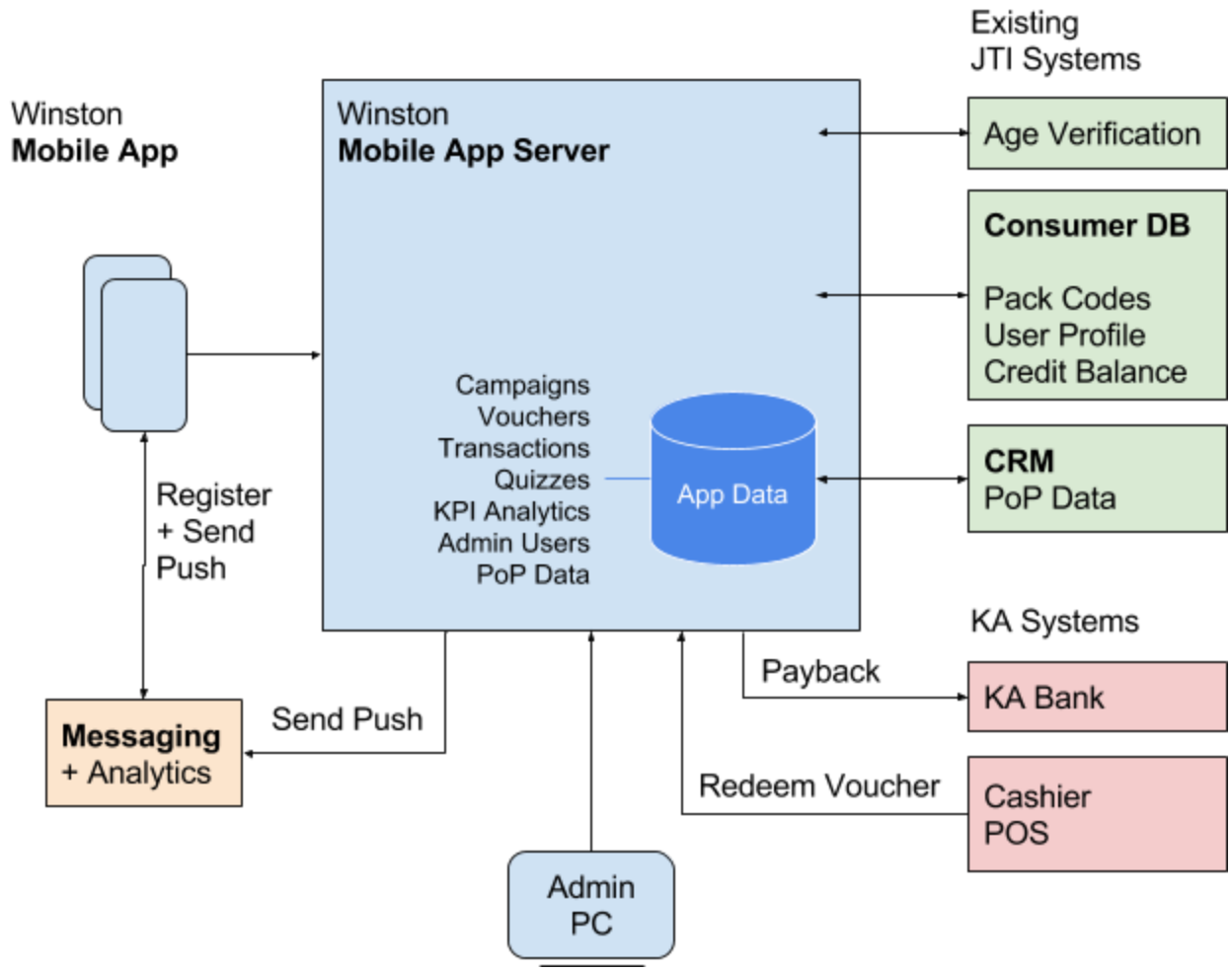
Three types of user facing application are also present

1. Public web site
2. Administration web site
3. iOS mobile application

Since external sources will integration web services will be developed for: Global CRM, Consumer DB Repository and Key Account's Billing/Bank System.

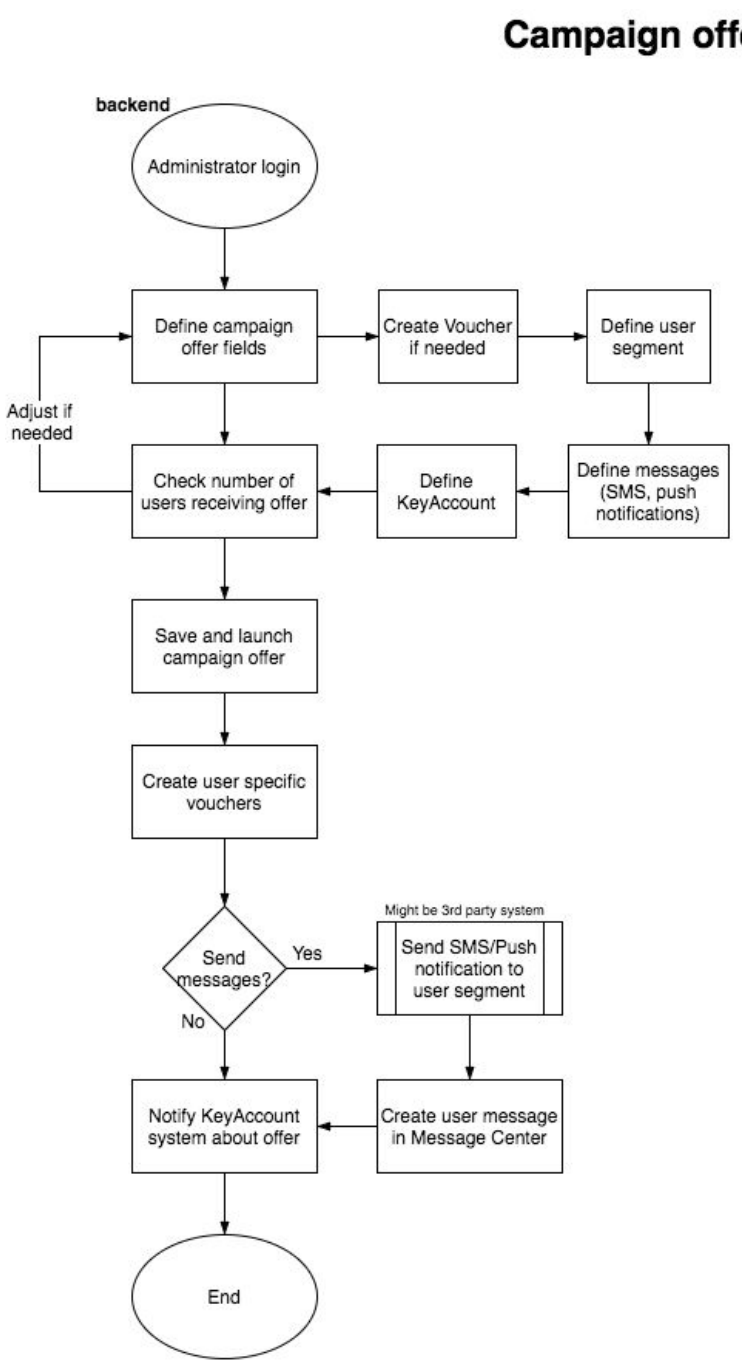
Picture 2. shows system architecture for Winston Mobile App





Use cases

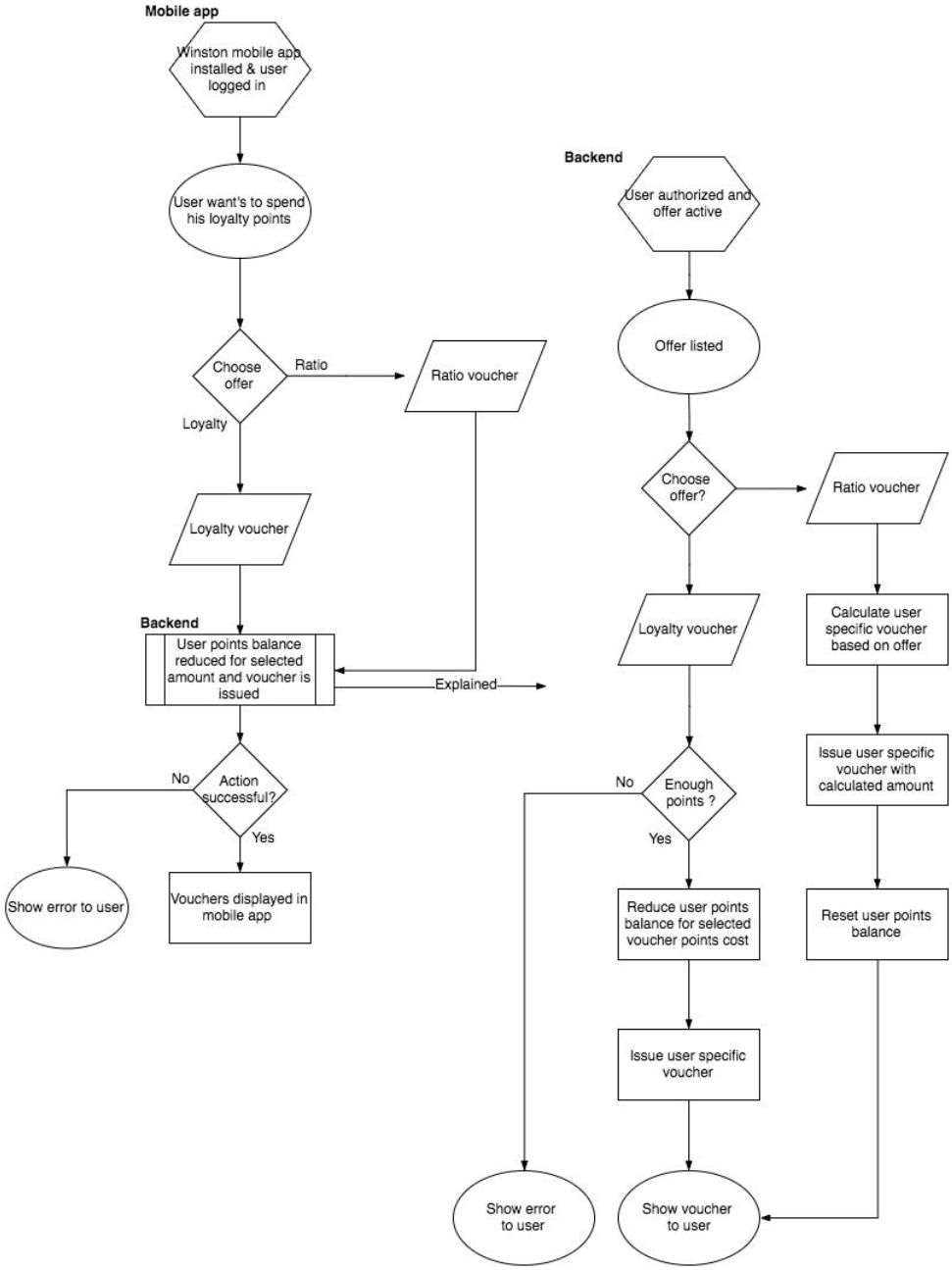
1. **Campaign Offer**



Picture 2. shows use case diagram for Campaign Offering

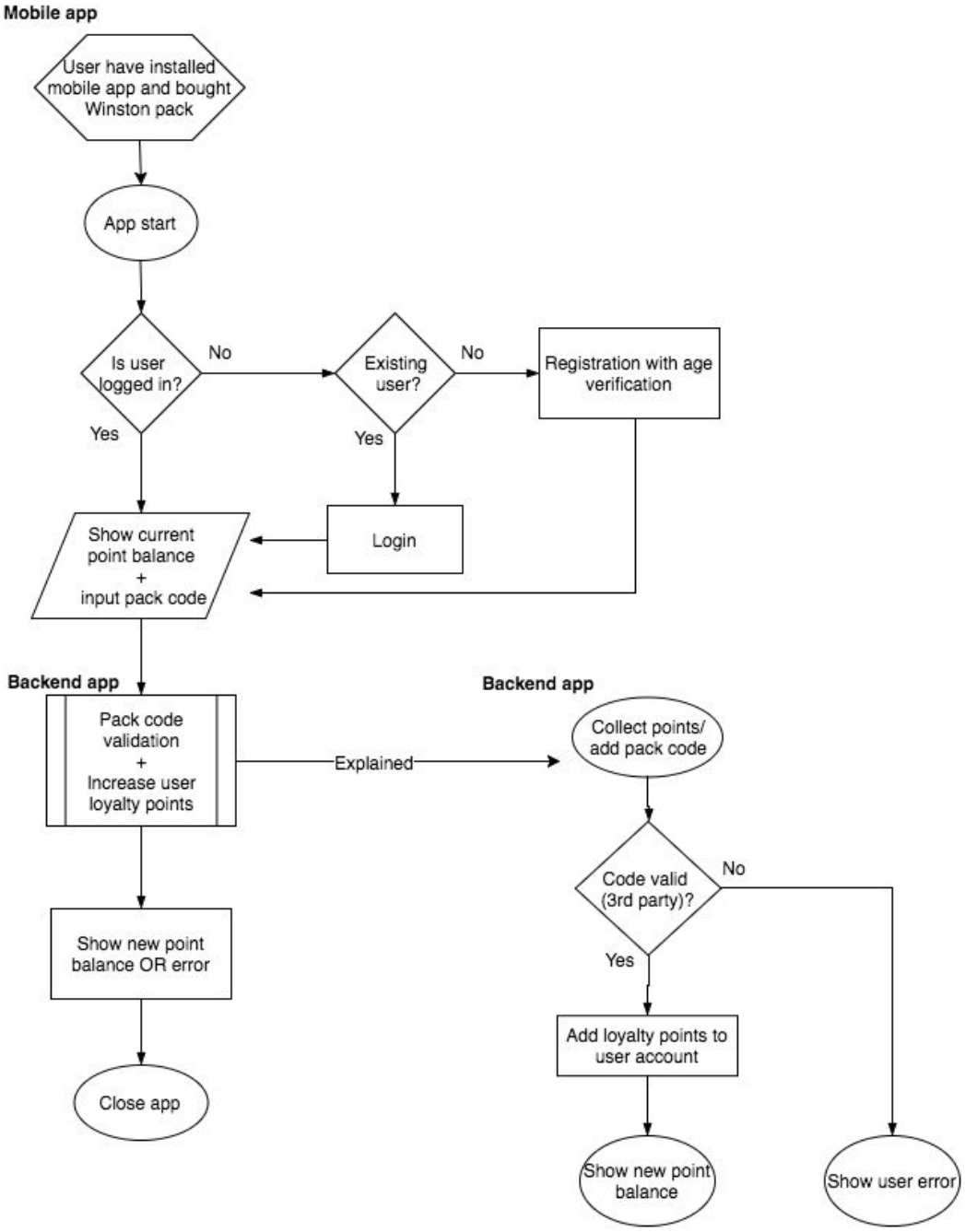
2.

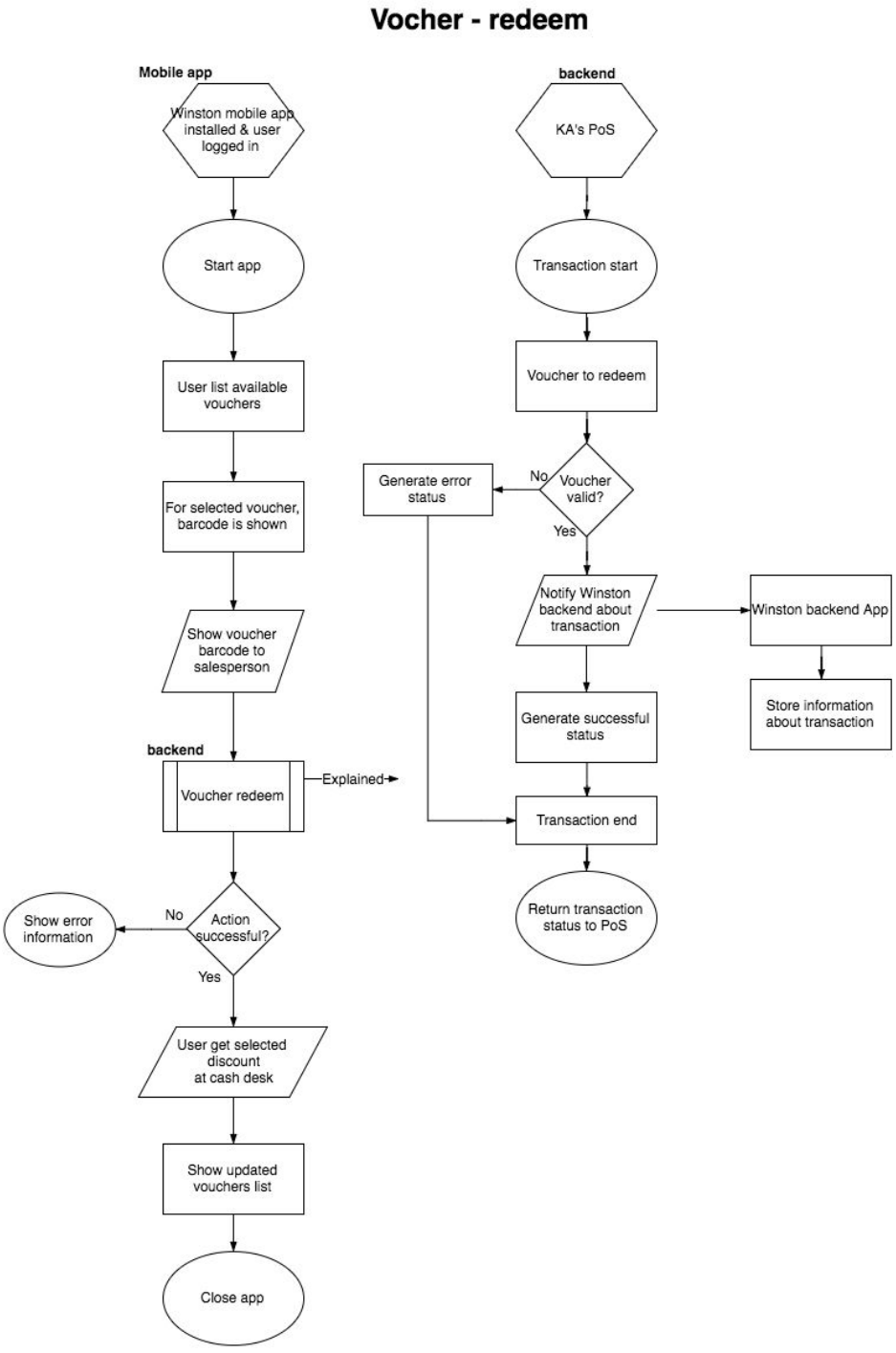
Spend points - loyalty & ratio voucher issuing



3.

Earn points - add pack code

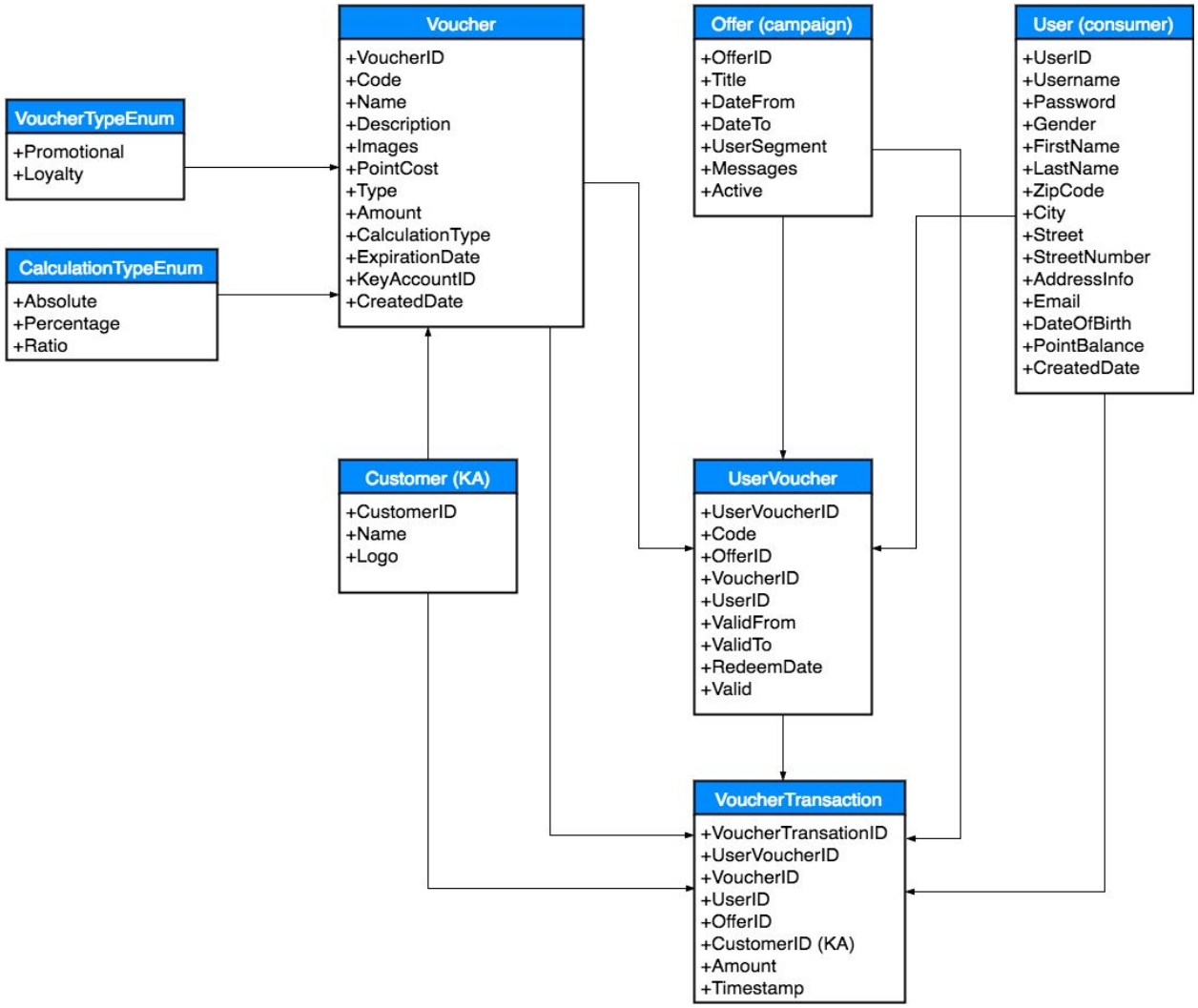



Vocher - redeem
Mobile app
Winston mobile app installed & user logged in
Start app
User list available vouchers
For selected voucher, barcode is shown
Show voucher barcode to salesperson
backend
Voucher redeem
Explained
No
Action successful?
Show error information
Yes
User get selected discount at cash desk
Show updated vouchers list
Close app
backend
KA's PoS
Transaction start
Voucher to redeem
No
Voucher valid?
Generate error status
Yes
Notify Winston backend about transaction
Winston backend App
Store information about transaction
Generate successful status
Transaction end
Return transaction status to PoS

4.

Database

Picture 3. Shows proposed database structure.



Proposed implementation is in Microsoft SQL server in Azure cloud.

Integrations with external systems

So far we have identified that JTI Mobile Application will have to use data from external sources.

1. JTI's Global CRM: Daily batch job to pull PoS data of all key accounts.

2. Consumer DB Repository:
   Real-time access to pack codes, user profiles and credit balances.
3. Key Account Cash Register (optional):
   Web Service to allow online-validation of personalized vouchers

We expect this integration to be based on web service architecture and JSON or XML exchange format.

User management

Application includes user login, register and forgot password. Form based authentication is provided for security, and “save credentials” function for automatic login. User can edit/update his/her basic data (DOB, Gender and Address) whenever internet connection is available.

Users will be managed in Administration web application. For now we see three different roles of users:

1. Consumer who will have read access to public data of the application and a right to add his/her promotion codes, comments, chats and posts
2. Data Entry users will edit content of the application (campaigns, news, information etc.)
3. Administrator will have rights to edit all data about users, integration with external systems, etc.

Technology stack and requirements

1. Microsoft SQL Database - hosted in Azure
2. Microsoft .Net Web Services - hosted in Azure
3. Microsoft MVC for Web application - hosted in Azure
4. iOS app is developed in Swift 3 with Xcode 8
5. Android app is developed in Java
6. Code repository - Bitbucket (provided by appculture)
7. Issue tracking tool - Jira (provided by appculture)

Requirements:

Software will support latest versions of iPhone

- Latest hardware version - iPhone6S/Plus, iPhone7/Plus,
- Latest software version - iOS 9.2.1