

DESMOND MENSAH - SOW  
**KEY FEATURES**

The focus of the first MVP phase of this project is to deliver an Android (biggest market share in UAE per <https://www.idc.com/getdoc.jsp?containerId=prCEMA41290816>) application:

1. Google Play published Android application with the flows:
  - a. User signup and login
  - b. First time visit and validation
  - c. Friends referral and redemption
  - d. Credit Redemption

**Terminology Used:**

1. Outlet: A single business or a single store location within a group of stores part of a single brand
2. Offer: Discount offered by the outlet. This will contain a code, short description of the offer (ex: 15% off birthday stuff), how much percentage to take off the bill, a custom thank you message, and how many credits user will earn for each redeemed shared offer. Offers are limited to specific outlets only.
3. Credit: Worth 1 AED and can be used to deduct from bill amount from the specific outlet that you earned the credit from.

**TECH STACK**

**User sign ups and login**

Required flow from client:

1. User enters their information
2. We validate user's mobile phone number via OTP method
3. We confirm user's email address with a confirmation email
4. User can login with their mobile/email and pin once one of email or phone # is validated
5. Validation of each new device via OTP method
6. Validation on profile changes

To most easily support this flow, we will use a 3rd party service ([www.auth0.com](http://www.auth0.com)) which provides built-in email confirmation, OTP generation, etc.

## Home Screen

On the home screen, the user can:

1. See their current credits available
2. Initiate their first time validation
3. Initiate a referral to their friends from their own redemptions
4. Redeem their current credits
5. See and search (and filters) a list of current offers available to them in the chosen city in UAE

This will require a backend database layer which records credits per user and offers available in each city as well as an API interface which serves this data over a secure channel. The database layer will likely be hosted on Google Cloud and API served via a Node.JS or Python app running in a Kubernetes container on Google Container Engine.

## First Visit and Bill Validation

Required flow from client:

1. User enters bill #, bill amount in AED, and member pin
2. Outlet rep enters pin and confirm bill #
3. On success, user is given a reference # which is system wide unique. Here, user can share referral
4. User is asked to rate the service "like" or "dislike".
  - a. Upon user selecting "like", user is informed of opportunity to refer the outlet to friends and family and earn for each successful referral. User enters review comments and shares the link via social channel.
  - b. Upon user selecting "dislike" a review box pops up to enter improvements required. User will not be asked to refer as he/she disliked the service. All such negative comments will be shared with the outlet.
5. User can enter a review that is private and shared to people referred
6. User is presented with a custom thank you message associated with the offer
7. User can share referral to earn credits if they like the service

## Sharing referrals between friends

Required flow from client:

1. User can share referral via a link through any social channel and contact(s) natively available on user's device (ex: Facebook, WhatsApp etc.)
2. User's friend (could be someone else if social channel is public) clicks on referral link

- a. If friend's device has app already installed, app will open and add the referral. This assumes we can use Firebase or build this functionality ourselves.
  - b. If friend's device does not have app installed, it will open the Google Play store for the friend to install the app and then open the app. Note: this is limited by user's security and default app settings.
3. User's friend can then redeem the referral and upon redemption the user will receive credits assuming they have not already received/redeemed this same offer

This will require the use of Firebase Dynamic Links, a custom service to generate unique non-repeating numbers, and a database layer which records all referrals and redemptions. \*link contains a unique code to demonstrate that the offer has already been redeemed the reward at that outlet within a year.

### **Chat capability\* (outstanding questions). We should use chat SDK now 18/7/17. Open**

Connected users on the mobile app can chat with each other and send text, photo and video messages. This will not support read indicators or group messaging. When sharing referrals, you can pick multiple people.

Users will be matched up based on referrals and invite by a social channel. This only works if the other user accepts.

Rules will be written to discard old message to save on costs.

Admins will be able to create a support account.

Outlets can contact users during reservations.

### **My Profile**

Profile view and edit.

### **Referral Redemption**

Same as bill validation except with option to apply offer discount.

### **Credit Redemption**

Same as bill validation except with option to apply credit deduction.

Popup on home screen to view credits by category and outlet.

### **Offer Redemption**

Same as bill validation exception with option to change quantity and items. \*

## **Menu and other screens**

Left hand expand menu will include links to:

1. FAQs -- include client provided FAQs. Each FAQ would be a short question sentence and a short paragraph answer at most. (32 FAQs)
2. How this works -- Simple HTML content
3. About us -- Simple HTML content
4. Social Media links
5. Share my app
6. Feedback
  - a. Send email to a specified email address

## **Outlet Profile**

- Offers
- About
- Menu
- Reservations
- Reviews/Likes

## **Settings**

- Pin Reset
- Terms of Use
- Privacy Policy
- Cookies Policy
- Suggest an Outlet
  - Feed into admin website
- Customer Support
  - Email

## **Push notifications**

Not sure what type of events and how many notification types there will be.

## **Public Reviews**

When you go to outlet profile. All reviews should go to the outlet but positive reviews get published. Published reviews will get moderated from admin website. Negative reviews are only sent to the outlet.

## Reservations

A very simple flow can be created for the MVP with advanced features coming later.

1. User submits reservation request containing
  - a. Outlet location
  - b. Number of people in party
  - c. Date/time - reservation start
2. User can see a list of their reservations in mobile app with status (unconfirmed, confirmed, declined)
3. Vendor can see a list of incoming reservations and status
4. Vendor can mark status as confirmed or declined
5. User will receive email on status change

## AWS vs Firebase

1. AWS has more functionality in general
2. Firebase is a more dedicated mobile backend provider
3. AWS does not have dynamic links so if we go with AWS we will have to build that functionality ourselves
4. Firebase will not work for countries where Google Play store is not used or Iran, Cuba, North Korea, China, Syria and Crimea

## Overall Backend Summary

- Native Android application. React Native is not recommended:
  - Project setup cost is higher due to lack of tooling
  - Market rate is higher
  - Cost savings will only be down the road
  - React Native support for Windows phones adds yet one more layer and has maintenance costs down the road and only supports Universal Windows Platform supported devices
- Node.JS/Python/etc. based website backend hosted on Google Container Engine (Kubernetes load-balanced container)
- Notifications: Depends on AWS vs Firebase
- Website frontend determined post design delivery
- Database hosted on Google Cloud

## ASSUMPTIONS

1. Client will provide all designs and assets before development starts
2. The mobile application will be English only at first but open to other languages in the future and supported via Google Play store only

3. The mobile application will only support Android phones running Android 5.0 or later (iPhone 2 years ago)
4. The web application will be english only at first but open to other languages in the future
5. The web application will only support the latest versions of Chrome and Firefox and IE browsers
6. Any additional items not included in this proposal would require a supplemental SOW
7. The web and mobile applications will only support local currency AED but open to other currencies in the future

#### **Not currently scoped out**

1. Windows platform support
2. Pay online flows. We spent time with a few payment vendors (Paypal, Venmo, Braintree, Stripe) to discuss this functionality but neither vendor supports any Gulf countries yet. We do not need split payments. Need to look at the ones Desmond sent out:
  - a. Checkout - <https://www.checkout.com/#credit-cards>
    - i. Does not support startups anymore
  - b. Telr - <https://telr.com/english/pricing/payment-gateway-pricing-plans.php>
  - c. Network International -- no developer information on website
  - d. Payfort
3. My Profile
  - a. Saved cards
4. Tablet designs not scoped \*Will scale UI as best as we can to larger tablet sizes
  - a. Portrait mode only
5. Vendor Website - Notifications: need to know how many and which events will trigger notifications
6. Mobile App: Dashboard (just need designs - scoped in price already. Designs now available)
7. Specific reports in vendor website (designs for it)