Final Project Report

Under the Guidance of Dr Chen

Project URL: http://vishal-shah.me/party-safe/
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INTRODUCTION

Party Safe! is a web and mobile application created to cater to people who like consuming alcohol, and going out to clubs and like places for partying and drinking. The application also assists people in reaching back home safely after a late night party, by providing a ‘Safe Route’ feature.

The idea was born while thinking out about a typical party evening and addressing all needs of an individual for that entire evening. Our application kicks in from the moment a person starts to plan or think about consuming alcohol or partying, assists him throughout the evening in finding the right drinks, places to party, user ratings of all those drinks and places and much more. The application also assists people in reaching back home safely after a late night party, by providing a ‘Safe Route’ feature. Hence, based on the combination of features that encompass helping people party, consume the best of alcoholic drinks and then help them reach back their places safely, we named our application ‘Party Safe!’.

Here are the screen shots of homepages of our mobile and web applications, just to get an idea of the look and feel of our application.

Party Safe! Mobile Application

Party Safe! Website

Party Safe! Version 2.0 is a bundle of features that can find great utility with the age group 18-35 year olds. This business prototype proposes to make money via multiple channels that are discussed in detail in the later parts of this report. To give a brief overview, we see great potential in using this application for making money via user data licensing. Having affiliate marketing accounts, premium user accounts, advertisements, selling coupons, and drawing commissions on features like cab and chauffeur services are other minor sources of revenue.
SYSTEM OBJECTIVES

Party Safe! has the following objectives. The implementation of these objectives is also described:

**Cocktail Recipes**
Party Safe! Currently includes about a 1000 cocktails and their recipes for making drinks with various ingredients like vodka, rum, tequila etc. One can search our collection by using a cocktail name or by ingredients.

**Is My Drink Vegan?**
All recipes on our website indicate whether the drink uses vegan or non-vegan ingredients.

**Party Places around Me**
This feature helps a user track himself and search for pubs, bars, liquor stores etc. around him. The user can also search by any other location. All the places get displayed on a map, along with directions.

**Bar/Pub Ratings**
The app provides combined ratings from Yelp, Google Places and Foursquare for all the party places. The application also provides ratings for cocktail recipes.

**Safe Route**
The safe route feature uses crime statistics data provided by the Pima County Police Department of Tucson, and guides user about the safe routes between two places.

**Analytics**
Sophisticated analytics has been used to present graphical analysis of bar/restaurant ratings, best features, offerings, services offered by party places in Tucson. This is a prototype, and therefore, currently, our analytics is limited to Tucson only. Similarly, the Safe Route feature is currently for Tucson only.

**Buying Party Accessories**
We offer suggestions for buying party accessories, such as barware, by using Amazon API in our application.

**Share with Friends**
This feature allows one to share their experiences, their favourite drinks and recipes with friends.

MARKET LANDSCAPE AND OUR NOVELTY

We strongly believe our application has novelty because currently in market there is no single application providing logical features required to PARTY-SAFE in single app. There are different applications for different features.

Our application has the potential of 3-4 applications with the current development (made for demo 2.0)
<table>
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<tr>
<th>FEATURES</th>
<th>DrinksMixer, Yummly</th>
<th>Yelp, Foursquare</th>
<th>Cocktail DB</th>
<th>Amazon</th>
<th>Barnivore</th>
<th>Android Safe Route</th>
<th>Party Safe!</th>
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</tbody>
</table>

**SYSTEM DESIGNS:**

- User Interface
- Party Safe! Application
- Backend
- Apache Webserver
- MySQL Database
- APIs
- Mashups
- Crawlers
- Analytics
APIS/CRAWLING/MASHUPS AND ITS FEATURES:

Crawling

- DrinksMixer
- Foursquare
- GooglePlus Pages

APIs

- Foursquare
- Barnivore API (Vegan / Non Vegan)
- Amazon API (Ecommerce)
- Social Sharing
- Google Places Autocomplete
- Google Places API
- Google Geocoding
- Google Map Engine: Mashup
- Repustate API

SENTIMENT ANALYSIS ARCHITECTURE:

Yelp, FourSquare, Google Plus

Crawled Data

Sentiment

MySQL Database

Cleaning and Splitting

Drink Dictionary

Classification

Fig: Drink Sentiment Analysis Architecture
As highlighted in the Architecture, our sentiment analysis and visualization involved a number of steps including but not limited to:

**Crawling**: the web for thousands of user comments and storing the data in our MySQL database.

**Cleaning**: the comments by removing stop words and segregating based on sentences

**Drinks Dictionary**: We analysed various drink websites and created our list of over 5000 cocktails and their classification based on their prime ingredient for example vodka, whisky, Wine etc.

**Sentiment Analysis**: We passed each processed user comment against a specified inbuilt English dictionary through the Repustate and Semantria API’s to obtain a sentiment score per comment which we then stored back in the database.

**Reports**: We finally used this processed data to make sense to our business case. A case of both from the Users perspective as well as for Business Owners perspective.

**Screenshot 1: Users perspective**

A potential use case for our application from a user standpoint is the ability to pick and choose any attribute or combination of attributes relevant to him/ her.

For example person A may be interested in a Bar with good service and the best wines in town. No problem, a query is run and it tells me the best places I can go in Tucson for the best Wine and service.
From the restaurant owners perspective it is of prime importance to understand what kind of campaigns they can use to target specific users.

The restaurant can run a query on which users had highest positive sentiment about let’s say “Whiskey”. The classification gives me a list of top 5 users with positive sentiments about the drink and therefore the restaurant owners can target them for their Whiskey based menu offers.

**BUSINESS MODEL:**

- Selling User Data
  - Selling to Pubs/Bars
  - Selling to Ad-servers
- Better Services
- Coupons/Deals
- User-Specific Ads

**Fig: Primary Revenue Source**
On the whole, the business model for this app can be divided as:

1. **Primary Revenue Source**
   The primary business model is to lease the data of user likes, preferences and reviews as collected / processed by the application to pubs / bars which helps them identify their strong and weak areas so as to better serve the customers. The same data can also be leased to ad-servers for various websites like Facebook which helps them provide users with targeted advertisements which have more impact and drive sales.

2. **Secondary Revenue Source**
   Other key areas which can generate revenue are as follows:
   - **Affiliate Marketing:** The Amazon API is linked to our affiliate account which will generate revenue when users purchase Amazon products displayed on our website.
   - **Sponsored Ads:** Strategically placed ad spaces within the website showcase sponsored ads of our clients.
   - **Cab Service:** Cab and Chauffer services orders placed through the app will be another source of income.
   - **Coupons:** Clients (pub/bar owners) will have an administrator login using which they can upload coupons/offers and events. These coupons will only be for the app users and can be used by showing it on the app.
   - **Premium Accounts:** Custom research and analysis can be done for Premium Account holders (Clients).

**SAMPLE OF OUR PROJECT**

This is the cocktails tab of website. Here user have an option to either search by cocktail or Ingredient. He can use random English words like ‘night’ or ‘1800’ etc. for search and each cocktail containing that word displays as shown in next figure.
Also, on the right side it shows Cab services and Chauffeurs, if we use this as mobile application is dials the number taking me to dialling screen.

So searching by random word like ‘1800’ gives me above output. I can click on any of ‘Drink Info’ button and it takes gives me further specific details related to that drink. Suppose I click on ‘Drink Info’ against ‘1800 Agave Nectar Squeeze’ it gives me next screen:

Above screen display the ingredients in detail for selected drink. Against each ingredient it has box indicators of either green, white or yellow colour showing if it is Vegan friendly, has some vegan options for Not Applicable for few ingredients like lime juice, cubes of ice. This indicators are visible on mouse hoover as shown in 3 small screenshots (above right). Also for each drink it recommends me top 3 suitable barware for that selected drink. If I clink on ‘Buy Here’ It takes me to Amazon website where I can buy the barware.
Suppose, after having cocktail at home. I want to go out to some Bar, Night Club or Liquor Store. I can go to ‘NIGHTLIFE’ tab which shows me below option with places available option on right.

I can drag the map and the marker points get adjusted accordingly, shows me places to explore in that area of map.

Now If I hit on ‘Track Me’ It asks me permission to use current location of my laptop or mobile, and tracks my current location which takes me to next screen.
So in above screen I can see Bars/Night Clubs/Liquor Stores according to my current location. I can click on any of the markers and if I click on it, it takes me to next screen which shows the Address, contact details and Review rating for Yelp, Google Plus and Foursquare at one place. If I hit ‘Get Directions’ it takes me to map which helps me get the destination and back home safe. How? Let’s see it further.
In the above figure, the red markers are the crime data points collected from PIMA county sheriff website which we plotted Custom google maps API using Google Custom MAPs engine (Lite). Let us check this option in full screen.

So according to source and destination which is editable, it shows me the path and shows me the red markers which are crime data points. This helps me to know if there is any crime happened on the path that I am travelling. I can click on any marker too see more details about that crime data. As seen in above figure, clicking on one of the data point shows me The Date on which the crime occurred, type of Assault. This data on app can help me decide the route to travel. At times it can also help me decide to take a cab over walk.
ROADMAP AHEAD:

1. Expand on Analytics considering more Parameters for Analysis
2. Use Social Media information to provide customized recommendation for each user
3. Implement an emergency button which on clicking will send an IVR based call to the user’s primary contact and send automated text message to 2 secondary contacts

ROLES AND CONTRIBUTIONS OF EACH TEAM MEMBER:

**Gayatri Patankar (System Analyst)**
- Implementation of Amazon API
- Extracted crime data points from PIMA county sheriff department
- Implemented Saferoute by mapping the crime data points on google maps API using Google Custom MAPs engine(Lite)
- Worked on classification of user comments in different categories like rum, vodka, beer, tequila etc

**Richa Kharbanda (Business Analyst)**
- Designing business model, project proposal and presentations
- Integration of Geocode API, Google Places API and Google Autocomplete API for searching bars/restaurants/pubs by location
- Integration of Foursquare API for dynamic content from Foursquare
- Crawling Foursquare for data on ratings for places

**Subaya Codanda (Data Analyst)**
- Analyse what data to fetch for proper implementation of all modules within project
- Responsible for content, scripts on website, report and presentation
- Participated for User Interface Design
- Did NLP for the user inputs collected through Foursquare, google review API

**Vishal Shah (Project Manager)**
- Full stack development and integration of all functionality within the system
- Web crawling to fetch data of cocktails (cocktail names and ingredients of each) and the Google reviews
- Passing each of the ingredients through Barnivore API to know if it is Vegan or not
- Using Google’s geolocation API to detect current user location and incorporating it with the Google Places API
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- Amazon API sample from Github - https://github.com/minddog/amazon-api