

# **Project Proposal**

**Beat Me**

CS 157A - TEAM 1  
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**Sep 6, 2019**

**CS 157A - [Section 01]**

## 1. Project Overview

### 1.1. Background

- The number of e-commerce shoppers is growing every year. Often, they are having a difficult time to find the best price for what they are looking for. For example, on Amazon Prime Day, Because lots of products are on sale at the same time, the shopper may have a hard time to figure out which products provide the best price. Also, the price of the product is constantly changing and the list of the item looks very similar.

### 1.2 Customer or Market Needs

- According to *Figure 1.* by Statista, the number of e-commerce shoppers in the United States is growing. Therefore, the online deal tracker would help them to find the best price for the product. Currently, there is a website called *Camel/Camel/Camel* which helps the online shopper to keep track of the item price, yet it is only for Amazon. *Beat Me* will keep track of the item price over verified online retailers so that the shopper would have more chance to find the best value for what they are looking for.

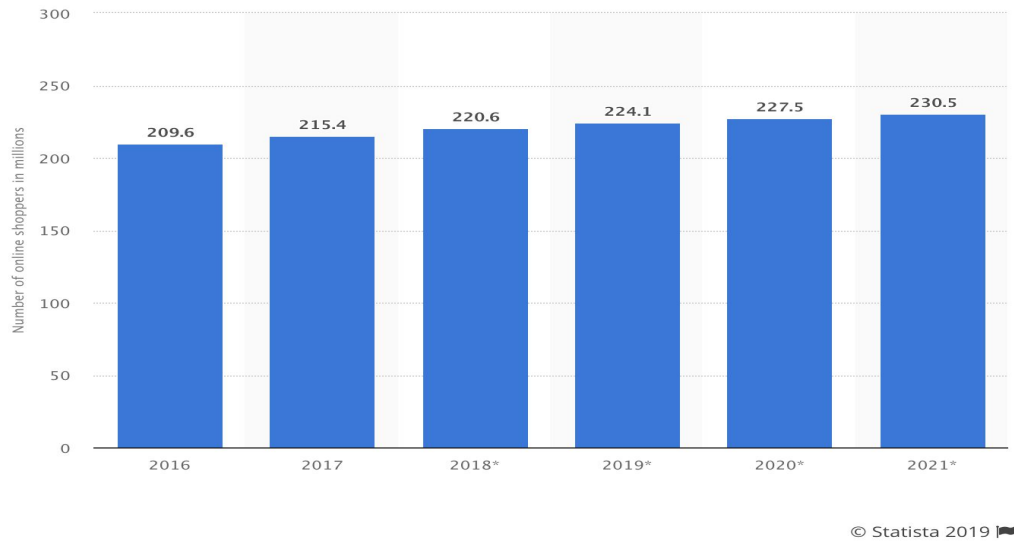


Figure 1. Number of digital shoppers in the United States from 2016 to 2021 (in millions)

## 1.3 Stakeholder Profile

### 1.3.1 Clients

- Anyone can use *Beat Me* to find the best price on the online retailer's website. *Beat Me* will guarantee the user's convenience because *Beat Me* will notify the user when the price cheaper than usual so that the user does not need to keep check the price of the product.

### 1.3.2 Investors

- The small online retailer could have more benefits than big online retailers such as Amazon or eBay because *Beat Me* will provide advertising effects.

## 2. System Environment

### 2.1 A Structure Diagram of The System

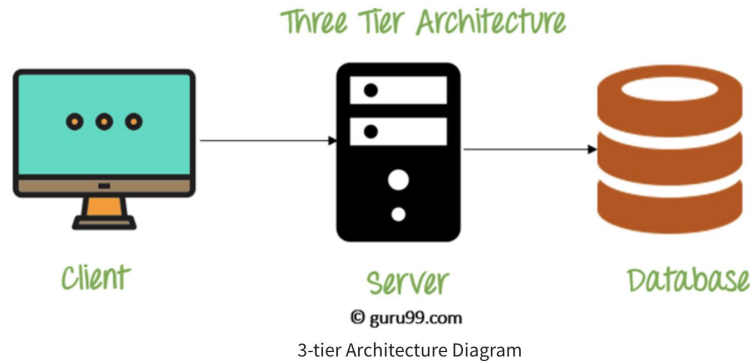


Figure 2. 3-Tier Architecture

### 2.2 System Requirement

- Front-end(Client): React JS, HTML, CSS, Javascript
- Back-end: Flask, Python
- Server: Apache(Xampp)
- Database (RDBMS - Database): MySQL
- Software: Git, Github, Taiga, Google Drive.

## 3. Functional requirement

### 3.1 Performance

- To using a Smartphone or PC, the client can access the *Beat Me* website and perform price tracking on certain products.

### **3.2 Functionality/Features**

- Supports popular retail sites such as Amazon, Bestbuy, Walmart, etc by using their provided API or web crawling.
- Allow users to track the price of a specific product on a supported retailer site.
- Notifies users through email when the price of a product drops below the user's desired price.

## **4. Non-Functional issues**

### **4.1 Security**

- The user's login information will be stored as hashed and salted in the database. This mechanism could prevent hacking and protect private information.
- *Beat Me* website will implement with the SQL injection prevention method.

## REFERENCES

DBMS Architecture: 1-Tier, 2-Tier & 3-Tier. Retrieved from

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