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REQUEST FOR PROPOSALS

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Hello Professor Murgolo,

We are Team SharkBytes of California State University, Long Beach. We hope to create a seamless and time efficient POS system that creates a better experience for restaurants and guests. To accomplish this task, we are setting out to build a mobile app that will be known as *Dine n' Dash* that will be compatible on both iOS and Android devices upon its initial launch. Our application will allow for the users to check in to restaurants, view and order from the menu, check the status of their order, and check out by paying through the app meanwhile the server/bartender will be able to submit and take orders through the same application and send it over to the kitchen to begin the order. This idea came to mind because we believe everything works smoother when everyone is on the same page so why not incorporate this methodology in the food industry. To execute this, we need our application to have two different account types, personal (guests) and business (restaurant employees). This app will also require constant maintenance to take care of bugs, protect security, and accommodate the ever changing environment of the restaurant industry.

These are our requirements:

BUSINESS REQUIREMENTS:

1. Features that we will need for users experience on the Mobile Application:
    a. Account Management:
        i. Create Account: Users are required to create an account to utilize this application. A distinct email is needed to create a users profile.
            1. General Profile Information includes:
                a. Full Name
                b. Age
                c. Date of Birth
                d. Address
                e. E-Mail
            2. Firebase - Google Authentication: Users are given the option to skip the registration process by signing into Google accounts to automatically input their information into the Applications database.
        ii. Edit Account: Users should have the option to change their login information.
            1. Password Change
            2. Name Change

iii. Payment Information: Before utilizing the feature to pay for the tab, customers must include payment information to verify with the application to deal with invalid card number/fraud.
    1. Credit Card Information
        a. Name on the Card
        b. Card Number
        c. Expiration Date
        d. Security code

b. User's Tab Management: Users are allowed to view their current tab and have the features to pay for the tab by themselves or split with other users connected to the tab.
    i. Users are able to connect to their current tab of the restaurant by checking into the table number/seat number using the following below.
        1. QR Code Check In or Code Check In
    ii. General Tab Management Includes:
        1. Viewing Current Tab
            a. Users are able to view their ongoing tab in real time as they're dining in the restaurant.
        2. Checkout
            a. Users are able to pay for the tab with their choice of payment methods, including opting to pay in person.
                i. Users are able to use an in person checkout that calls the server for a checkout.
            b. Each Guest will be given the option on whether or not they want to include gratituity. 15% Gratuity will be charged automatically if the party size is 6 or more.
                i. 15 %
                ii. 18 %
                iii. 20 %
                iv. Custom
            c. Users are able to leave comments for the Server/Bartender.

2. Features that we will need for Restaurant's Users Experience:
    a. Restaurant Management:
        i. Create Restaurant/Bar: Restaurant/Bar owners can register their establishment within the application. *Dine n' Dash* support team will verify the business for approval.
            1. General Restaurant/Bar Information Includes:
                a. Restaurant/Bar Owner

b. Restaurant/Bar Establishment Name
c. Restaurant/Bar Full Address
d. Restaurant/Bar Phone Number
e. Restaurant/Bar Type
f. Restaurant/Bar License

2. When verified with *Dine n' Dash* support team, owners of the establishment are granted full authorization to create menus, register employees, and much more.
    a. Create Menu
        i. When management adds a menu item, it will show on the Users view as well.
    b. Add Employees
        i. Owners can register Employees into the applications database to allow certain authorizations in the POS.
            1. Managers
                a. Full Authorization - Ability to customize menu and be given full access to utilize the entire POS.
            2. Leader
                a. Partial Authorization - Given full access to utilize the entire POS.
            3. Chefs
                a. Partial Authorization - Given full access to utilize the entire POS.
                b. They are able to update food items on their progress.
            4. Servers
                a. No Authorization - Only able to punch in orders to the kitchen and view food status.
            5. Bartenders
                a. No Authorization - Only able to punch in orders to the kitchen and view food status.

ii. Restaurant Tab Management: Employees that are registered into the Applications database are able to view features of the POS system. The left side of the screen is the POS buttons and the right side of the screen is the tab.

1. POS Buttons
    a. New Check
        i. Create a new check for table/seat number.
    b. New Check by Proxy
        i. Create a new check for a different employee.
    c. Recall Check
        i. Modify open checks.
    d. Recall Check by Proxy
        i. Modify open check for a different employee.
    e. Input Table/Seat Number
        i. Change Party Size
        ii. Change Seat Number
        iii. Change Table Number
    f. Employees of the establishment are able to punch in orders into the POS system which allows the kitchen to make the food for the guest. As well as allow users to see their ongoing tab in real time. **Disclaimer:** Appetizers, Beverages, Dessert, Entrees, Alcohol are varied by establishment.
        i. Appetizers
        ii. Beverages
        iii. Dessert
        iv. Entrees
        v. Sides
        vi. Beer
        vii. Wine
        viii. Modifications
        ix. Special Instruction
        x. Send To Kitchen
    g. Payment Transaction
        i. Check Balance
        ii. Balance Print
        iii. Credit Card Transaction
        iv. Cash Transaction
        v. Split Check
        vi. Finalize Check
    h. Manager Authorization Buttons
        i. Create/Edit New Menu Item
        ii. Create New Allergy

iii. Input/Remove Employees
iv. Discounts
v. Complimentary Item
vi. Void Item

3. Other considerations:
    a. Admin Access:
        i. Only specific users will have access to administrative buttons on the POS system and the main admin will grant specific employees certain proxy authorizations.
    b. Required Data for the System:
        i. User: E-Mail, Password
4. Future considerations:
    a. BAC Level Calculations: Refer to Appendix (1) for further explanation.
    b. Mobile Ordering: Refer to Appendix (2) for further explanation.
    c. Food Update: Refer to Appendix (3) for further explanation.
    d. Birds Eye View: Refer to Appendix (4) for further explanation.
    e. Apple Pay/Google Pay: Refer to Appendix (5) for further explanation.
    f. Proximity Checker: Refer to Appendix (6) for further explanation.
    g. Extra Features for Tab Management: Refer to Appendix (7) for further explanation.

SOFTWARE REQUIREMENTS:

1. Mobile Application:
    a. This app will be utilized on mobile devices and tablets. The app will be cross platform therefore be compatible with Android and iOS.
2. User Interface:
    a. There are no requirements for the user interface. Our goal for this is to keep it simple, intuitive, and appealing so the user may have ease of access throughout the app.
    b. WCAG Standards: Our optimal goal is to satisfy and allow our customers to be able to intuitively utilize their time efficiently, while still following WCAG standards for mobile applications.
3. Reliability:
    a. The app will provide users with real time information such that customers, servers, and the kitchen staff will be accessing the same information simultaneously.
    b. Application should be accessible at all times for all parties involved.
    c. Application will be dependent on location, camera, and internet in order to properly function as it should.

    d. Updates and maintenance will only be done in the hours in which restaurants are not typically open.
4. User Authentication:
    a. Users will be able to make their own account and be allowed to utilize FireBase for Google sign in
5. Connectivity:
    a. A device needs an ongoing internet and GPS connection to be able to use select features within the app.
6. Security:
    a. Our software should protect user's private information such as storing billing address, credit card information, and location data collected over time.

HARDWARE REQUIREMENTS:

1. Data Storage:
    a. All personal user information should be stored in server-side database.
    b. Additional data should be stored in server-side database.
    c. A certain required amount of memory is required for download.
2. Server: All of the users information will be provided in made accessible through FireBase for Google Authentication.
3. Compatibility: The application will be suitable for both mobile operating systems such as Android & iOS devices after initial launch. A web application may arrive in the future for our clients on computers.

SUPPORT:

1. Maintenance and Upgrades: The project will be maintained to be scalable with increased demand of customers and restaurants. We will listen to feedback and add most requested features.

These requirements are subject to change. If these requirements do not satisfy your standards or you have more questions, please let us know so we can adequately make adjustments and provide better solutions.

Thank you,
SharkBytes

Future Consideration Appendix

(1) BAC Level Calculations

Any users that **opt-in** to include their height and weight are allowed to check their BAC Level throughout the night at the restaurant/bar. Servers and Bartenders will be inputting the drinks into the POS and the BAC Level is calculated according to the profiles that are connected to the tab.

1. Uber Integration:
    a. When a high BAC Level is prompted for a certain user, the system will notify the user to recommend them to request an Uber Ride.
    b. Uber pickup will continuously be available regardless of high BAC Levels.
2. Key Ideas of this feature:
    a. This feature is strictly **optional**. The reason why this feature is given as an option is because we understand that certain users may be self conscious of themselves. We want to cater this feature for anyone to use within this application.
    b. Multiple users on the tab can designate that specific drink to their profile to help them calculate their BAC Level.
    c. The overall goal of this feature is help people understand their BAC Level to avoid driving under the influence as well as drinking responsibly.
3. Additional information is needed if users want to keep track of their alcohol consumption through BAC Level Calculations. This feature is strictly **optional**. The following information will be needed:
    a. Height
    b. Weight

(2) Mobile Ordering

This implementation requires us to have knowledge of certain APIs to search for specific restaurants. Then, requiring us to connect the restaurants with their menus.

1. Guests:
    a. When checking into a tab at the restaurant, they are able to view the Menu and Order through the mobile application.
2. Employees:
    a. The employees will receive a notification on their phone when users want to purchase food through the mobile application.

b. Employees will need to confirm with the User if they will order that specific item on the menu before sending it to the kitchen. This will help with confusion on orders as well as provide more guest interactions.

(3) Food Update

Since users are connected to their current tab, They are able to see their food items within the tab highlighted with a progress color updated by the kitchen.

1. Green
    a. Finished and Items need to be sent out.
2. Yellow
    a. Food is up next to be made.
3. Red
    a. Rush food item.

(4) Birds Eye View

The key ideas of this feature:

1. Employees are able to view their orders in the order that it is punched in to the kitchen with other employees.
2. This is a kitchen view of orders throughout the entire restaurant.
3. Food Update: Employees are able to see their food items within the tab highlighted with a progress color updated by the kitchen. They don't continuously have to go inside the kitchen to check for an update, but instead check for it on the application.

(5) Apple Pay/Google Pay

This implementation requires us to have knowledge of Apple Pay and Google Pay API to incorporate it into our application.
The key ideas of this feature:

1. Guests are given to option for faster checkout with Apple Pay or Google Pay instead of checking out the traditional way with a credit card.
    a. Apply Pay
        i. This API works specifically only for Apple devices.
    b. Google Pay

        i. This API will ask the user to sign in to utilize the feature of checking out. This specific API will work on any device.
    c. Paypal
        i. This API will ask the user to sign in to utilize the feature of checking out. This specific API will work on any device.

(6) Proximity Checker

The negative connotation of *Dine n' Dash* refers to people eating or drinking food at a restaurant and leaving without paying. This mobile application endorses the idea of *Dine n' Dash* as a positive connotation by charging Users automatically when they leave the proximity of the restaurant/bar.

1. Key Ideas of this Feature:
    a. Users do not have to wait for Servers/Bartenders to give them the bill.
    b. Servers/Bartenders don't have to continuously print out current tab frequently which ideally helps them deal with more guests at the restaurant and provide better guest interactions.
    c. Alows the current tab to be transparent with the customer to let them properly gauge the amount they are spending at the restaurant.
    d. Users must approve of the location before utilizing *Dine n' Dash*. If they do not approve, they are not allowed to use the feature for faster transactions.

(7) Extra Features for Tab Management

Tab Management:

1. Adding Users
    a. First person connected to the tab is the leader of the tab and has authorization to approve of anyone who wants to join in on the tab. This idea deals with confidentiality.
    b. Change Leadership of the Tab
2. Bill Splitting
    a. Users are able to distribute the total price amongst other users connected to the tab evenly.
    b. Users in tab are able to pay for specific items on a tab.
3. Checkout
    a. Leaders of the tab can designate which users are splitting the bill.

i. The Leader will need to select “Final Checkout” button.
    1. Specified Guests that are paying for the tab will get charged on their end. They all share the tab
    2. Leaders will be able to designate who pays which item specifically or do even splits.