Mobile App Design Specification

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Application Concept

1. Main Idea

HOOD: Halal-Food is a mobile application conceived through collaboration with Muslim student groups and Islamic cultural organizations, aimed at connecting the Muslim community with halal dining options and Islamic events, especially where such resources are limited. Tailored to meet the needs of Muslim students, young adults, and new converts in non-Muslim-majority countries, HOOD endeavors to facilitate the seamless integration of halal dietary practices and Islamic social customs into their daily lives. At its heart, the app boasts a user-generated directory of halal restaurants, cafes, and grocery stores, enriched by reviews and personal experiences. Additionally, it acts as a conduit for organizing and sharing Islamic events, such as Ramadan iftars and Eid celebrations, supported by forums and direct messaging for vibrant community interaction. An interactive map pinpoints halal-certified locations, simplifying navigation, while educational resources on halal practices, all contributed by the app's user community, further underscore its value.

Transitioning from this foundation, in regions where Muslims are in the minority, the community faces notable challenges in identifying eateries and markets that adhere to halal standards, pivotal for their dietary practices and cultural integration. HOOD: Halal-Food emerges as a crucial ally in this context, providing a platform where users can effortlessly locate halal-certified dining options and Islamic events. Recognizing the unique challenges its users face, such as budget constraints and unfamiliar culinary landscapes, HOOD transcends mere food location. It serves as a cultural navigator, fostering a sense of belonging through shared religious and cultural experiences and making informed dietary choices simpler.

This innovative approach sets HOOD apart, transforming the search for halal food and Islamic events into a streamlined, community-driven process. By centralizing halal dining options and event information in a user-generated hub, HOOD not only ensures the accuracy and relevance of its listings but also plays a vital role in uniting the Muslim community. The app becomes especially significant during important periods like Ramadan and Eid, providing

a virtual space for shared experiences and cultural exchange, thereby offering an invaluable sense of belonging to those far from home.

HOOD: Halal-Food revolutionizes the way Muslims in non-Muslim-majority areas discover and share halal dining and event options. By encouraging users to contribute data, the app serves as a comprehensive resource for halal-certified venues and community events. Its suite of features, designed to promote discovery, engagement, and connection, caters distinctively to its audience. The inclusion of chat functionalities and an interactive map not only aids in exploration but also in fostering community ties, positioning HOOD as an indispensable tool for cultural and dietary navigation.

Leveraging the collective wisdom of its community, HOOD: Halal-Food significantly enhances the search for halal dining and Islamic events. Each interaction within the app, from reviewing a restaurant to listing an event, enriches its database and aligns with community engagement, establishing HOOD as an essential educational and social platform. It supports its target audience by offering a user-friendly interface for halal dining exploration, promoting cultural integration, and serving as a learning resource on halal practices. By enabling shared experiences and participation in Islamic events, HOOD strengthens communal bonds, making religious observance more accessible and inclusive, and affirming its role as a community-focused platform for lifestyle, dining, and event participation in halal-friendly environments (.

2. Key Features for Engaging the Target Audience: Empowering Halal Living

2.1 Locates Halal Food & Serves as a Reliable Guide:

The app serves as a one-stop destination for locating halal food options, offering a reliable guide curated through user-generated content. It provides a comprehensive list of halal restaurants and stores, ensuring convenience and trustworthiness for users seeking halal dining experiences. By centralizing information and leveraging user feedback, the app streamlines the process of finding halal-certified food, catering to the needs of individuals adhering to Islamic dietary laws.

2.2 Organizes Islamic Events & Builds Community Bonds:

The app organizes Islamic events, allowing users to sign up for gatherings, seminars, and religious ceremonies. By fostering shared experiences and conversations, it strengthens social ties and builds community bonds within the Islamic community.

2.3 Fosters Discussion & Supports Educational Growth:

The app facilitates open discussions on halal compliance and Islamic practices, fostering educational growth among users. Through debates, questions, and knowledge-sharing, it provides a platform for individuals to expand their understanding of Islamic principles in a respectful and inclusive environment. Overall, the app serves as a valuable resource for users seeking to deepen their knowledge and engage in meaningful conversations within the Islamic community.

2.4 Enables Private Messaging & Encourages Cultural Integration:

The app facilitates private messaging for users to discuss halal living, aiding students and new converts in integrating into their local community while preserving their dietary restrictions and cultural heritage. This fosters cultural integration by providing a platform for

personalized support and advice-sharing, ultimately promoting community engagement and social cohesion within the Islamic community.

2.5 User-Generated Halal Dining Locator:

The app empowers users to contribute and update listings of halal-certified eateries and markets, enhancing its reliability as a go-to source for halal dining. Through detailed reviews and ratings based on personal experiences, users enrich the app's database, providing valuable insights for others seeking halal dining options. This user-generated content ensures the app remains comprehensive and trustworthy, assisting individuals in making informed decisions about where to dine.

2.6 Interactive Community Forum & Direct Messaging Facilitated by Users:

The app offers an interactive community forum moderated by users, enabling discussions on halal living. It also facilitates direct messaging for private advice exchange, fostering a supportive community environment. These features encourage engagement and knowledge-sharing among users, enhancing understanding of halal living practices.

Competition and Innovation

1. Innovation:

HOOD: Halal-Food distinguishes itself as an innovative app through its dynamic integration of user-generated content, comprehensive lifestyle management features, and a strong emphasis on educational resources tailored to the Muslim community in non-Muslim-majority countries. Its pioneering approach includes a crowdsourced directory of halal establishments, personalized dining suggestions, and Islamic event coordination, all enriched by educational insights into halal practices. Further innovation is evident in its commitment to community building, offering platforms for discussion and cultural exchange, alongside prioritizing accessibility and localization to cater to a diverse user base. The app's resilience, backed by adaptable technological solutions, ensures reliability and scalability, making HOOD: Halal-Food a holistic, user-centric platform that seamlessly connects Muslim individuals with their dietary and cultural heritage.

The intended target audience for HOOD: Halal-Food comprises Muslim students, young adults, and newly converted individuals residing in non-Muslim-majority countries. This specific demographic encompasses a variety of individuals keen on integrating halal dietary practices and Islamic social customs into their daily lives while facing challenges related to finding halal food options and engaging with Islamic events in their local areas. The primary professions and groups within this target audience include:

- Muslim Students in higher education seeking to maintain their dietary practices away from home.
- Young Muslim Professionals navigating their early career stages while adhering to halal standards.
- New Converts to Islam in need of guidance and community support to practice their faith, especially regarding halal dietary laws.

A critical aspect of the application is to facilitate these individuals' seamless access to halal dining options and Islamic events, enhancing their ability to integrate their religious practices into everyday life. Consequently, HOOD: Halal-Food is engineered to offer intuitive, quick-access features that cater to users often balancing busy schedules and seeking convenience without compromising their dietary or religious observances.

Given the tech-savvy nature of this audience, which is adept at utilizing digital platforms for various aspects of their lives, the application is designed for easy adoption. Its user interface and functionalities require minimal technical expertise, allowing users to navigate the app's features efficiently and learn its functions rapidly, without needing extensive tutorials.

Despite the niche focus of HOOD: Halal-Food, it introduces several innovative features not commonly found in existing applications, aimed at improving the lifestyle and integration of its users into their communities:

- Interactive Halal Dining Locator: Utilizing touch interactions and geolocation, the app enhances the usability of its interface, making it easier for users to find halal food options through an intuitive map and detailed listings.
- User-Generated Content and Reviews: The application allows for the capture and sharing of photos, ratings, and reviews of halal establishments, enriching the database with authentic user experiences. This leverages the device's camera and microphone capabilities to create a vibrant, community-driven platform.
- Islamic Event Coordination with Digital Invitations: Facilitating the organization and participation in Islamic events, the app provides digital tools for creating, sharing, and managing event details, including virtual invitations and RSVP tracking. This feature supports community bonding and religious observance.
- Educational Resources and Private Messaging: Offering user-generated educational content and advice on halal practices and a private messaging feature for personalized advice, the app aids cultural integration and community engagement. This ensures that users can both learn and interact in a secure environment, fostering a sense of belonging.
- Portable and Accessible Anywhere: Designed for mobile devices, HOOD: Halal-Food ensures that users have access to its features whether they are at home, on campus, or traveling, without the need for a desktop computer. This mobility is crucial for users

who rely on the app to make informed decisions about dining and event participation on the go.

HOOD: Halal-Food stands out by addressing specific challenges faced by its target audience through a combination of technological innovation and community-focused features, setting a new standard for apps catering to religious and dietary needs.

2. Competition

In evaluating the competitive landscape for my Halal food finder app, I will be comparing it against two notable apps in this domain: Halal Advisor and Halal Bites. Halal Advisor is renowned for being a comprehensive resource for users seeking Halal dining options in Australia, offering detailed information on restaurants and cafes, including menus, reviews, and Halal certification details. It represents a well-established platform in the Halal food discovery space. Conversely, Halal Bites aligns more closely with the vision and features of my own app. It caters to a global audience, providing an easy-to-use interface for finding nearby Halal food, encouraging community engagement through reviews and shared dining experiences, and supporting a diverse range of cuisines. This comparison aims to extract valuable insights and identify unique value propositions for my app, leveraging the broad appeal and user-friendly aspects of Halal Bites and the authoritative and detailed listings approach of Halal Advisor to carve a distinct niche in the Halal food finder app market.

2.1 SWOT Analysis of Competitors

Both apps serve a similar purpose: helping users discover Halal food options in their vicinity. However, each app has its unique strengths and weaknesses, as well as features that distinguish them from one another.

2.1.1 Halal Advisor

Key Functionality:

- Search and discover Halal restaurants and cafes.
- Browse menus, galleries, phone numbers, directions, user reviews, and ratings.
- Rate and review restaurants, share photos.
- Access exclusive deals.
- Favourites list for easy reference.

Strengths:

- Comprehensive information about each restaurant, including menus and user reviews.
- Exclusive deals for app users.
- Strong focus on ensuring restaurants are certified Halal and aware of cross-contamination practices.

Weaknesses:

- Limited to Australia, which restricts its user base.
- The need for continuous verification of Halal certification might be resource-intensive.

SWOT Analysis:

- Strengths: Comprehensive restaurant data; exclusive deals.
- Weaknesses: Geographic limitation; ongoing certification verification.
- Opportunities: Expansion to other countries; partnerships with more restaurants.
- Threats: Other Halal food apps; changes in Halal certification standards.

2.1.2 Halal Bites

Key Functionality:

- Locate Halal food in nearby restaurants or gyro carts worldwide.
- Review and rate restaurants, share feedback and pictures.
- View restaurants on a map, with support for various cuisines.
- Clean and neat design, user-friendly interface.

Strengths:

- Global scope, allowing users to find Halal food anywhere.
- Community-driven with options to share experiences and photos.
- Supports a wide variety of cuisines, appealing to diverse tastes.

Weaknesses:

- Reliance on community feedback might result in uneven quality of information.
- The broad scope might make it challenging to ensure all listed restaurants meet Halal standards.

SWOT Analysis:

- Strengths: Global reach; diverse cuisines; community features.
- Weaknesses: Quality control of information; Halal verification.
- Opportunities: Enhancing verification processes; increasing user engagement.
- Threats: Other global Halal food apps; inaccurate user submissions.

2.2 Comparison of Halal Bites and Halal Advisor

While Halal Advisor focuses on providing a comprehensive look at Halal dining options in Australia, with a strong emphasis on certification and cross-contamination awareness, Halal Bites offers a more global perspective with a community-driven approach. Halal Advisor might appeal more to users looking for certified Halal options and exclusive deals, whereas Halal Bites targets a broader audience interested in exploring a variety of cuisines and sharing their food experiences.

2.3 Comparison across various critical dimensions

2.3.1 Geographic Coverage and Localized Features

- Halal Advisor is predominantly focused on the Australian market, offering a robust database of Halal-certified establishments in this region. Its strength lies in local expertise but its geographic limitation is a clear weakness.
- Halal Bites aims for a global audience, providing a broader scope of restaurant listings. However, its global approach might dilute local insights and specific regional needs.
- HOOD: Halal-Food potentially bridges the gap by offering localized content through user-generated submissions, making it adaptable to specific needs and challenges of Muslim communities in any given region, particularly in non-Muslim-majority countries. HOOD is designed to dynamically reflect the local halal landscape as directly experienced and shared by its users, providing both global reach and local relevance.

2.3.2 Community Building and Engagement

- Halal Advisor and Halal Bites primarily serve as food discovery platforms with community engagement limited to reviews and ratings.
- HOOD, in contrast, positions itself as a community-centric platform, facilitating not just food discovery but also the organization of Islamic events and gatherings. This distinction underscores HOOD's role in fostering a sense of community and belonging, extending beyond the dining experience to encompass shared religious and cultural practices.

2.3.3 Educational Value and Support for New Muslims

- The competitors, while offering valuable information on Halal dining options, do not explicitly focus on educational content or support for individuals new to Islam.
- HOOD sets itself apart by incorporating educational resources on Halal practices and Islamic customs, catering specifically to the needs of new converts and those seeking

to deepen their understanding of Islam. This educational dimension adds a layer of value that transcends the basic utility of a food locator app, positioning HOOD as a comprehensive platform for both practical guidance and spiritual growth.

2.3.4 Technology and User Experience

- While Halal Advisor and Halal Bites rely on traditional app functionalities like search filters, reviews, and location-based services, there's limited innovation in user interaction and content presentation.
- HOOD, with its emphasis on interactive maps, private messaging, and community forums, leverages technology to enhance user engagement and simplify the navigation of Halal dining options. The potential use of augmented reality (AR) for restaurant previews and blockchain for verifying Halal certifications could further differentiate HOOD by offering a more immersive and trustworthy experience.

2.3.5 Support for Diverse Halal Needs

- The competitor apps cater to a broad audience looking for Halal food options but do not necessarily address the diverse Halal needs that vary among different sects within Islam or account for the varying degrees of observance.
- HOOD has the opportunity to tailor its platform to accommodate this diversity within the Muslim community, offering filters or tags for different Halal certifications, sect-specific dining options, or features catering to those with particular dietary observances. This inclusivity could make HOOD a more versatile tool for a wider

Feasibility and technology

The HOOD: Halal-Food app leverages cutting-edge technology to connect users with halal food options and Islamic events. It's built on a platform known for its stability and security, ensuring users' data is protected. Features like interactive maps, real-time updates, and personalized profiles enhance the user experience, making it both engaging and easy to navigate. Importantly, the app's design allows for scalability, meaning it can grow and evolve without compromising performance. The key takeaway is that HOOD: Halal-Food uses the latest in mobile app development to ensure reliability, user engagement, and data security, addressing a niche yet global market with significant growth potential.

1. Login Screen

For users to access their accounts securely, the login screen will provide email and password fields, ensuring secure entry with the help of Keychain Services. The screen will also offer a direct link to the account creation screen for new users. Leveraging UIKit and Auto Layout, this interface will adapt to various devices, maintaining a seamless experience across the iOS ecosystem. The design incorporates UITextField elements for user input, which are styled and managed for secure text entry, preserving the confidentiality of user credentials. To enhance user interaction, UIButton is used for the login action, responding to touch with immediate feedback. If login fails, haptic feedback using UIKit's UIFeedbackGenerator may subtly alert users to the error without compromising privacy.

On successful login, the UIViewController transitions to the home screen using a UINavigationController, offering a familiar navigation paradigm consistent with iOS. The login process may optionally integrate with Apple's Face ID or Touch ID for biometric authentication, using the LocalAuthentication framework, thus providing an expedited and secure login experience. The bottom text link, implemented as a UILabel, detects user interaction, transitioning them to the SignUpViewController, where they can register for an account.

UIKit's URLSession will handle web service calls to authenticate user credentials against a secure server. All network communications will occur over HTTPS, ensuring data encryption

in transit, with the possibility of implementing certificate pinning for enhanced security. This attention to detail in the login screen is foundational, as it establishes user trust and sets the tone for the application experience.

2. Account Creation Screen

New users can register through the account creation screen, where they input their name, email, and password. Utilizing Firebase Authentication, the process will be efficient and secure. The screen will include a disclaimer regarding information practices, affirming our commitment to user data security, supported by iOS's data persistence frameworks. UIKit's text fields are designed to collect user information, and the secure text entry feature ensures that passwords are kept private. As users input their data, Firebase Authentication's APIs are called to create new user accounts, handling all aspects of user authentication, including secure password storage and email verification.

To aid the user through the sign-up process, UI elements like UILabels will clearly delineate each input field, with UIButton to submit the registration form. Auto Layout ensures that all interface elements are arranged in a logical, user-friendly manner across different device sizes and orientations. If a user tries to register with an email that's already in use or inputs a weak password, UIAlertControllers will provide clear, instructive feedback.

The disclaimer at the bottom of the screen, possibly within a UITextView, informs users about the app's data collection practices and how their data will be used, which is particularly important given the sensitive nature of dietary preferences and religious practices the app caters to. This transparency is fundamental to building trust within the community the app serves.

Upon successful account creation, the new user data is persisted within the secure confines of Firebase's Realtime Database or Cloud Firestore, which synchronizes data with the backend in real-time and stores it securely in the cloud. The choice between databases will be made based on scalability needs and data complexity. Core Data could also be employed for local

persistence of user settings and preferences, ensuring that users have a personalized and consistent experience across sessions.

3. Home Screen

The home screen, acting as a central hub, will feature touch-friendly buttons for "UPCOMING EVENTS," "EXPLORE," and "MAP," using a UITabBarController for navigation. This main interface, designed with custom icons and responsive layout, will utilize the MVC architecture to keep the UI and business logic effectively separated. The UITabBarController is central to providing a navigational framework that allows users to switch between various segments of the app, such as the restaurant listings, events calendar, and user profiles, with ease and efficiency.

Incorporating Core Location, the "MAP" function will harness the GPS capabilities of the device to provide users with real-time location data, displaying nearby halal food options and Islamic event venues on an interactive map designed with MapKit. This not only aids in spatial navigation but also enriches the user experience by enabling location-based services, which are fundamental to the app's concept of connecting users with nearby halal dining and events.

For the "UPCOMING EVENTS" and "EXPLORE" sections, UIKit's UICollectionView will be utilized to present data in an organized, scrollable layout. Here, the app will leverage the device's touch-screen features, allowing for intuitive interactions like swiping to browse through the curated list of community events and popular dining spots. Each collection view cell will represent individual events or restaurants, providing users with succinct, actionable information at a glance.

Additionally, the app will employ web services, likely RESTful APIs, to fetch and update the content dynamically. This will be handled by making asynchronous calls using URLSession, which provides a rich set of capabilities for communicating with web services in a way that is both efficient and user-friendly. The use of Codable protocols in Swift will streamline the

serialization and deserialization of JSON data, which forms the backbone of data interchange between the app and the server.

Feedback mechanisms, an integral aspect of the interactive experience, will be thoughtfully incorporated. For instance, when a user selects an event or restaurant listing, haptic feedback might be provided to confirm the selection, subtly enhancing the tactile interaction.

4. Explore Screen

Here, users will discover a list of user-generated content, such as posts and questions, displayed via a UITableView. Each post can be interacted with, allowing users to leave comments or 'like' the content, creating an engaging community-driven environment. URLSession will fetch the latest data, ensuring users have access to the most recent discussions. On this screen, the integration of UIKit's UITableView is pivotal in listing the content in an organized manner. This interface will be designed with custom UITableViewCell subclasses, which could include features such as asynchronous image loading to enhance performance when displaying user-uploaded images alongside posts.

The UITableView will also support dynamic loading of content, using the pull-to-refresh pattern implemented with UIRefreshControl, a common interaction in modern apps that users expect, thereby enhancing the user experience. This action will trigger a new data fetch request to ensure that the content is current and allows users to see new updates as they are posted.

The 'like' function will utilize UIButton with custom imagery and animation to provide visual feedback when a user likes a post, leveraging Core Animation to make the interaction lively and satisfying. To engage with the community, tapping on a post will segue to a detailed UIViewController, where comments and detailed discussions can be viewed and added. This will encourage active community participation and discussion within the app.

For networking, the URLSession API provides a robust and flexible way to interact with web services, handling data tasks that load data from or upload data to endpoints. This is essential

for an app like HOOD: Halal-Food, which relies on a steady stream of user-generated content that needs to be up-to-date and reliable.

On the backend, Firebase Firestore or a similar cloud service will serve as a dynamic database to store posts, comments, and likes. These will be retrieved in real-time, allowing the app to scale efficiently with its user base. The database's security rules will be configured to ensure that user data is protected and that posts can only be edited or deleted by their respective authors.

5. Posting Screen

This screen allows users to contribute content by adding photos, titles, and descriptions. Photos can be taken or uploaded using UIImagePickerController, and Firebase Storage will manage the media content. Before posting, UIAlertController will confirm the user's intent to submit, preventing accidental posts. This functionality is at the core of fostering a vibrant, user-generated community within the HOOD: Halal-Food app, encouraging active participation and sharing of halal dining experiences and Islamic events.

The UIImagePickerController is a versatile tool within UIKit that allows for the integration of the device’s camera and photo library into the app. Utilizing this feature, users can either capture new images directly through the app or select existing ones from their photo library, enhancing the user's ability to share their experiences visually. The implementation of this feature will consider the app’s permissions settings to access the camera and photo library, adhering to privacy practices and iOS guidelines.

Upon selecting or capturing an image, the app will utilize iOS’s Core Image framework to allow users to apply basic editing features like cropping or resizing, ensuring that the photos fit the app's interface and upload criteria. This step is crucial for maintaining a consistent user experience and optimizing the storage and display of images on the platform.

Firebase Storage, a part of the Firebase platform, is selected for its robust, secure, and scalable solution for storing and serving user-generated content, including images. It

simplifies the upload process by handling the heavy lifting of file transfers, even on flaky networks, ensuring a smooth user experience. It also automatically scales, making it an ideal solution for an app that anticipates growth in user-generated content.

Before the final submission of the post, UIAlertController could be employed to present a confirmation dialog to the user. This interaction design decision is implemented to minimize unintentional posts, enhancing user control and satisfaction with the app. The UIAlertController will be customized to fit the app's design language, providing a clear and straightforward interface for confirming or canceling the post submission.

For the backend, the app will utilize web services to interact with Firebase's Realtime Database for storing the textual content of the posts, such as titles and descriptions, alongside references to the images stored in Firebase Storage. This architecture ensures that data is synchronized in real-time across all devices, providing users with immediate access to the latest content.

6. User Profile Screen

Users can view their profiles, showcasing their name, post history, and settings. This will be implemented using custom UIViews and will draw user data from Firebase Firestore. The MVC architecture ensures the presentation is distinct from the underlying data management. The User Profile Screen acts as a personal space for users within the HOOD: Halal-Food app, reflecting their contributions, preferences, and engagement within the community.

The implementation of the profile screen will heavily rely on UIKit for its UI components, particularly leveraging UITableView or UICollectionView for listing the user's post history in a structured manner. Custom UITableViewCell or UICollectionViewCell will be designed to display each post uniquely, enhancing the visual appeal and user experience. For instance, posts might show a preview image, title, and like count, encouraging users to interact with their past contributions.

User data, including profile information and post history, will be stored and managed in Firebase Firestore, a flexible, scalable database for mobile, web, and server development. Firestore's real-time data syncing capabilities ensure that any updates to a user's profile or posts are immediately reflected on the User Profile Screen, providing a dynamic and engaging user experience. Firebase Firestore's security rules will also be meticulously configured to protect user data and ensure that users can only access and modify their information.

To further personalize the User Profile Screen, UIKit's UIImagePickerController could be utilized to allow users to update their profile picture. Upon selection, images will be uploaded to Firebase Storage, providing a seamless integration between user profile customization and cloud storage solutions.

The MVC (Model-View-Controller) architecture plays a crucial role in structuring the User Profile Screen, separating the app's data (Model), the UI (View), and the business logic (Controller). This separation ensures that the app remains maintainable and scalable, facilitating future enhancements such as adding new features or integrating additional data sources.

To manage user settings, such as notification preferences or account details, the User Profile Screen will include intuitive UI elements like UISwitch for toggles and UITextField for editable text fields. These settings will be synchronized with the backend, ensuring consistency across devices and sessions.

7. Chat Screen

A UICollectionView will be used to create a chat interface, enabling real-time communication among users via Firebase Realtime Database. This encourages active engagement within the app, bolstering the platform's social connectivity. The Chat Screen serves as a dynamic space for users to connect, discuss, and share experiences related to halal dining and Islamic events, further enriching the community aspect of the HOOD: Halal-Food app.

The use of UICollectionView in creating the chat interface allows for a flexible and highly customizable layout that can accommodate different types of chat messages, such as text, images, and possibly even short videos. Each chat bubble will be represented as a UICollectionViewCell, which can be dynamically sized to fit the content, ensuring a clean and organized display of conversations. Custom layout attributes may be employed to differentiate between incoming and outgoing messages, enhancing readability and user experience.

Real-time communication will be powered by Firebase Realtime Database, a cloud-hosted database that supports data syncing across all users in milliseconds. This technology ensures that messages sent and received through the app are instantly updated, fostering a seamless conversation flow. The database's robust security features and real-time capabilities make it an ideal choice for building engaging social features like the Chat Screen.

Implementing the Chat Screen also involves ensuring data privacy and security, particularly in handling personal conversations. Firebase Realtime Database provides comprehensive security rules that can be configured to ensure that chat messages are only accessible to the intended recipients. Additionally, the app will implement end-to-end encryption for chat messages, utilizing cryptographic techniques to safeguard data against unauthorized access.

To enhance the chat experience, the app could include features such as "seen" receipts, typing indicators, and the ability to send images and location data directly within the chat. These features will utilize the device’s sensors and APIs, such as the camera and GPS, to provide a rich and interactive chatting experience. The UIImagePickerController API will be used for adding photo messages, while Core Location will allow users to share their current location with their contacts, making plans and meet-ups more convenient.

8. Events and Restaurants Listing Screens

These screens will incorporate MapKit and Core Location to provide users with geolocated events and dining options. Custom UICollectionViewCell will present this information attractively, encouraging user interaction and exploration. The Events and Restaurants Listing

Screens serve as critical components of the HOOD: Halal-Food app, offering users a rich, interactive experience in discovering halal restaurants and Islamic events within their vicinity or in selected areas.

MapKit, a powerful framework provided by Apple, enables the app to display interactive maps that can pinpoint locations of interest such as halal-certified restaurants or venues for Islamic events. Through the integration of MapKit, the app will offer detailed map views that include custom annotations for each listed event or dining option. Users can tap on these annotations to reveal more information or navigate to detailed views for further details. This feature not only aids in exploration but also in planning visits and meetups.

Core Location is utilized alongside MapKit to obtain the user's current location, offering a personalized experience by showing nearby halal dining or event options first. Core Location's geofencing capabilities can also enable notifications for users when they are near a highly-rated halal restaurant or an event is about to start, enhancing user engagement with timely and relevant information.

The information about events and restaurants will be displayed in a grid or list format using custom UICollectionViewCells. This approach allows for a visually appealing presentation of each listing, complete with images, ratings, and brief descriptions. Customization of UICollectionViewCell will ensure that the app's design is consistent with its aesthetic theme while providing a seamless user interface experience.

Integration with Firebase Firestore will be employed to manage the real-time data of restaurants and events. This allows for dynamic updating of listings based on user contributions, reviews, and ratings. Firestore's robust database structure ensures that the data is always current and reflects the community-driven content of the app.

In addition to utilizing MapKit and Core Location for mapping functionalities, the listing screens will also incorporate various iOS sensors and features to enhance the user experience. For instance, the app could use the device's accelerometer and gyroscope to offer interactive map views that change perspective as the user moves their device, creating an immersive way to explore halal dining options and events on the map.

9. Adding New Listings Screen

When adding new events or restaurants, users can tag their location with Core Location. The interface will prompt users through a series of fields, capturing all necessary details, showcasing the power of iOS's User Interaction capabilities through gesture recognition. The Adding New Listings Screen is an essential feature of the HOOD: Halal-Food app, designed to empower users to contribute actively to the community by sharing their favorite halal spots or Islamic event details. This participatory approach not only enriches the app's database but also fosters a sense of ownership and community among the users.

The screen uses Core Location to allow users to accurately tag the geographic location of the new listing, whether it's a restaurant, café, or event venue. This integration ensures that the location data is precise, enhancing the app's utility by enabling other users to find these listings easily on the map. Core Location's reverse geocoding capabilities could also be employed to automatically fill in address fields based on the tagged location, streamlining the submission process.

The user interface for adding new listings is designed with accessibility and ease of use in mind, leveraging UIKit’s robust set of controls and views. UITextField and UITextView will be used to input text information such as names, descriptions, and other details. UIPickerView could be used for selecting categories or cuisines, making the data entry more intuitive and less error-prone.

Gesture recognition enhances user interaction, allowing for a more dynamic and engaging experience. For instance, swiping to navigate through different fields or pinch gestures to zoom in and out on map views when selecting a location. These gestures make the app more interactive and fun to use, encouraging users to add more listings.

Photos can be added to the listing through UIImagePickerController, which integrates seamlessly with the device's camera and photo library, allowing users to upload images of the restaurant or event. This visual aspect of the listing is crucial for attracting other users and providing a glimpse of what to expect.

Firebase Firestore will be used to store the details of the new listings, providing a seamless backend solution for real-time data updates. This allows new listings to be immediately available to all users, fostering a dynamic and ever-evolving app content landscape.

10. Detailed Reviews and Ratings Screens

A customized UIControl will enable users to rate restaurants or events, while UITextView will allow for detailed feedback. This user input will be vital in fostering a reliable review system within the app. The Detailed Reviews and Ratings Screens are a pivotal component of the HOOD: Halal-Food app, serving as a medium for users to share their experiences and opinions on halal dining establishments and Islamic events. By providing a platform for user-generated feedback, these screens not only help others make informed decisions but also promote transparency and trust within the community.

The rating system will be implemented using a custom UIControl, which could be a star rating system or a slider, designed to offer an intuitive and engaging way for users to rate their experiences quickly. This control will be fully customizable, allowing for a seamless integration with the app's overall design theme, and can leverage the Haptic Feedback Engine to give users tactile feedback when selecting a rating, enhancing the interactive experience.

UITextView will be used for written reviews, offering users the flexibility to provide more detailed feedback on their dining or event experiences. This component will be configured to support multi-line text entry, ensuring that users have ample space to express their views. Additionally, the text view can be enhanced with spell checking and auto-correction functionalities, improving the quality of user-submitted content.

To enhance user engagement and ensure that the review process is as user-friendly as possible, the app will incorporate gesture recognition features. For example, users could tap gestures to select star ratings.

The submission of reviews and ratings will be handled securely, with all user-generated content being stored in Firebase Firestore. This choice not only provides real-time updates to the app's content but also allows for efficient data management and scalability as the user base grows. The use of cloud storage also facilitates the implementation of features like review moderation and spam detection, ensuring that the review system remains reliable and free from abuse.

Upon submitting a review or rating, users will receive immediate visual feedback, such as a confirmation message or animation. This feedback reassures users that their contribution has been successfully recorded and appreciates their input, encouraging further participation.

For users concerned about privacy, the app could also offer options to post reviews anonymously, allowing users to share their honest opinions without revealing their identity. This feature will be carefully designed to balance user anonymity with accountability, preventing misuse while fostering an open and honest review culture.

11. Photo Upload Process

Incorporating AVFoundation and Photos Framework, users can add images to their posts or reviews, with an option to edit before uploading. This feature enhances the user's ability to share experiences visually. The photo upload process in the HOOD: Halal-Food app is designed to offer a streamlined and intuitive way for users to visually enrich their contributions, whether they're posting about a new halal restaurant or sharing moments from an Islamic event. This process not only allows users to capture the essence of their experiences but also plays a crucial role in engaging the community and providing valuable visual context to written content.

Using AVFoundation, the app will offer robust functionalities for capturing photos directly within the app. This framework allows for the customization of the camera interface, enabling features such as front and rear camera switching, flash mode adjustments, and even live photo capturing capabilities, thereby providing users with a flexible and powerful tool to capture their moments.

The Photos Framework will be utilized for accessing the user's photo library, allowing them to select previously taken photos or videos to upload. This integration will support multiple image selection, offering users the convenience of uploading several images at once to accompany their posts or reviews. Advanced features such as smart albums and search functionalities can be leveraged to help users quickly find the desired images within their extensive photo libraries.

Before finalizing the upload, users will have the option to edit their selected images using a built-in image editor. This editor could offer basic functionalities such as cropping, rotation, and applying filters, as well as more advanced features like adjusting brightness, contrast, and saturation. This step ensures that users can refine their images to better convey their experiences or fit the aesthetic of their posts.

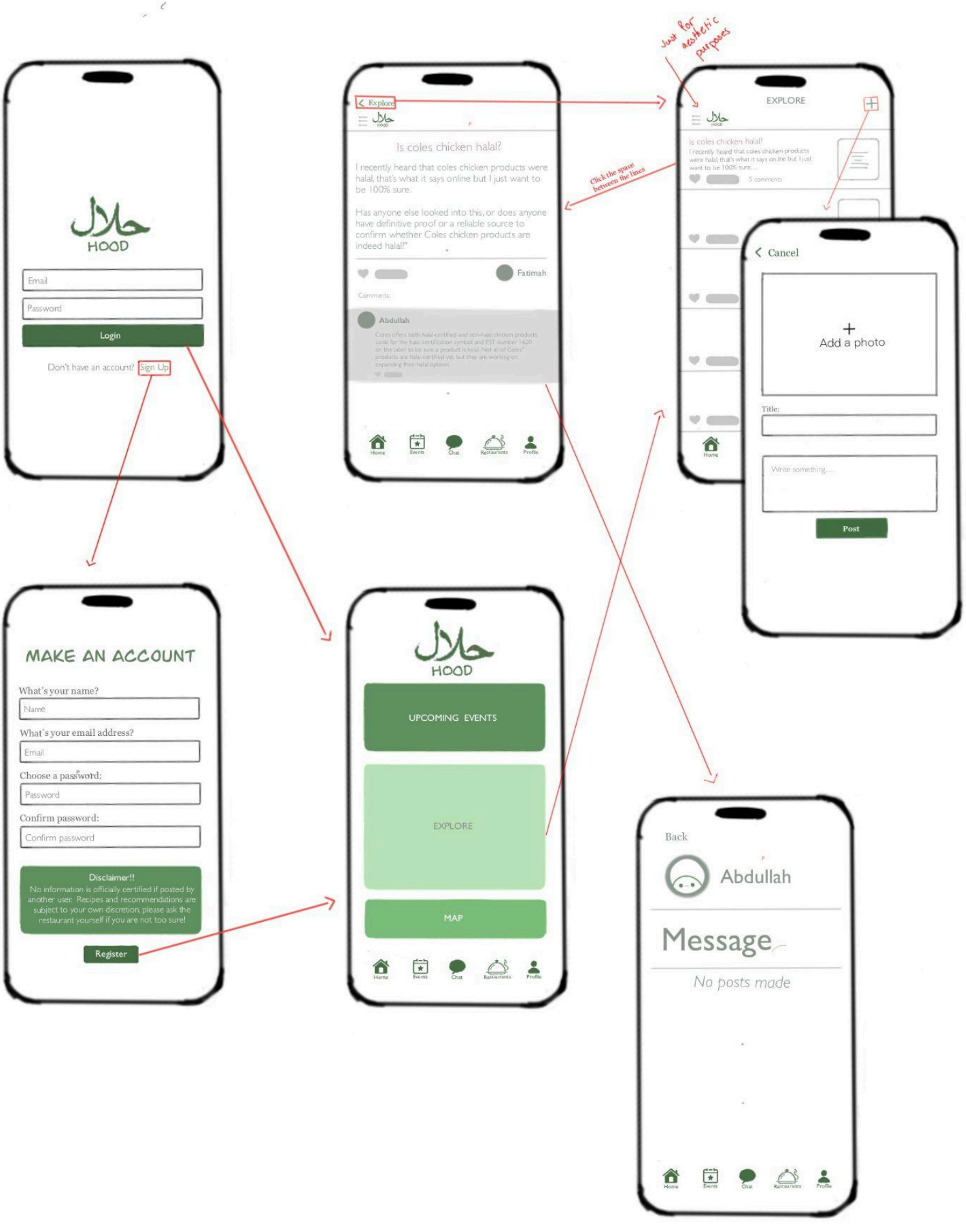
To ensure the photos are appropriately sized and optimized for the app, image processing techniques will be applied during the upload process. This includes resizing images to standard dimensions and compressing files to reduce upload time and storage requirements on the server, all while maintaining the quality of the images. This optimization is crucial for maintaining a smooth and efficient user experience, especially in regions with limited internet bandwidth.

The upload process will be integrated with Firebase Storage, a powerful and secure cloud storage solution. This integration allows for the reliable and scalable storage of user-generated content, supporting features such as progress tracking, error handling, and automatic retry mechanisms, thereby ensuring that users' uploads are successful even under less-than-ideal network conditions.

Conclusion

Overall HOOD: Halal Food, designed to connect users with halal dining options and Islamic events, leverages iOS's robust features for a secure and interactive experience. It incorporates Keychain Services for secure logins, Firebase for seamless data management, and MapKit for location-based services, ensuring easy navigation and real-time engagement. With UIKit and Core Location, the app offers a user-friendly interface and personalized content, while Firebase Realtime Database facilitates community chats. This technology stack not only makes the app feasible but positions it as a valuable tool for enhancing communal bonds within the Muslim community.

Interface Design and Storyboard Mock-ups



Login Screen (Initial Screen):

- This screen features an application logo at the top, followed by fields for email and password and a "Login" button.
- Below the login, there is a text link for users to navigate to the "Sign Up" screen if they don't have an account. This adheres to the HIG by providing clear, accessible options for new users.

Account Creation Screen (Transition from Login Screen):

- Triggered by the “Sign Up” link, this screen requests the user's name, email, password, and password confirmation. A disclaimer at the bottom may include information about privacy practices.
- A "Register" button completes the sign-up process. This screen implements the HIG principles by clearly explaining the sign-up process and making the entry fields and submission button large and easy to interact with.

Home Screen (Post-Login/Registration):

- Features prominently the "UPCOMING EVENTS," “EXPLORE,” and “MAP” sections, each represented by large, touch-friendly buttons.
- The navigation bar at the bottom allows for switching between different main sections of the app, as recommended by the HIG for facilitating quick navigation.

Explore Screen (Transition from Home Screen via EXPLORE):

- Displays a list of user-generated posts/questions with a comment count and a "heart" symbol indicating likes or favorites.
- Tapping on a post would likely lead to a more detailed view or allow the user to engage with the content (e.g., leaving a comment or liking the post), fulfilling the HIG's focus on user engagement and interactivity.

Posting Screen (Accessible from Explore via a "+ button"):

- Offers a form to add a photo, title, and content for a new post.

- The "Post" button would submit the user's content. This screen supports the HIG's emphasis on simplicity and ease of use by minimizing distractions and providing a clear path to complete the task of posting content.

User Profile Screen (Unclear Transition Path):

- Shows the user’s profile with their name and status of posts.
- The navigation bar at the bottom remains consistent with other screens, as per the HIG's consistency principle.

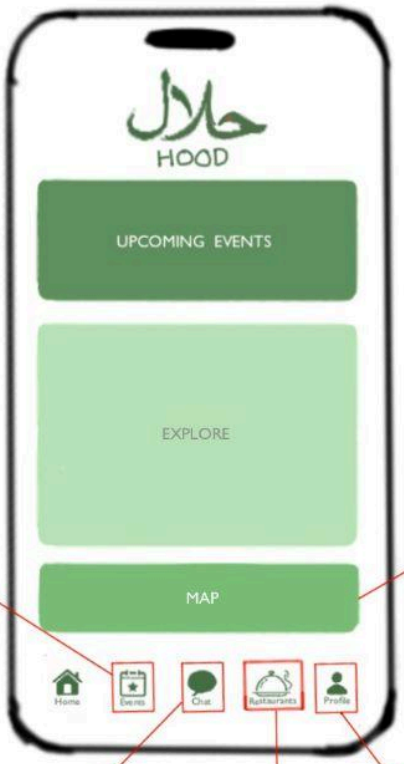
App Aesthetics

In terms of design decisions, the theme seems to lean towards a clean and minimalistic aesthetic, with a colour palette that's light and modern. The green color is indicative of the app's branding, Islam is closely correlated to green. Icons are used to represent common actions and content areas, following HIG recommendations for recognizable and intuitive symbols.

Interactions for each screen could include:

- Swiping down on the Explore screen to refresh content.
- Tapping on a text field brings up the keyboard, with the screen responding to keyboard presence by adjusting the layout to ensure the text field remains visible.
- A confirmation dialog when pressing the "Post" button to avoid accidental submissions.
- Consistent use of back-navigation patterns across all screens to return to the previous screen.


Events
MCIS
2024
Grand
IFTAR
27 MARCH, 6-9PM
BUILDING K, GROUND FLOOR
Registers Now
GRAND MUSALLAH OPENING
Registers Now
Home
Events
Chat
Restaurants
Profile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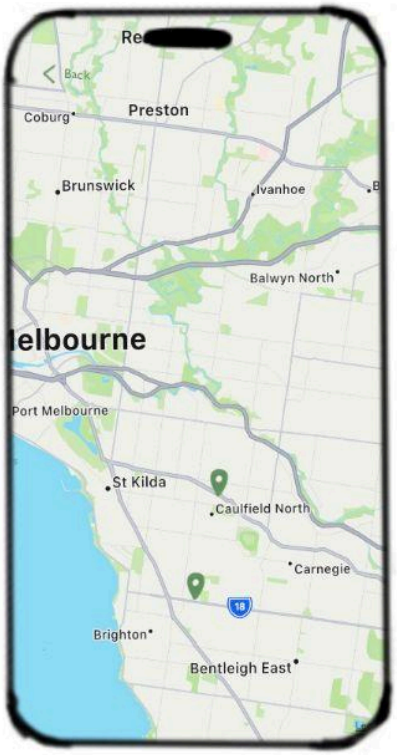
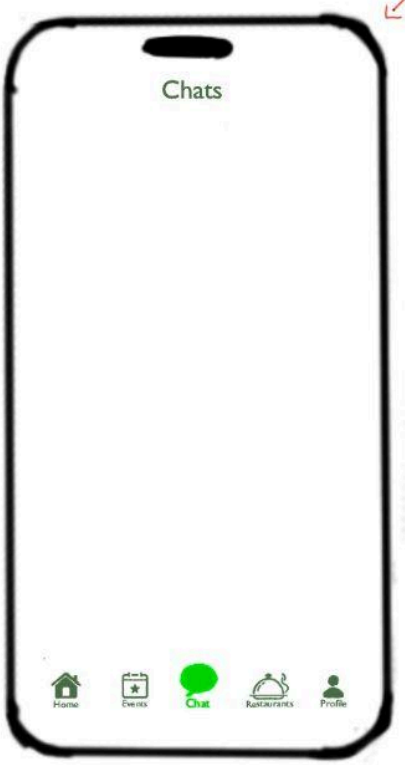
HOOD
UPCOMING EVENTS
EXPLORE
MAP
Home
Events
Chat
Restaurants
Profile


Back
Coburg
Preston
Brunswick
Ivanhoe
Balwyn North
elbourne
Port Melbourne
St Kilda
Caulfield North
Carnegie
Brighton
Bentleigh East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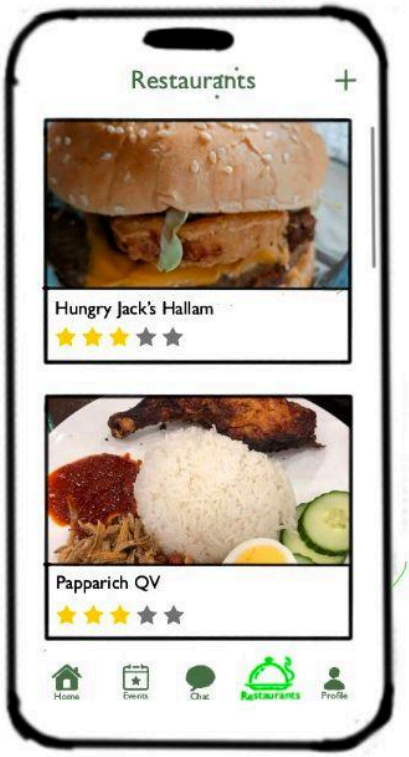
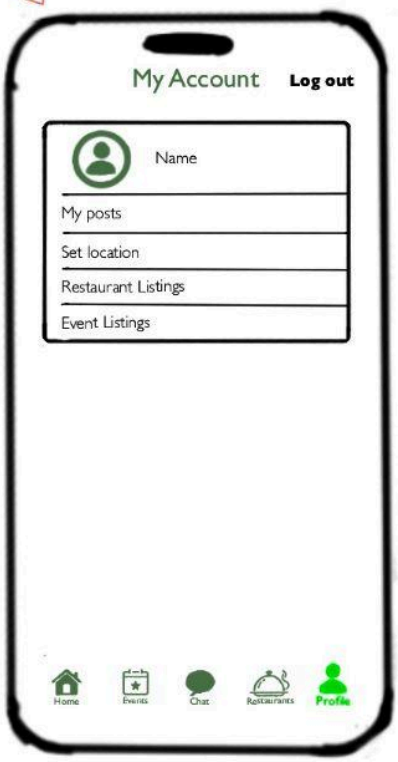
Restaurants
Profile


Restaurants
Hungry Jack's Hallam
Papparich QV
Home
Events
Chat
Restaurants
Profile


My Account
Log out
Name
My posts
Set location
Restaurant Listings
Event Listings
Home
Events
Chat
Restaurants
Profile

Home Screen (Central Hub):

- Acts as the central hub, with buttons for "UPCOMING EVENTS," "EXPLORE," and "MAP," consistent with the previous explanation.
- The bottom navigation bar has five icons, probably for "Home," "Events," "Chat," "Restaurants," and "My Account." This is in line with HIG principles, offering predictable and easy navigation.

Events Screen (Accessible from Home via Events Icon):

- Displays various event advertisements or announcements.
- An “Add” button at the top suggests users can create new events, following the HIG’s encouragement of interactive content creation.
- Events can be scrolled through, likely in a vertical fashion, which adheres to the HIG principle of direct manipulation.

Map Screen (Accessible from Home via Map Icon):

- Features a map, presumably interactive, showing a geographic area—here it's Melbourne.
- Users may interact with the map to find events or places of interest, exemplifying the HIG principle of user control by allowing for explorative interaction.

Chat Screen (Accessible from Home via Chat Icon):

- This screen is dedicated to messaging functionalities, enabling users to engage in conversations.
- Following HIG standards, the chat interface is simple and clean, likely with functionality for users to start new conversations or continue existing ones.

Restaurants Screen (Accessible from Home via Restaurants Icon):

- Shows a list of restaurants with images and star ratings, providing a user-generated content platform for restaurant reviews.

- Users can add a restaurant or review by tapping the "Add" button, thus integrating user-generated content creation in line with HIG recommendations for engagement and interactivity.

My Account Screen (Accessible from Home via My Account Icon):

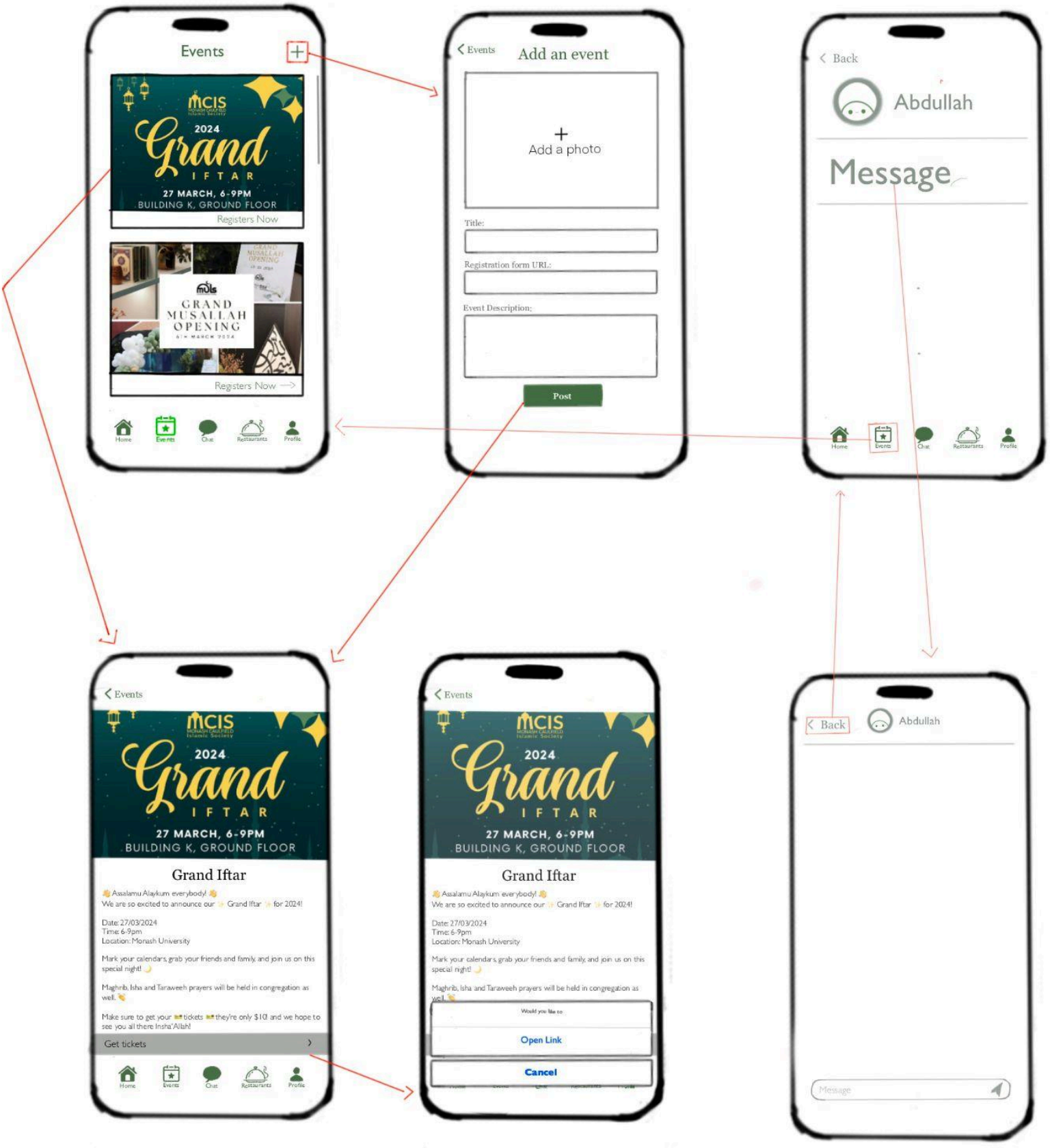
- Contains personal account details with fields for "Name" and other personal settings like "My posts," "Set location," "Restaurant Listings," and "Event Listings."
- The "Log out" button provides an easy and clear path to exit the account, which aligns with the HIG principle of giving users control over their experience.

Design elements:

- The consistency in design across different screens, with a cohesive color scheme and font choices, adheres to the HIG principle of aesthetic integrity.
- The use of icons in the bottom navigation bar is in line with the HIG's recommendation for clarity and recognition.
- Each screen provides feedback to user interactions, such as highlighting a tab when it's active, which follows the HIG principle of feedback.

Considering user interactions:

- Tapping on a restaurant would likely display more information about it or allow the user to post a review.
- On the chat screen, swiping a conversation could reveal options like delete or mute, providing users with direct manipulation of the list.
- On the "My Account" screen, tapping on any of the options would lead to a new screen where the user can view or edit that specific content.


Events
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Registers Now
GRAND MUSALLAH OPENING
Registers Now
Home
Events
Chat
Restaurants
Profile
Events
Add an event
+
Add a photo
Title:
Registration form URL:
Event Description:
Post
Back
Abdullah
Message
Grand Iftar
Assalamu Alaykum everybody!
We are so excited to announce our Grand Iftar for 2024!
Date: 27/03/2024
Time: 6-9pm
Location: Monash University
Mark your calendars, grab your friends and family, and join us on this special night!
Maghrib, Isha and Taraweeh prayers will be held in congregation as well.
Make sure to get your tickets they're only $10 and we hope to see you all there Insha'Allah!
Get tickets
Would you like to
Open Link
Cancel

Events Listing Screen:

- Acts as the hub for all event-related content.
- Features a list of events each user can browse; tapping on an event likely provides more details.
- An ‘Add’ button in the top right suggests users can create their own events, which aligns with the HIG’s emphasis on user empowerment and direct manipulation.

Add Event Screen (Transition from the ‘+’ button on the Events Listing Screen):

- Provides a form to upload a photo, and fields for the title, location, and description of the event, culminating in a "Post" button to submit the event.
- The layout adheres to the HIG by offering a simple, clean interface that limits confusion and ensures the process is straightforward.

Detailed Event View Screen (Accessible by tapping an event in the Events Listing Screen):

- Presents detailed information about a specific event, including the name, location, date, and description.
- The interface includes buttons for navigation, sharing, liking, and a link to buy tickets or get more information, likely leading to an external website. This multi-action capability follows the HIG's flexibility and efficiency of use.

External Link Confirmation Dialog (Accessible from the Detailed Event View Screen):

- A dialog appears when the user interacts with the link, providing options to either open the link or cancel the action.
- This is a common HIG-aligned feature that confirms the user’s intent, preventing accidental navigation away from the app.

Personal Messaging Screen:

- Accessed through an unclear pathway in the app's flow but likely from a messaging or contacts section.

- Displays a simple chat interface with a back button, a conversation space, and a field to compose a message, aligning with the HIG’s recommendations for clear communication tools.

Message Composition Screen (Accessible within the Personal Messaging Screen):

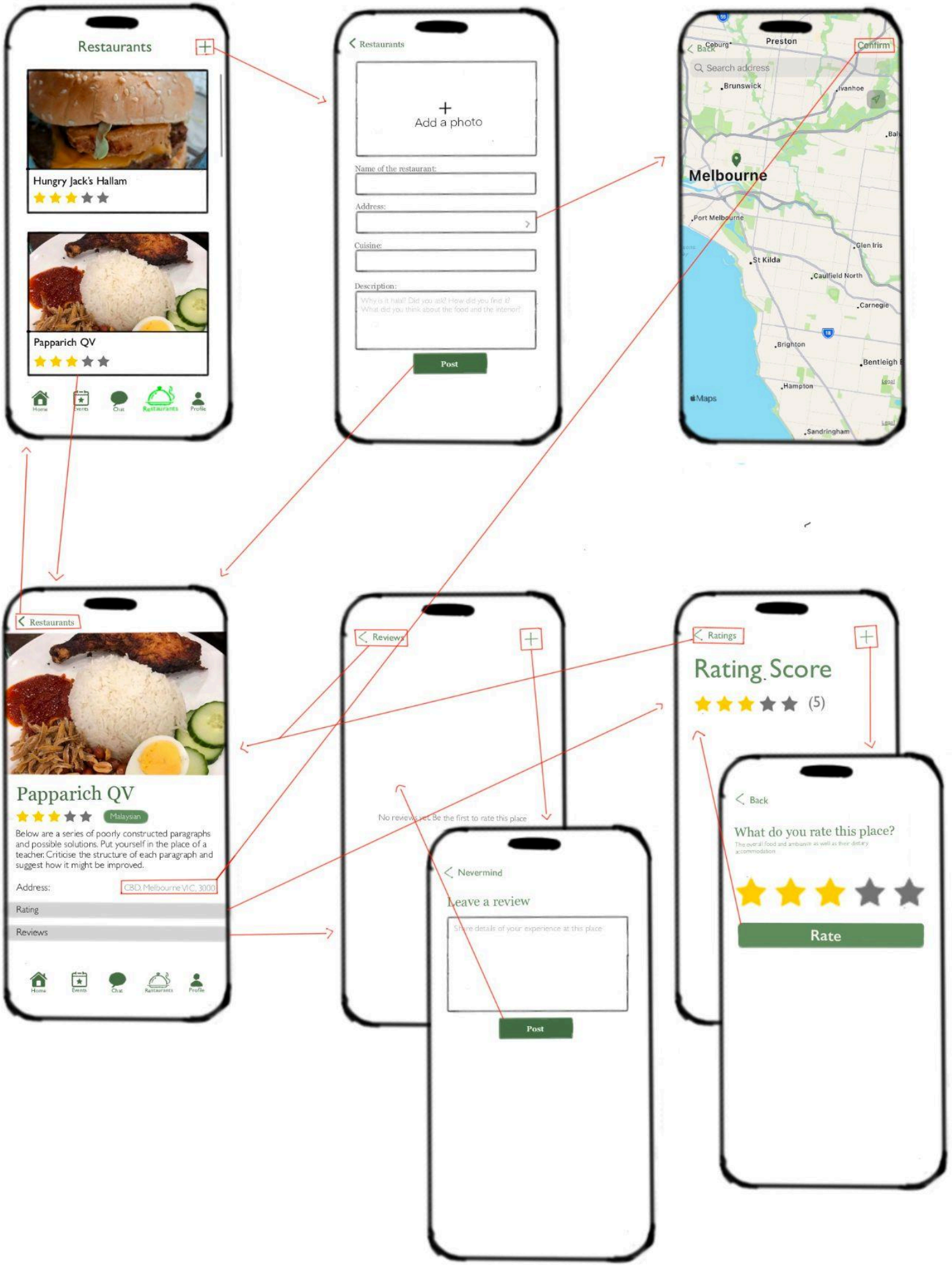
- Provides a straightforward interface for typing a message with a send button.
- The design follows the HIG by focusing on the primary task, minimizing distractions, and making the send action apparent.

Design Elements:

The use of consistent navigation patterns, with back buttons and standard form elements were incorporated that align with the HIG's principle of clarity and consistency. The use of dialog boxes to confirm actions ensures that users are making intentional choices, adhering to the HIG principle of preventing errors.

The color scheme remains consistent with the overall application design, featuring a green highlight color that complements the white background and maintains a clean aesthetic, which is also recommended by HIG for visual clarity.

Each screen seems to provide immediate feedback to user interactions - tapping a button changes its appearance or navigates to a new screen, which is a core HIG principle for feedback.


Restaurants
Hungry Jack's Hallam
Papparich QV
Home
Events
Chat
Restaurants
Profile
Restaurants
Add a photo
Name of the restaurant:
Address:
Cuisine:
Description:
Why is it halal? Did you ask? How did you find it?
What did you think about the food and the interior?
Post
Back
Search address
Confirm
Coburg
Preston
Brunswick
Ivanhoe
Melbourne
Port Melbourne
St Kilda
Glen Iris
Caulfield North
Carnegie
Brighton
Bentleigh
Hampton
Sandringham
Maps
Restaurants
Papparich QV
Malaysian
Below are a series of poorly constructed paragraphs and possible solutions. Put yourself in the place of a teacher. Criticise the structure of each paragraph and suggest how it might be improved.
Address:
CBD, Melbourne VIC, 3000
Rating
Reviews
Home
Events
Chat
Restaurants
Profile
Reviews
No reviews yet. Be the first to rate this place
Nevermind
Leave a review
Share details of your experience at this place
Post
Ratings
Rating Score
(5)
Back
What do you rate this place?
The overall food and ambiance as well as their dietary accommodation
Rate

Restaurants Listing Screen:

- Displays a list of restaurants with thumbnail images, names, and star ratings.
- Tapping a restaurant takes the user to a detailed view of that place. Following HIG, this provides a straightforward path to more information.
- The 'plus' icon suggests users can add a new restaurant, aligning with HIG principles for content creation and user empowerment.

Add a Restaurant Screen (Transition from the 'plus' button on the Restaurants Listing Screen):

- Provides fields to upload a photo, and enter the name, address, cuisine, and description of a new restaurant, with a "Post" button to submit.
- The interface adheres to the HIG by being clean, focused on the task, and minimizing user error through structured data entry fields.

Map Screen (Transition from the Restaurants Listing Screen):

- Shows a map, likely interactive, pinpointing restaurant locations.
- Users can interact with the map to locate restaurants, which follows HIG's principles of discoverability and user control.

Detailed Restaurant Review Screen (Accessible by tapping on a restaurant in the Restaurants Listing Screen):

- Features detailed reviews, star ratings, and the restaurant's information.
- Provides a button to write a review, following HIG’s emphasis on user-generated content and engagement.

Write a Review Screen (Transition from the Detailed Restaurant Review Screen):

- Includes a text field for writing a review and a "Post" button.
- This screen exemplifies the HIG principle of simplicity, allowing users to easily contribute content in a few steps.

Rating Screen (Multiple possible transition points, but likely from the Detailed Restaurant Review Screen):

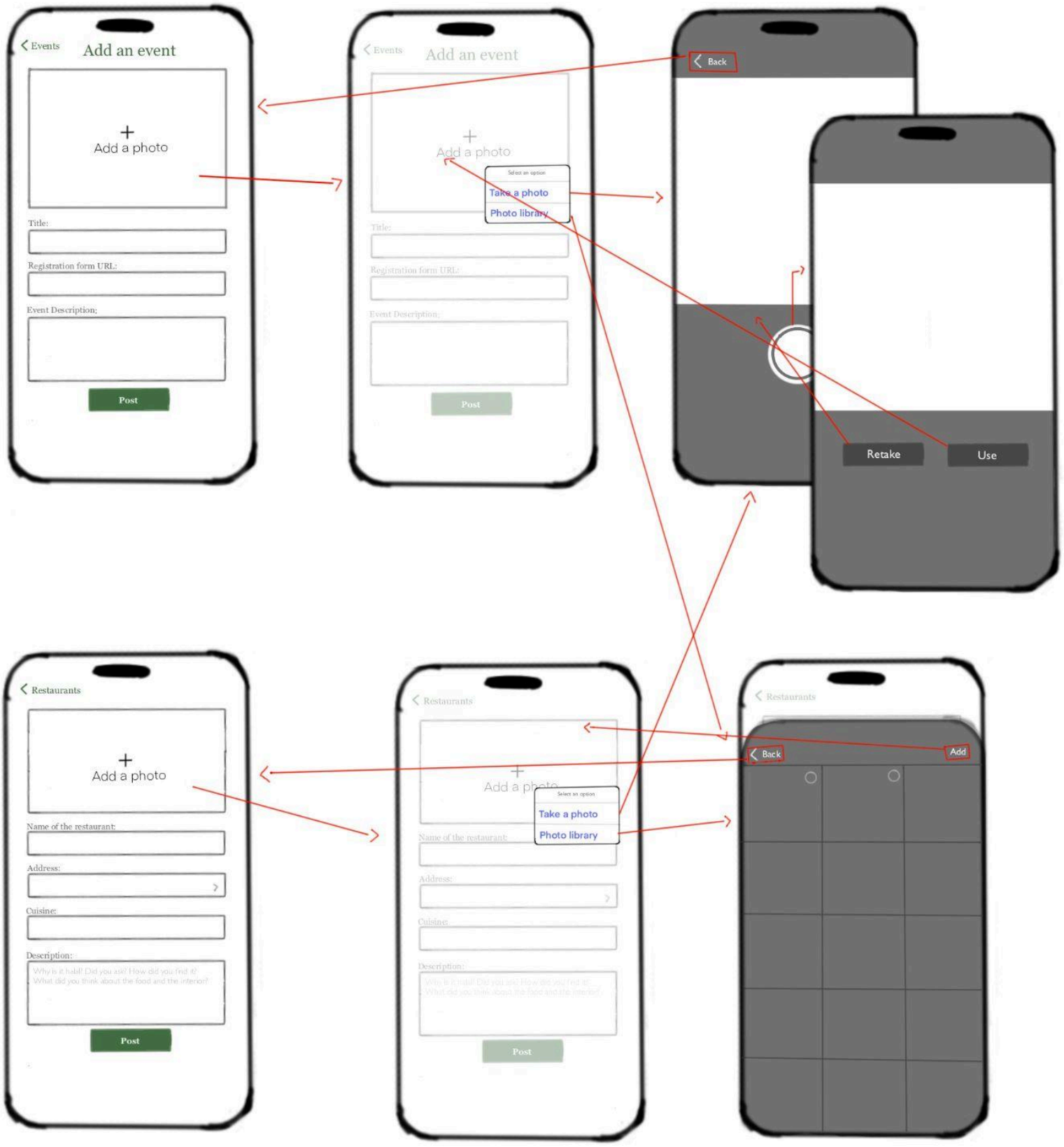
- Presents a star rating system where users can tap to rate the restaurant.
- Following HIG, the interaction is intuitive, immediate, and provides clear feedback as stars fill in when selected.

Rate Confirmation Screen (Transition from selecting stars on the Rating Screen):

- Asks “What do you rate this place?” with a highlighted star rating and a "Rate" button to submit.
- This screen offers a confirmation step, which is an HIG-recommended practice to prevent errors by confirming user intentions.

Design elements include:

- Consistent iconography and button placement, adhering to HIG recommendations for familiarity and ease of use.
- Color schemes and fonts are uniform throughout the application, promoting an intuitive and aesthetically pleasing user experience as advised by HIG.
- Interaction feedback is immediate, such as highlighting the selected number of stars, which is a core HIG principle for feedback.


Events
Add an event
Add a photo
Title:
Registration form URL:
Event Description:
Post
Events
Add an event
Add a photo
Select an option
Take a photo
Photo library
Title:
Registration form URL:
Event Description:
Post
Back
Retake
Use
Restaurants
Add a photo
Name of the restaurant:
Address:
Cuisine:
Description:
Why is it halal? Did you ask? How did you find it?
What did you think about the food and the interior?
Post
Restaurants
Add a photo
Select an option
Take a photo
Photo library
Name of the restaurant:
Address:
Cuisine:
Description:
Post
Restaurants
Back
Add

Initial Add Event/Restaurant Screen:

- Users start on a form screen to add a new event or restaurant. They are prompted to add a photo by tapping a '+' icon, followed by fields for a title, location (for events), address (for restaurants), cuisine (for restaurants), and a description.
- The design follows the HIG by providing a clear, easy-to-navigate form with large tap targets for photo uploading and field entry, ensuring accessibility and ease of use.

Photo Upload Options (Transition from tapping 'Add a photo'):

- A modal or popup appears with options to "Take a photo" or choose from the "Photo Library," which is in accordance with HIG by offering a clear choice without leaving the context of the current task.

Camera Interface (Transition from choosing 'Take a photo'):

- If the user opts to take a new photo, the device's camera interface opens.
- Standard camera controls are likely present, which adheres to HIG principles by using familiar system-provided interfaces.

Photo Selection/Preview (Transition from choosing a photo from the library or taking a new one):

- After selecting or capturing a photo, users are presented with a preview screen, offering the options to "Resize" or "Use" the photo.
- This step aligns with the HIG by allowing users to review their choice and make adjustments before confirming, which can help prevent errors.

Return to Form with Photo Attached:

- Once a photo is selected, users return to the original form screen, now with the photo attached, visible in a thumbnail preview.
- Incorporating a visual confirmation of the photo selection within the form aligns with the HIG's focus on feedback and confirmation.

Scope and Limitations

1. Minimum Viable Product (MVP) Outline

The MVP for HOOD: Halal-Food app encompasses the minimal set of features necessary to launch the app to the public in a state that provides immediate value to the user while maintaining the potential for future expansions.

1.1 User Authentication

The inclusion of a secure user authentication mechanism is non-negotiable for any modern app that aims to offer personalized services or handle user data. For HOOD: Halal-Food, this feature lays the groundwork for a personalized experience, enabling users to save favorites, post reviews, and manage their profiles. It's the gateway to a tailored app experience, ensuring that users feel secure and their data is protected. Without this, the app would lack the personalization that encourages user engagement and retention.

1.2 Halal Dining Locator:

At its core, HOOD: Halal-Food seeks to connect users with halal dining options. The interactive map and dining locator serve as the app's central feature, directly addressing the primary need of the target audience. Providing users with the ability to quickly find halal-certified restaurants nearby with basic details like name, address, and user ratings makes the app immediately valuable. This functionality not only aids in decision-making but also supports the broader goal of making halal dining more accessible and convenient.

1.3 User Reviews and Ratings:

Enabling users to contribute reviews and ratings is crucial for building a community-driven platform. This feature transforms the app from a simple directory into a dynamic, evolving resource enriched by personal experiences and recommendations. It leverages the collective

wisdom of the community, offering insights and trustworthiness that static listings cannot. For an MVP, this user-generated content is vital for fostering engagement, creating a platform that users return to, and rely on, not just for finding halal options but for guidance and advice from fellow users.

1.4 Islamic Events Listing:

Integrating a feature that lists Islamic events caters to the broader lifestyle needs of the Muslim community, extending the app's utility beyond dining. It responds to the desire for a holistic platform that supports not just dietary but social and religious aspects of Muslim life. By providing a centralized space for discovering and participating in community events, the app strengthens its position as a comprehensive resource for its users, making it more than just a food locator but a community hub.

1.5 Navigation and Accessibility:

Prioritizing intuitive navigation and adherence to accessibility standards ensures that the app is user-friendly and inclusive. This fundamental design principle ensures that the MVP can serve the widest possible audience effectively. Navigation and accessibility are the underpinnings of a positive user experience, determining how easily users can leverage the app's features. Without this foundation, even the most well-intentioned app can become frustrating or unusable for its intended audience.

In summary, each of these features contributes to the MVP by ensuring the app is secure, useful, engaging, and accessible. They collectively address the core needs of the target audience while laying a solid foundation for future expansions. This focused approach ensures that the MVP can realistically be developed within the semester, offering immediate value to users upon launch and establishing a basis for continuous improvement and adaptation based on user feedback and evolving needs.

2. Scopes and Limitations

Considering the ambitious nature of the HOOD: Halal-Food app and the inherent time constraints involved in its development, certain limitations must be acknowledged to ensure a focused and achievable project scope. Firstly, the geographical coverage of the app will be initially confined to a specific region or city. This limitation is strategic, aiming to concentrate efforts and resources on providing a rich, well-curated experience within a manageable area, thereby ensuring depth and reliability of content. Furthermore, in the MVP phase, the capability to create events will be restricted to administrators or a select group of users. This approach is designed to safeguard the quality and relevance of the content, maintaining a high standard for the events listed. Lastly, more complex features like private messaging, forums, and integration with social media platforms are earmarked for future development phases post-MVP launch. These features, while valuable for enhancing user engagement and community building, require extensive development time and testing to implement effectively. By setting these scope limitations, the project remains realistic and focused, laying a solid foundation for future expansion and refinement.

3. Future Expansion

Looking beyond the initial launch, the roadmap for HOOD: Halal-Food includes several expansions aimed at enhancing the app's value and user experience. A pivotal future goal is to broaden the app’s geographical coverage, moving from a localized to a more global presence by incorporating halal dining options and Islamic events across various regions and countries. This expansion will make the app more universally useful and accessible to a wider audience. Additionally, to foster a stronger sense of community and engagement among users, plans are in place to introduce community engagement tools such as forums for discussions, private messaging for more personal interactions, and social sharing capabilities to allow users to share their favorite spots and experiences easily with their network. Another significant addition will be the integration of educational content related to halal dietary practices and Islamic culture, providing users not just with a directory of halal food and events but also with valuable information to enrich their understanding and practice of Islam. These future expansions are envisioned to transform HOOD: Halal-Food into a more

comprehensive platform that supports the lifestyle and cultural needs of the Muslim community worldwide.

4. Development Considerations

To guide the development of the HOOD: Halal-Food app towards successful completion within the semester, a strategic approach prioritizes key considerations. A regular feasibility analysis is at the forefront, aimed at continuously monitoring the development's progress and evaluating the practicality of incorporating planned features, ensuring that the project remains on track and adaptable to any necessary adjustments. Engaging with early users or stakeholders to collect feedback on the Minimum Viable Product (MVP) will play a crucial role in identifying areas for improvement and determining the direction of future enhancements, ensuring that the app evolves in alignment with user needs and preferences. Furthermore, recognizing and addressing any skill gaps within the development team is essential, with a focus on enhancing proficiency in specific iOS frameworks and Firebase integration, which are pivotal to the app's infrastructure. Allocating dedicated time for skill development ensures that the team remains capable and confident in delivering a high-quality product, positioning the project for success.

Estimated Timeline

Week	Date	Tasks
5	Mon 25 Mar 24	- Initiate user authentication module development: Login, registration, and basic profile management. - Begin layout designs for the Halal Dining Locator and Islamic Events Listing screens.
6	Mon 8 Apr 24	- Integrate Firebase for user data management and chat functionalities. - Develop the back-end setup for the Halal Dining Locator, including restaurant data storage and retrieval.
7	Mon 15 Apr 24	- Implement MapKit and Core Location for the Halal Dining Locator to display nearby restaurants and event venues. - Start the implementation of the User Reviews and Ratings functionality.
8	Mon 22 Apr 24	- Enable photo uploads for user reviews with UIImagePickerController and Firebase Storage.

		- Conduct the first round of user interface (UI) usability tests with feedback integration.
9	Mon 29 Apr 24	- Finalize all primary interfaces: User Profile, Dining Locator, and Event Listings. - Implement initial navigation and accessibility features across the app.
10	Mon 6 May 24	- Expand on user interaction features, focusing on improving the user experience based on initial feedback. - Start integrating local notifications for event reminders.
11	Mon 13 May 24	- Conduct extensive testing: Fix bugs, improve security, and refine user interface elements. - Polish the chat functionality and ensure data consistency across devices.
12	Mon 20 May 24	- Finalise development: Ensure all functionalities are fully integrated and operational. - Prepare app for submission: Perform final testing, compile documentation, and gather all necessary submission materials.

Final Submission:

Thu 6 Jun 24: Submit the completed HOOD: Halal-Food app.

Bibliography

Elasrag, H. (2016, February 16). (PDF) halal industry: Key challenges and opportunities. ResearchGate. https://www.researchgate.net/publication/295351450_Halal_Industry_Key_Challenges_and_Opportunities

Halal Food & Cultural Inclusivity: ISA. Islamic Services of America. (2023, March 30). https://www.isahalal.com/news-events/blog/how-halal-food-promotes-cultural-diversity-inclusivity

Find Halal Food Near You!. Halal Bites - Home. (n.d.). https://halalbites.co/#top

About Us. Halal Advisor. (n.d.). https://halaladvisor.com.au/about-halal-advisor/

Solutions, G. (2024, January 11). How to develop an IOS app: Be a Master in Development. Medium. https://medium.com/@growsolutions/how-to-develop-an-ios-app-master-in-ios-development-f523aad8d380

Merrick, L. (2016, July 20). App competitive analysis is essential for success. Buzinga. https://www.buzinga.com.au/buzz/competitive-analysis-on-apps/

Inc., A. (n.d.). Planning your ios app. Apple Developer. https://developer.apple.com/ios/planning/

Jon.lazar. (2016, May 31). Implementing uirefreshcontrol. Medium. https://medium.com/@jon.lazar/implementing-uirefreshcontrol-f3e321019b4a

Vsouza. (n.d.-a). Vsouza/awesome-IOS: A curated list of awesome IOS ecosystem, including objective-C and swift projects. GitHub. https://github.com/vsouza/awesome-ios

Human interface guidelines. Apple Developer Documentation. (n.d.). https://developer.apple.com/design/human-interface-guidelines/