SNACK SQUAD: A CUSTOMIZABLE SNACK ORDERING AND DELIVERY APP

Submitted by

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CHAPTER 1 - ABSTRACT

Snack Squad is a customizable snack ordering and delivery app that offers users a convenient, personalized snacking experience. Tailored for busy professionals, students, and groups, the app provides a vast selection of snacks, including health-conscious and dietary-specific options. With features like personalized snack packs, AI-driven recommendations, and real-time delivery tracking, Snack Squad enhances the accessibility and variety of snacks available on demand. The app also supports corporate and group ordering, catering to team events and office environments. By combining ease of use, customization, and timely delivery, Snack Squad redefines the traditional snack experience, making it more responsive to the unique tastes and schedules of modern users. Here's an alternative abstract for a customizable snack ordering and delivery app.This customizable snack ordering and delivery app is designed to provide a highly personalized and flexible snack experience for users. The app allows customers to browse and select from a wide range of snacks, adjust portion sizes, and create unique combinations based on individual preferences or dietary needs. With features like real-time nutritional information, dietary filters, and allergen alerts, users can make informed choices. A user-friendly interface streamlines the ordering process, and flexible delivery options ensure snacks are conveniently brought to the doorstep at preferred times. The app also includes loyalty programs, subscription plans, and personalized recommendations, enhancing engagement and encouraging repeat orders. Push notifications, social sharing features, and various payment methods round out the app's offerings, making it convenient and enjoyable to use. By combining convenience, customization, and a seamless ordering experience, this app aims to revolutionize snack delivery by making it quick, easy, and tailored to each user's taste and lifestyle.

CHAPTER 2 – INTRODUCTION

In today's fast-paced world, convenient access to snacks has become essential for people balancing work, studies, and other daily responsibilities. Whether in an office, at a college campus, or working from home, individuals often need quick and accessible snack options to maintain energy and focus. However, traditional snack procurement methods, such as trips to vending machines or stores, are often inconvenient, time-consuming, and limited in choice. To address these challenges, Snack Squad introduces a modern, customizable snack ordering and delivery solution designed for convenience, personalization, and efficiency.Snack Squad allows users to explore a broad range of snack options, create custom snack packs, and receive on-demand or scheduled deliveries directly to their locations. By leveraging technology and personalization, the app meets the unique preferences and dietary needs of its users, providing an experience that is more dynamic than standard snack delivery services. With features like real-time tracking, AI-driven snack recommendations, and group ordering options, Snack Squad is particularly suited for both individual users and teams.This introduction highlights the need for an innovative snack solution in today's mobile, productivity-driven environment. Through its customizable and user-centric approach, Snack Squad seeks to transform the way users access and enjoy snacks, offering a solution that aligns with modern lifestyles and preferences. Here's another version of the introduction.In today's fast-paced world, snack delivery has become an essential convenience for people looking to satisfy cravings or maintain energy throughout the day. However, many snack delivery services lack the personalization that customers seek. This app is designed to fill that gap by allowing users to fully customize their snack orders to fit their unique preferences, dietary needs, and lifestyles. From choosing portion sizes and creating custom combinations to selecting specific delivery windows, this app offers a flexible, user-centered approach. With added features like real-time nutritional data, loyalty rewards, and subscription options, the app provides a one-stop solution for anyone who wants convenient access to fresh, delicious, and personalized snacks delivered straight to their door. Whether for a quick office boost, a family treat, or an event, this app redefines snack ordering, making it an experience that's tailored to every taste and schedule.

CHAPTER 3 – OBJECTIVES

The objectives of Snack Squad are centered on enhancing snack accessibility, personalization, and convenience for a diverse range of users. Specifically, Snack Squad aims to:

1. Provide a Diverse Snack Selection

- Offer a wide variety of snacks, including healthy, indulgent, and dietary-specific options (e.g., vegan, gluten-free) to meet varied consumer preferences.

2. Enable Customization of Snack Orders

- Allow users to create personalized snack packs, catering to individual tastes and dietary needs, with options to save custom selections for easy reordering.

3. Ensure Fast, Reliable Delivery

- Implement real-time tracking and flexible delivery options (on-demand, scheduled, and recurring) to ensure that snacks are delivered conveniently and promptly.

4. Enhance User Experience with AI-Powered Recommendations

- Leverage machine learning to recommend snacks based on users' past orders and preferences, making it easy to discover new items and streamline the ordering process.

5. Support Corporate and Group Orders

- Offer features for group ordering, team accounts, and shared payment options, catering to offices, team events, and study groups.

6. Promote User Loyalty and Engagement

- Develop a rewards program, subscription plans, and referral incentives to encourage frequent use, build customer loyalty, and increase user engagement.

7. Simplify the Payment and Checkout Process

- Provide a seamless payment experience by supporting multiple payment methods, including digital wallets, corporate accounts, and flexible billing options for corporate clients.

8. Offer a User-Friendly and Intuitive Interface

- Design an interface that ensures a smooth, enjoyable user experience, with simple navigation, easy filtering, and minimal steps to complete an order.

These objectives support Snack Squad's mission to provide a snack delivery solution that adapts to individual lifestyles, enhances workplace or study environments, and revolutionizes the snack experience by making it faster, smarter, and more tailored to each user.

CHAPTER 4 -FEATURES AND FUNCTIONALITIES

Snack Squad is designed to provide a seamless, customizable, and convenient snacking experience. The app's features and functionalities focus on delivering a broad selection, personalized options, and efficient ordering for both individual and group needs. Key features include:

1. Diverse Snack Catalog

- Extensive Selection: A wide variety of snacks, including chips, candy, healthy snacks, fresh fruit, protein bars, and drinks.

- Specialty Options: Items for specific dietary preferences like vegan, gluten-free, low-carb, and keto-friendly.

- Trending and Seasonal: Highlights popular items and seasonal selections to keep users engaged and informed.

2. Customizable Snack Packs

- Personalized Packs: Users can create unique snack packs by selecting individual items, choosing specific brands, and adjusting quantities.

- Favorite Packs: Ability to save and reorder favorite combinations for quick future access.

- Bundle Deals: Pre-packaged bundles for specific occasions (e.g., study sessions, team meetings) for easy ordering.

3. Flexible Ordering and Delivery Options

- On-Demand Delivery: Snacks are delivered quickly to the user's location, with real-time tracking and notifications.

- Scheduled and Recurring Deliveries: Users can set up specific delivery times or regular delivery intervals (daily, weekly) to fit their routines.

- Multiple Locations: Ability to add and manage multiple delivery addresses (home, office, campus).

4. AI-Powered Snack Recommendations

- Personalized Suggestions: AI-driven recommendations based on order history, preferences, and dietary requiremenSuggestioDynamic Updates**: Seasonal and trending snack suggestions to help users discover new options and popular items.

5. Corporate and Group Ordering

- Team Accounts: Corporate accounts allow for shared access and group ordering, perfect for office environments.

- Group Payments: Split payment options, enabling team members to pay individually within a shared order.

- Customizable Group Orders: Each person can select their preferred items within a single group order.

6. User-Friendly Navigation and Search

- Intuitive Interface: Easy-to-navigate interface with clear categorization of snacks, simple checkout, and minimal steps.

- Advanced Filters: Dietary, brand, and category filters to help users quickly find their preferred snacks.

- Quick Reorder: Access recent orders and favorite packs for faster reordering.

PROJECT OVERVIEW

Snack Squad is a mobile application that reimagines snack delivery by offering a customizable, user-centric, and convenient solution for ordering snacks on demand. Designed to meet the needs of busy professionals, students, and teams, Snack Squad provides a wide range of snack options, allowing users to build their own snack packs, access personalized recommendations, and enjoy fast, reliable delivery to their preferred location.

The project addresses the growing demand for easily accessible snacks and aims to transform the way people snack during their daily routines. With options tailored to dietary needs, group ordering for team events, and delivery tracking, Snack Squad provides an innovative approach that simplifies snack access and introduces new levels of customization and convenience. By combining AI-driven recommendations, flexible delivery scheduling, and a seamless user experience, Snack Squad is positioned to cater to both individual and corporate markets.

Key Project Goals

1. Develop a User-Friendly Interface: Create an intuitive design that allows users to browse, customize, and order snacks with minimal steps.

2. Build Robust Customization Features: Enable personalized snack pack creation, saving of favorites, and dietary preference filtering.

3. Integrate Real-Time Tracking and Flexible Delivery: Implement GPS-enabled tracking and offer various delivery options, including on-demand, scheduled, and recurring deliveries.

4. Leverage AI for Personalized Recommendations: Use machine learning to provide snack suggestions based on individual order history and trends.

5. Support Group and Corporate Ordering: Offer group payment, team accounts, and individual customization within shared orders, ideal for office or group settings.

6. Implement a Rewards and Subscription System: Establish loyalty rewards, referral programs, and subscription plans to encourage frequent usage and customer retention.

Target Audience

- Individual Users: Busy professionals, students, and remote workers who need convenient snack access during their day.

- Corporate Clients: Office managers, corporate teams, and event organizers looking for easy snack ordering options for meetings and team events.

- Group Buyers: Friends, study groups, and shared living spaces seeking customizable snack orders for group enjoyment.

Technology Stack

- Frontend: React Native for a seamless cross-platform mobile experience.
- Backend: Node.js and Express for scalable server management.
- Database: MongoDB for flexible data storage and handling.
- AI Integration: Machine learning for personalized recommendations.
- Delivery Tracking: GPS and real-time tracking APIs to ensure timely, accurate delivery.

Success Criteria

Snack Squad's success will be evaluated based on metrics such as user acquisition, retention rates, order frequency, and customer feedback. A smooth, user-friendly experience, high customer satisfaction, and growing demand for subscriptions and corporate accounts will be key indicators of project success. Through continuous improvements and feedback integration, Snack Squad aims to become a go-to solution for snack delivery, offering a service that aligns perfectly with the fast-paced lifestyles of its users.

PLANNING AND DESIGN

The planning and design phase of Snack Squad focuses on creating a robust, user-friendly platform that meets the needs of a diverse audience while maintaining high performance, scalability, and adaptability. This phase covers the following key areas:

1. Requirement Analysis and Planning

- User Requirements: Identify user needs through surveys, interviews, and market research to determine the demand for snack variety, delivery preferences, customization options, and corporate features.

- Feature Prioritization: Organize features by priority, focusing first on core functionalities such as snack selection, customizable packs, delivery options, and real-time tracking. Other features like AI recommendations and group orders follow in the roadmap.

- Project Timeline and Milestones: Develop a clear timeline with milestones for app development, testing, launch, and post-launch support. Key phases include prototype development, user testing, and phased feature rollouts.

- Budgeting and RResource: Allocate resources for development, design, marketing, and ongoing support. This includes budgeting for server costs, licensing for third-party APIs (e.g., for payment processing and GPS tracking), and marketing initiatives.

2. System Architecture and Technology Stack

- Frontend:

  - Framework: React Native for cross-platform compatibility on iOS and Android.

  - User Interface: Focus on a responsive, intuitive UI with easy navigation, minimal steps to order, and quick reordering features.

- Backend:

- Server: Node.js and Express for a fast, scalable backend.

- Database: MongoDB to handle large data sets and allow flexible document structure for snack details, orders, user profiles, etc.

- APIs: Integration of third-party APIs for payment gateways (Stripe, PayPal), GPS tracking for real-time delivery updates, and push notifications.

- Machine Learning for AI Recommendations:

- Use Python-based machine learning models to analyze user data and generate snack recommendations.

- Incorporate collaborative filtering and content-based filtering to refine suggestions based on similar users and user feedback.

3. Design of User Interface (UI) and User Experience (UX)

- User-Centered Design:

- Create user personas and scenarios to inform the design process, focusing on both individual and corporate users.

- Ensure that the interface is simple, visually appealing, and intuitive, with clear snack categories, filters, and a straightforward checkout process.

- Wireframes and Prototypes:

- Develop wireframes to map out core screens (home, snack catalog, customization page, checkout, order tracking).

- Create interactive prototypes to test user flows, ensuring ease of navigation and efficiency in completing orders.

- Visual Design:

- Select a color palette, typography, and iconography that align with the brand's identity, evoking a sense of freshness, convenience, and energy.

- Maintain consistency across screens for a cohesive user experience.

4. Core Functionalities and Features Design

- Snack Catalog and Customizable Packs:

- Design the snack catalog with filters for categories, dietary preferences, and sorting options (e.g., trending, recommended).

- Create a snack pack customization module that allows users to build packs, save favorites, and adjust quantities.

- Order Tracking and Notifications:

- Implement GPS-enabled tracking, displaying real-time location and estimated delivery time.

- Set up push notifications to inform users of order status (confirmation, out for delivery, delivered).

5. Testing and Quality Assurance

- Functional Testing:

  - Conduct tests to ensure that each feature works as intended, from snack selection and customization to order tracking and notifications.

- User Testing:

  - Perform beta testing with a sample group of users to gather feedback on usability, functionality, and overall satisfaction.

  - Implement A/B testing to refine the user interface and determine which layouts drive more engagement.

- Performance Testing:

  - Test the app for speed and performance under varying loads to ensure reliable performance during peak usage times.

- Security TTestin:

  - Ensure secure payment processing, user data protection, and compliance with privacy standards to build user trust.

6. Launch and Post-Launch Strategy

- Launch Phases:

  - Begin with a soft launch or beta version to gather feedback, then release the full version with marketing support.

- Post-Launch Monitoring:

- Continuously monitor user feedback, app performance, and feature usage to identify areas for improvement.

- Regularly update the app with new features, seasonal snacks, and enhanced recommendations based on user data.

- Customer Support:

- Set up an in-app help center and provide customer service channels (live chat, email) to assist users and handle issues promptly.

7. Marketing and User Acquisition

- Targeted Marketing:

- Create digital marketing campaigns targeting students, professionals, and corporate clients on platforms like social media

Source code

```
Package com.example.snacksquad•

import android.os.Bundle•

import androidx.activity.viewModels•

import androidx.appcompat.app.AppCompatActivity

 import androidx.recyclerview.widget.LinearLayoutManager

 import androidx.recyclerview.widget.RecyclerView

 import com.example.snacksquad.database.Snack

 import com.example.snacksquad.database.SnackViewModel

 class MainActivity : AppCompatActivity()

 private lateinit var snackViewModel: SnackViewModel

 private lateinit var snackRecyclerView:

 private lateinit var snackAdapter: SnackAdapter•

// Assume you have created a SnackAdapter for RecyclerView• override fun onCreate(savedInstanceState: Bundle?) {

 super.onCreate(savedInstanceState)

 setContentView(R.layout.activity_main)

 // Initialize RecyclerView• snackRecyclerView = findViewById(R.id.snackRecyclerView) • snackRecyclerView.layoutManager = LinearLayoutManager(this)

snackAdapter = SnackAdapter() // Initialize your adapter

 snackRecyclerView.adapter = snackAdapter

snackViewModel = SnackViewModel(application)

.allSnacks.observe(this, { snacks ->

 // Update the cached copy of the snacks in the adapter• snacks?.let { snackAdapter.setSnacks(it) }

 })
```

// Handle Place Order button click

findViewById<Button>(R.id.placeOrderButton).setOnClickListener {• // Logic to place an order (e.g., open an Order Activity)

}

}

}

Snack Adapter

class SnackAdapter :

RecyclerView.Adapter<SnackAdapter.SnackViewHolder>() {

private var snacks = emptyList<Snack>()

SnackViewHolder(itemView: View)RecyclerView.ViewHolder(itemView) • { • val snack Name: TextView = itemView.findViewById(R.id.snack_name)

val snackPrice: TextView = itemView.findView•

}

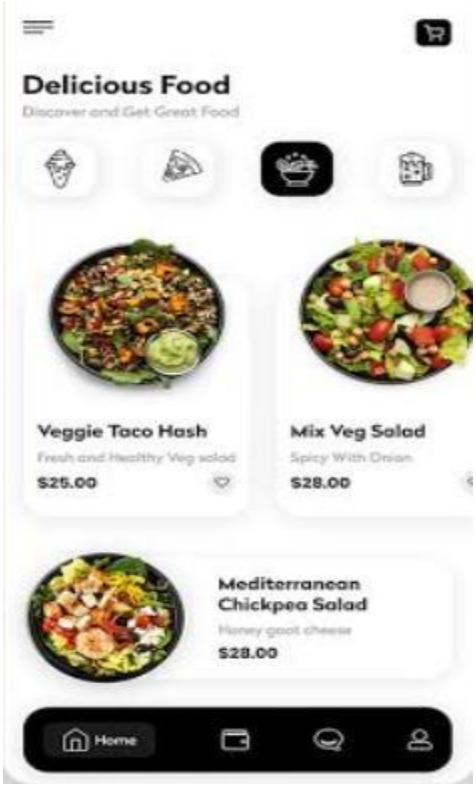
}

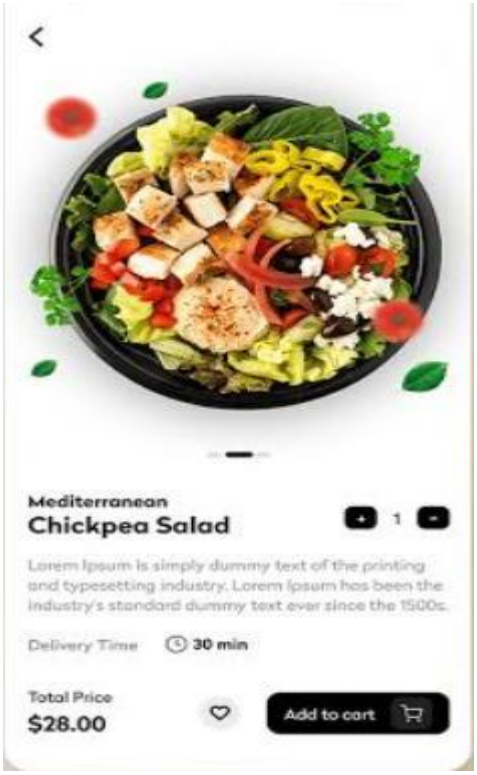
```
plugins {
    id 'com.android.application'
    id 'org.jetbrains.kotlin.android'
}

android {
    namespace 'com.example.snackordering'
    compileSdk 33

    defaultConfig {
        applicationId "com.example.snackordering"
        minSdk 24
```

```
        targetSdk 33
        versionCode 1
        versionName "1.0"

        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
        vectorDrawables {
            useSupportLibrary true
        }
    }

    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
    kotlinOptions {
        jvmTarget = '1.8'
    }
    buildFeatures {
        compose true
    }
```

```
    composeOptions {
        kotlinCompilerExtensionVersion '1.2.0'
    }
    packagingOptions {
        resources {
            excludes += '/META-INF/{AL2.0,LGPL2.1}'
        }
    }
}

dependencies {

    implementation 'androidx.core:core-ktx:1.7.0'
    implementation 'androidx.lifecycle:lifecycle-runtime-ktx:2.3.1'
    implementation 'androidx.activity:activity-compose:1.3.1'
    implementation "androidx.compose.ui:ui:$compose_ui_version"
    implementation "androidx.compose.ui:ui-tooling-preview:$compose_ui_version"
    implementation 'androidx.compose.material:material:1.2.0'
    implementation 'androidx.room:room-common:2.5.0'
    implementation 'androidx.room:room-ktx:2.5.0'
    testImplementation 'junit:junit:4.13.2'
    androidTestImplementation 'androidx.test.ext:junit:1.1.5'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.5.1'
    androidTestImplementation "androidx.compose.ui:ui-test-junit4:$compose_ui_version"
    debugImplementation "androidx.compose.ui:ui-tooling:$compose_ui_version"
    debugImplementation "androidx.compose.ui:ui-test-manifest:$compose_ui_version"
}
```

Output


Delicious Food
Discover and Get Great Food
Veggie Taco Hash
Fresh and Healthy Veg salad
$25.00
Mix Veg Salad
Spicy With Onion
$28.00
Mediterranean
Chickpea Salad
Honey goat cheese
$28.00
Home


Mediterranean
Chickpea Salad
1
Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s.
Delivery Time
30 min
Total Price
$28.00
Add to cart