# UNIVERSITY COLLEGE OF ENGINEERING

# KANCHEEPURAM

*(A Constituent College of Anna University Chennai)*

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**


## CCS370 – UI AND UX DESIGN

NAME : _____

REGISTER NO : _____

YEAR/SEMESTER : _____

BRANCH : _____

# UNIVERSITY COLLEGE OF ENGINEERING KANCHEEPURAM

*(A Constituent College of Anna University Chennai)*

## KANCHIPURAM - 631552

## BONAFIDE CERTIFICATE

**REGISTER NO :** | | | | | | | | | | | | |

Certified that this is the bonafide record of work done by **Mr/Ms**……. of **FIFTH** Semester in the Department of **B.E COMPUTER SCIENCE AND ENGINEERING** of this college in ***CCS370 – UI AND UX DESIGN*** during the academic year 2024 - 2025.

**Signature of Faculty In-Charge** **Signature of Head of the Department**

Submitted for the University Practical examination held on……..

**Internal Examiner** **External Examiner**

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| Ex No: 1 | DESIGNING A RESPONSIVE LAYOUT FOR INSTAGRAM |
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| Date : | |

**AIM :**

To design a responsive layout for an societal application-Instagram.

**PROCEDURE :**

**1. Understand Instagram's Layout Guidelines:**

- Familiarise yourself with Instagram's Recommended image sizes and aspect ratio for posts, stories, and IGTV. This ensures that your content looks good on different devices.

**2. Define the Grid System:**

- Establish a grid system to organise and structure your content. This helps maintain consistency and alignment across various screen sizes.

**3. Mobile-First Approach:**

- Start designing for mobile devices first. Consider the vertical orientation and limited screen space when arranging elements.

**4. Use Responsive Design Principles:**

- Employ responsive design principles such as fluid grids, flexible images, and media queries to ensure that your layout adapts to different screen sizes.

**5. Prioritize Content Hierarchy:**

- Identify key content elements and prioritize them based on their importance. Ensure that essential information remains visible on smaller screens.

**6. Adapt Typography:**

- Use scalable fonts and adjust font sizes for readability on various devices. Consider using relative units like percentages or ems instead of fixed pixel values.

**7. Optimize Images and Media:**

- Optimize images for different resolutions and screen sizes to ensure fast loading times. Consider using responsive images or the srcset attribute.

**8. Flexible Layouts:**

- Create flexible layouts that can adjust to different screen sizes. Avoid fixed-width containers that may cause horizontal scrolling on smaller screens.

**9. Media Queries:**

- Implement media queries in your CSS to apply specific styles based on the screen size. Adjust layout, font sizes, and spacing for different breakpoints (e.g., mobile, tablet, desktop).

**10. Text Across Devices:**

- Test your layout on a variety of devices and screen sizes,including smartphones,tablets,and desktops.Use tools like browser developer tools or device emulators to identify any issues and make adjustments for a seamless user experience.

| Ex No: 2 | EXPLORING VARIOUS UI INTERACTION PATTERNS |
| --- | --- |
| Date : | |

**AIM :**

To explore various UI Interaction patterns.

**EXPLANATION :**

**UI INTERACTION PATTERNS:**

UI (User Interface) interaction patterns refer to common design solutions for specific user interactions. These patterns help create a consistent and intuitive user experience across different applications and platforms. Here are various UI interaction patterns.

1. **Navigation Patterns:**
   a. **Hamburger Menu:**
      Start designing for mobile devices first. Consider the vertical orientation and limited screen space when arranging elements.
   b. **Tab Bar:**
      Horizontal tabs to switch between different sections or views. Commonly used in mobile applications.
   c. **Dropdown Menu:**
      A menu that appears below a button when clicked or hovered over, providing a list of options.

2. **Input Patterns:**
   a. **Form Validation:**
      Real-time feedback to users about the validity of the information they're entering in a form.
   b. **Autocomplete:**
      Suggestions appear as users type, helping them complete a word or phrase more quickly

c. **. Toggle Switch:**

A binary switch that allows users to turn an option on or off.

3. **Feedback Patterns:**
    a. **Toast Notifications:**

    Non-intrusive messages that appear briefly, providing feedback about a user's action.

    b. **Loading Spinners:**

    Visual indicators to inform users that a process is ongoing.

    c. **Error Messages:**

    Clear and concise messages that inform users about errors in their actions.

4. **Gesture-Based Patterns:**
    a. **Swipe:**

    Horizontal or Vertical gestures used for navigation or content manipulation.

    b. **Pinch and Zoom:**

    Gesture for scaling content, commonly used in maps and images.

    c. **Long Press:**

    Pressing and holding to reveal additional options or trigger an action.

5. **Search Patterns:**
    a. **Search Bar:**

    A dedicated space for users to input search queries.

    b. **Faceted Search:**

    Advanced search with filters allowing users to narrow down results.

6. **Onboarding Patterns:**
    a. **Tutorial Walkthrough:**

    Guided tours or tutorials to introduce users to key features.

    b. **Progressive Disclosure:**

    Gradually revealing information or features to usersto avoid overwhelming them.

7. **Media Patterns:**
    a. **Carousel:**
        A rotating set of images or content, often used for displaying a series of images or promotions.

8. **Card-Based Patterns:**
    a. **Card Grid:**
        Information presented in a grid of cards, each containing a distinct piece of content
    b. **Expandable Cards:**
        Cards that can be expanded to reveal additional information or actions.

9. **Social Interaction Patterns:**
    a. **Like/Heart Button:**
        A button allowing users to express appreciation or agreement with content.
    b. **Comment Threads:**
        Hierarchical presentation of comments, allowing users to reply to specific comments.

10. **Progress Indicators:**
    a. **Percentage Bar:**
        Visual representation of progress, often seen in file uploads or form completion
    b. **Step Indicators:**
        Displays the user's progress through a multi-step process, such as a checkout flow.

**RESULT:**

**2. Typography:**

Typography is essential for readability and aesthetic harmony across the UI

**Primary Font :**

- Font Family: **Sans-serif** (e.g., "Roboto" or "Open Sans")
- Use Case: Product descriptions, headers, and main content for a modern and clean look.

**Secondary Font :**

- Font Family: **Decorative or Script** (e.g., "Poppins" or "Montserrat") for banners and special promotions.

**Typography Guidelines :**

- Use no more than two typefaces to ensure consistency.
- Maintain a clear visual hierarchy:
    - Headings: Bold, larger font size
    - Subheadings: Medium weight
    - Body text: Regular weight with ample spacing
- Always test fonts for scalability and accessibility.

**3. Iconography:**

Icons serve as visual cues to improve navigation and user engagement.

**Design Principles :**

- **Clarity:** Ensure the icons are intuitive and universally understood.
- **Consistency:** Maintain a uniform style (e.g., outline or solid).
- **Personality:** Icons should complement the brand's tone—modern and minimal for an e-commerce platform.

**Examples of Icons**:

**4. Layout and Spacing:**

A grid system and proper spacing ensure visual harmony and usability.

**Grid System**

- Use a **12-column grid** for desktop views, adaptable for smaller devices.

**Spacing Guidelines**

- Adhere to the **4-point spacing system:**
    - Small spaces: **4px or 8px**
    - Moderate spaces: **12px or 16px**
    - Large spaces: **24px or 32px**
- Leave adequate spacing between:
    - Images and text
    - Buttons and input fields
    - Product cards

**Example Layout**

- **Header:** Fixed, with search bar and navigation.
- **Main Content:** Grid of product cards, each with an image, title, price, and buttons.
- **Footer:** Links and branding, aligned with the grid.

**5. UI Components:**

**i) Buttons**

- Buttons play a crucial role in guiding users through the interface. Their design should clearly communicate their purpose and guide users toward the intended actions.

**ii) Forms**

- Define input field styles, dropdowns, radio buttons, checkboxes, and error states. Include guidelines for form validation and input masks if necessary.

**iii) Navigation**

- Define styles for menus, navigation bars, tabs, and breadcrumbs. Specify the behavior and appearance of links.

**iv) Alerts and Notifications**

- Define styles for success, warning, error, and information alerts. Specify animations or transitions for showing and dismissing alerts.

**IMPLEMENTATION :**

1. **Our User Interface**

   We are going to develop an interface by following the above UI style guides. Our interface is for an E-Commerce App.

2. **Color Palette**

- Primary Color: **#FFD600**
- Secondary Color: **#4E4E4E**
- Accent Color: **#F4F4F4**

3. **Typography**

   We are going to use Fonts such as

   - **Inter**
   - **Krono One**

| Ex No: 4 | DEVELOPING WIREFLOW DIAGRAM FOR APPLICATION USING OPEN SOURCE SOFTWARE |
| --- | --- |
| Date : | |

**AIM :**

To develop a wireflow diagram for our application using source software

**PROCEDURE :**

In the realm of application development, wireflow diagrams serve as indispensable visual aids, mapping out the user interface and workflow. This record provides guidance on crafting these diagrams using open-source software, fostering accessibility and collaboration.

**I. Choosing the Right Tool:**

Selecting an appropriate open-source tool is crucial. Options like draw.io, Pencil Project, and Inkscape offer user-friendly interfaces and features tailored for wireflow design.

**II. Initial Setup:**

Begin by outlining the core functionalities and user interactions your application will have. Identify key screens and the connections between them to establish a foundational structure

**III. Wireframing:**

Utilize the chosen software's wireframing capabilities to sketch basic layouts of each screen. Focus on content placement, navigation elements, and user interactions. This stage helps in visualizing the initial structure of your application.

**IV. Adding Interactivity:**

Enhance the wireframes by incorporating interactive elements. Define how users will navigate between screens and interact with various components. This step transforms static wireframes into dynamic representations of the application's flow.

**V. Annotations and Documentation:**

Include annotations to provide context for each element in your wireflow. Document important details, such as functionality, data inputs, and expected outputs, ensuring clarity for collaborators and future reference.

**VI. Collaborative Editing:**

Take advantage of collaborative features offered by open-source tools. Share the wireflow diagram with team members for feedback and simultaneous editing, promoting a collaborative and iterative design process.

**VII. Version Control:**

Implement version control practices to track changes and revisions. This ensures a systematic approach to design iterations and facilitates easy rollback if needed.

**VIII. Export and Sharing:**

Once satisfied with the wireflow, export the diagram in a format suitable for your team's workflow. Common formats include PDF or image files, ensuring compatibility across different platforms.

## Wireflow for Food Ordering App :

**1. Home Page:**

- Search bar for quick restaurant or dish discovery.
- Featured cuisines and popular dishes.
- Recommended or trending meals.
- Navigation menu (Home, Cuisines, Cart, Profile).

**2. Category/Search Results:**

- Grid or list view of restaurants and dishes with thumbnails, prices, and ratings.
- Filters (e.g., cuisine type, delivery time) and sorting options.
- Infinite scroll or pagination for more options.

**3. Dish Details Page:**

- High-quality dish image gallery.
- Name, description, price, and customization options (e.g., add-ons, spice level).
- Add to Cart and Order Now buttons.
- Customer reviews and ratings.

**4. Cart Page:**

- List of selected items with images, names, prices, and quantities.
- Update quantities, remove items, or add instructions for dishes.
- Add to Cart and Order Now buttons.
- Cart subtotal and estimated total.

**5. Checkout Page:**

- Delivery address selection or entry.
- Payment method selection (credit card, UPI, cash on delivery).
- Order summary with itemized breakdown (subtotal, delivery fees, discounts).

**6. Order Confirmation Page:**

- Confirmation message with order number.
- Estimated delivery time.

**7. User Account/Settings:**

- Profile info, past orders, and saved addresses.
- Manage payment methods and preferences.

**8. Error States and Redirects:**

- Empty cart message (e.g., “Your cart is empty”).
- Payment failure message with retry option.

**9. Additional Features:**

- Add items to a favorites list for future orders.
- Autocomplete suggestions while searching for dishes or restaurants.

**10. Notification System:**

- Push notifications for order status, offers, or reordering suggestions.
- In-app notification center for updates like delivery tracking or promotions.

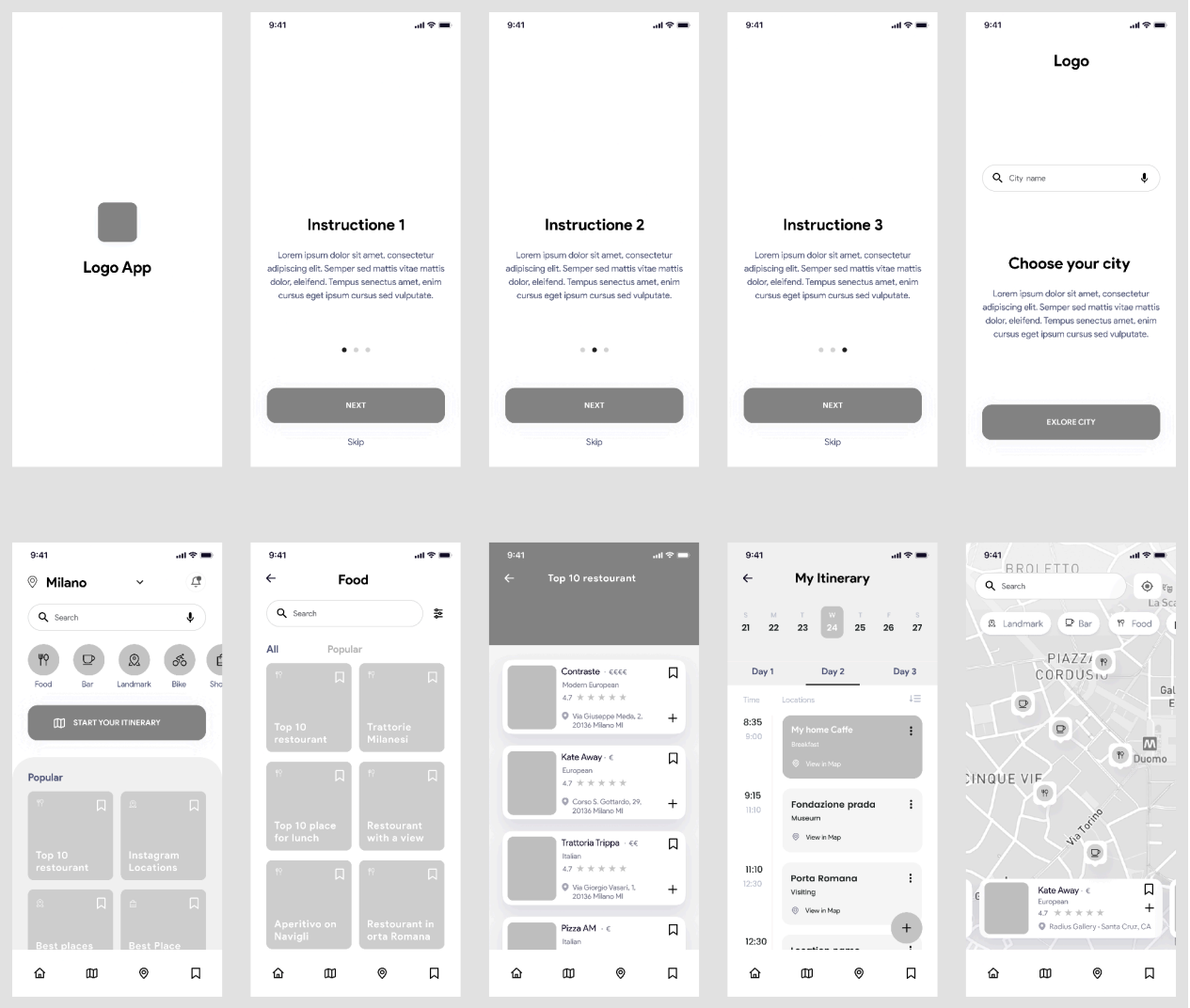
**11. Help and Support:**

- FAQ page for common queries (e.g., delivery, refunds).
- Contact support for live help.

**12. Logout:**

- Simple and secure logout option.

# Wireframe Diagram for Food Ordering App




**RESULT:**

| Ex No: 5 | EXPLORING VARIOUS OPEN SOURCE COLLABORATIVE INTERFACE PLATFORM |
| --- | --- |
| Date : | |

**AIM :**

To explore the various open source collaborative interface platforms.

**EXPLANATION :**

**OPEN SOURCE INTERFACE PLATFORMS:**

There are various open source platforms to design an interface. We are going to explore a few of them.

**1. FIGMA:**

Figma is a cloud-based design and prototyping tool that enables collaboration among teams in real-time. It is widely used in the fields of user interface (UI) and user experience (UX) design, as well as for creating interactive prototypes.

- **Cloud-Based Collaboration:**

Figma allows multiple users to work on the same project simultaneously, making it ideal for remote or distributed teams.

- **Platform Independence:**

Accessible directly from a browser, Figma works seamlessly across operating systems like Windows, macOS, and Linux.

- **Prototyping:**

Designers can create interactive prototypes to simulate user interactions and test workflows without coding.

- **Team Libraries:**

Shared libraries ensure design consistency by allowing teams to reuse components and maintain a unified design system.

- **Plugins and Integrations:**

A rich ecosystem of plugins extends functionality for tasks like design automation, icon libraries, and integrations with tools like Jira and Slack.

## 2. WEBFLOW:

Webflow is a no-code web design and development platform that bridges the gap between design and development, enabling designers to build fully responsive websites without writing code.

- **Visual Design and Development:**

Webflow combines a robust visual design interface with HTML, CSS, and JavaScript under the hood, allowing designers to create production-ready websites.

- **Responsive Design:**

Built-in tools make it easy to design for multiple screen sizes, ensuring seamless experiences across devices.

- **CMS Integration:**

Webflow includes a content management system (CMS) that lets users manage dynamic content directly within the platform.

- **Hosting and Deployment:**

Webflow handles hosting, backups, and security, offering a one-stop solution for website creation and deployment.

- **Interactions and Animations:**

Advanced animation tools allow designers to create interactive web experiences without coding.

## 3. FRAMER:

Framer is a design and prototyping tool that focuses on creating high-fidelity, interactive prototypes with ease, often used for designing apps and web experiences.

- **Interactive Prototyping:**

Framer supports advanced animations and micro-interactions, enabling designers to bring ideas to life with realistic prototypes.

- **No-Code Development:**

While Framer includes no-code tools, developers can also integrate custom code for more complex projects.

- **Real-Time Collaboration:**

Teams can collaborate on the same project in real-time, streamlining the design process.

- **Integrations:**

Seamlessly integrate with tools like Figma, Sketch, and Webflow to import designs and take them to the next level.

- **Ready-to-Deploy Sites:**

Framer also supports building and deploying responsive websites with interactive elements, making it a hybrid design and development tool.

**4. ADOBE XD:**

Adobe XD is a vector-based design and prototyping tool from Adobe, tailored for creating interactive user experiences for websites, mobile apps, and more.

- **Prototyping:**

XD allows designers to create interactive prototypes with defined transitions and gestures to simulate user flows effectively.

- **Auto-Animate:**

Simplify transitions between screens with the Auto-Animate feature.

- **Component Libraries:**

Reusable components ensure consistency across designs while saving time during iterations.

- **Integration with Adobe Ecosystem:**

XD integrates seamlessly with other Adobe Creative Cloud apps like Photoshop and Illustrator, enabling designers to import assets directly.

- **Plugins:**

Automatically adjust designs for various screen sizes, making it easier to design for responsive interfaces.

**RESULT:**

| Ex No: 6 | HANDS ON DESIGN THINKING PROCESS FOR A NEW PRODUCT |
| --- | --- |
| Date : | |

**AIM :**

To develop our project(Food Ordering app) further we will perform a design thinking process to solve problems and to give an innovative solution

**EXPLANATION :**

**DESIGN THINKING PROCESS:**

1. **EMPATHISE:**

   In the Empathise phase for a food ordering app, the focus is to deeply understand users' behaviors, needs, pain points, and desires related to ordering food online. This phase provides insights to inform the design process.

   1. **User Research:**
      - Use tools like Figma, Adobe XD, or Sketch to create a low-fidelity prototype.
      - **Observe User Behavior:** Watch users interact with food ordering apps to identify pain points, frustrations, and patterns.
   2. **Create Personas:**
      - Develop personas to represent different customer types (e.g., a busy professional, a health-conscious eater, or a student looking for affordable meals).
   3. **Map the Journey:**
      - Understand the complete food ordering journey, from discovering restaurants to post-delivery feedback, identifying areas for enhancement.

## 2. DEFINE:

### PROBLEM STATEMENT FOR FOOD ORDERING APP:

Users face challenges in selecting meals due to overwhelming restaurant and menu options, unclear nutritional information, and confusing checkout processes. Additionally, users often experience dissatisfaction with delayed delivery, inadequate customer support, and difficulty in tracking their orders. These issues lead to frustration, order cancellations, and low app retention rates.

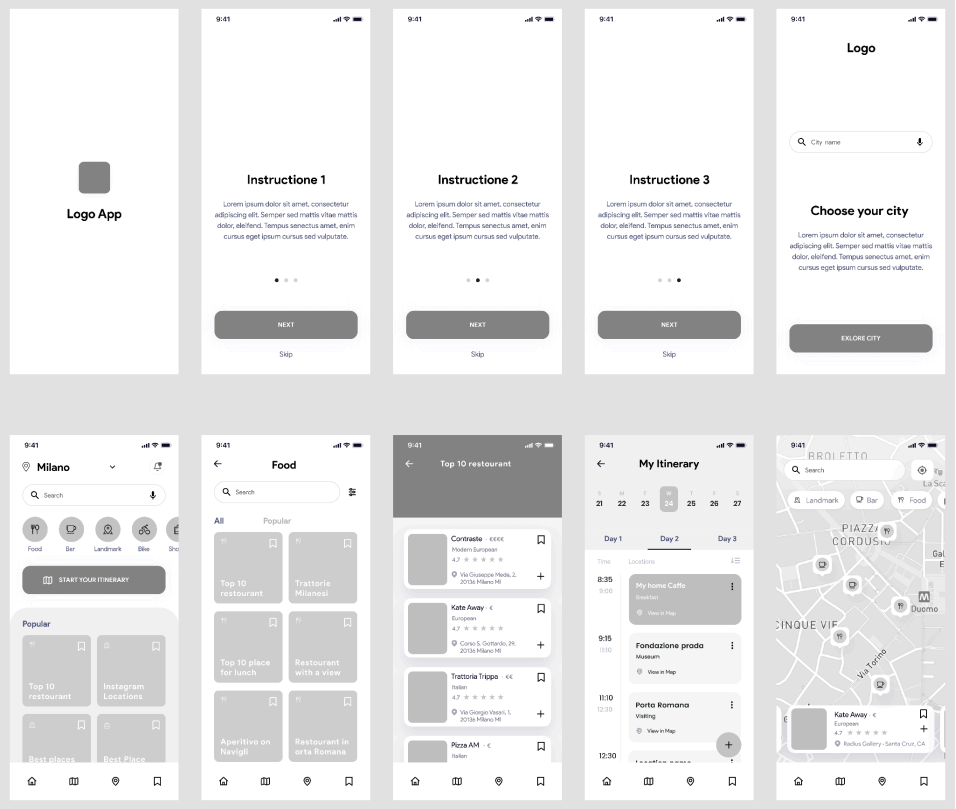
### USER JOURNEY MAPPING FOR FOOD ORDERING APP:

- **Awareness:**
  Users learn about the app through ads, promotions, or recommendations and develop an interest in trying it.
- **App Download/Visit:**
  The user downloads or visits the app, assessing its ease of use and features.
- **Browse Restaurants:**
  Users explore restaurants, looking for cuisine types, ratings, offers, or dietary preferences.
- **Menu Exploration:**
  The user navigates a restaurant's menu, applying filters like price, dietary restrictions, or time to prepare.
- **Add to Cart:**
  Users add food items to their cart, ensuring details like quantity, add-ons, and customization options are clear.
- **Checkout Process:**
  Users proceed to checkout with minimal friction, reviewing costs, delivery time, and payment methods.
- **Payment and Confirmation:**
  The user completes payment securely and receives confirmation of the order.
- **Order Tracking:**
  Users track their order in real-time, from preparation to delivery.
- **Delivery and Feedback:**
  After receiving the food, users share their reviews or ratings.

## 3. IDEATE:

### SKETCHING AND WIREFRAMING:

Create initial sketches and wireframes for the app.




## 4. PROTOTYPE:

### Low-Fidelity Prototype:

Use tools like Figma, Adobe XD, or Sketch to create a low-fidelity prototype. Focus on:

- **User Flows:** Simplified and intuitive navigation from restaurant selection to order confirmation.
- **Core Features:** Include essential features such as filters, cart functionality, and a basic order tracking interface.

5. **TEST:**

   **Usability Testing with Users:**

   - Test the low-fidelity prototype with real users.
   - Observe how users navigate the app, complete tasks (e.g., placing an order), and use features like filters or tracking.
   - Collect feedback on areas of confusion or frustration.

6. **ITERATE:**

   **Refine Based on Feedback:**

   - Incorporate feedback from usability testing to enhance navigation, layout, and functionality.
   - Focus on pain points like unclear filters, lengthy checkout processes, or confusing tracking interfaces.
   - Iterate the design multiple times, improving user experience with each version.

7. **LAUNCH AND MONITOR:**

   **Launch the Food Ordering App:**

   - Deploy the app and promote it via marketing campaigns and partnerships with restaurants.
   - Monitor user feedback, app performance metrics, and analytics (e.g., cart abandonment rates, average time to order).
   - Be prepared to release updates quickly, addressing user concerns and improving features based on real-world usage.

**RESULT:**

| Ex No: 7 | BRAINSTORMING FEATURE FOR PROPOSED PRODUCT |
| --- | --- |
| Date : | |

**AIM :**

To develop our project (Food Ordering app) by introducing innovative features that create a seamless and engaging user experience.

**EXPLANATION :**

- **Voice and Image-Based Restaurant Search:**
  To develop our project (Food Ordering app) by introducing innovative features that create a seamless and engaging user experience.

- **Dynamic Price Comparison for Deals:**
  Automatically compare prices, deals, or offers from various food apps or restaurants to ensure users get the best value.

- **Virtual Meal Customization:**
  Integrate augmented reality (AR) to let users visualize their customized meals (e.g., adding toppings to a pizza or assembling a salad bowl).

- **Gamified Ordering Experience:**
  Introduce features like daily challenges, reward spins, or loyalty points for ordering meals, referring friends, or completing certain milestones.

- **Meal Bundling Discounts:**
  Allow users to bundle multiple meals or items (e.g., appetizers, mains, and desserts) at discounted prices tailored to their preferences.

- **One-Tap Reordering:**
  Implement a one-tap reorder feature for returning users to quickly reorder their favorite meals.

- **AI-Powered Food Assistant:**
  Deploy an AI chatbot to assist users in finding dishes, recommending meals based on past orders, or resolving queries like delivery status.

- **Exclusive Subscription Perks:**
  Offer subscription-based perks such as free delivery, priority order preparation, or early access to special offers.

- **Trending Foods Section:**
  Highlight trending dishes, cuisines, or restaurants based on user activity, social media trends, and seasonal preferences.

- **Food Discovery Tool:**
  Provide an interactive tool that suggests dishes or cuisines based on user mood, occasion, or dietary needs (e.g., comfort food, party snacks, or keto options).

- **Local Food Vendor Integration:**
  Create a platform for local food vendors to list their offerings, promoting unique and home-cooked meal options.

- **Advanced Personalization:**
  Personalize the app interface by showcasing curated menus, promotions, or recommendations tailored to individual tastes, dietary restrictions, and order history.

- **Collaborative Ordering:**
  Enable group orders where users can invite friends or family to add items to a shared cart for collective dining experiences.

- **Sustainable Delivery Options:**
  Provide users with eco-friendly delivery options, such as biodegradable packaging or reduced carbon delivery methods.

- **Scheduled Ordering:**
  Allow users to pre-schedule their meal deliveries for specific dates and times to fit their routines.

- **Video Dish Reviews:**
  Encourage users to upload short video reviews of dishes or dining experiences, offering other customers a better sense of the food quality.

- **Group Discounts for Orders:**
  Offer discounts for group orders to encourage team lunches, family meals, or friend gatherings.

- **Flexible Payment Options:**
  Provide payment flexibility, including options for splitting bills among multiple users or paying in installments for large group orders.

- **Smart Order Notifications:**
  Send AI-driven notifications for limited-time offers, special discounts, or dish restocks based on user preferences.

- **Social Media Sharing Features:**
  Allow users to share their food orders, experiences, or reviews directly on social media platforms to enhance engagement and promote the app.

**RESULT:**

| Ex No: 8 | DEFINING THE LOOK AND FEEL OF THE NEW PROJECT |
| --- | --- |
| Date : | |

**AIM :**

To define the visual aesthetics and user experience of the E-Commerce App.

**EXPLANATION :**

**1. Understanding the Brand:**

The e-commerce app features a vibrant Yellow and sophisticated Grey color scheme. This combination creates a sense of energy and trust. The app's branding is bold and contemporary, with an approachable yet professional vibe. The UI design should echo these brand elements to ensure consistency and familiarity.

**2. Defining Purpose and User Goals:**

The app's purpose is to offer a seamless platform for discovering and purchasing products while prioritizing convenience, affordability, and personalization. User goals include intuitive browsing, quick checkouts, secure transactions, and an engaging shopping experience.

**3. Color Scheme:**

The color scheme emphasizes Yellow as the primary color to convey energy, optimism, and warmth, complemented by Grey for balance and sophistication. Together, they create a clean and visually appealing interface.

**Color Palette**

- Primary Color: **#FFD600**
- Secondary Color: **#4E4E4E**
- Accent Color: **#F4F4F4**

**4. Typography:**

The app uses the **Inter** font for modern and readable text. Its clean and geometric design ensures scalability across various screen sizes and enhances legibility.

**Typography Guidelines**

- **Headings:** Bold Inter font to draw attention.
- **Body Text:** Regular Inter for readability.
- **Buttons and Labels:** Semi-Bold Inter to emphasize interactivity.

**5. Imagery:**

High-quality product images should showcase multiple angles, lifestyle contexts, and detailed close-ups.

- **Zoom Functionality:** Allows users to view intricate product details.
- **Promotional Banners:** Use vibrant yellow tones with bold text overlays to highlight sales and offers.

**6. Icons:**

Icons should follow a minimalist style, using Yellow for active states and Grey for inactive states to maintain consistency.

**7. Layout and Navigation:**

The layout ensures effortless exploration and functionality.

- **Homepage:** Features highlighted deals, categories, and trending products.
- **Product Pages:** Cleanly designed with large imagery, detailed descriptions, reviews, and an “Add to Cart” button.
- **Navigation Bar:** Sticky navigation bar with essential options (Home, Categories, Cart, Profile).
- **Filters and Sorting:** Easy-to-use filters for price, ratings, and categories.
- **Breadcrumbs:** Guide users through their browsing journey.

**8. App Icon Design:**

The app icon should be a simple and bold design featuring Yellow (#FFD600) as the dominant color with subtle Grey accents. It must be recognizable and scalable, ensuring clarity on all devices and app stores.

**Body Font:**

- Font Family: **Inter**
- Style: **Regular**
- **Usage:** Body text, descriptions, and other content.

**3. FONTS:**

**Primary Color:**

- Hex Code: **#5A9FF9**
- **Usage:** Main backgrounds, primary buttons, and key accent elements (e.g., navigation bar).

**Secondary Color:**

- Hex Code: **#4E4E4E**
- **Usage:** Text on light backgrounds, icons, and subtle overlays.

**Neutral Color:**

- Hex Code: **#FFFFFF**
- **Usage:** Backgrounds for cards, sections, and secondary button text.

**4. UI PRINCIPLES:**

**Consistency:**

- Maintain uniformity across the app by sticking to the blue, grey, and white color palette and utilizing the Inter font for all text. Icons and buttons should share a common style.

**Contrast:**

- Ensure sufficient contrast between text and backgrounds (e.g., white text on blue or grey backgrounds) to improve readability and usability.

**Hierarchy:**

Leverage font sizes, weights, and colors to create a clear content hierarchy:

- **Headings:** Bold and large.
- **Subheadings:** Medium and bold.
- **Body Text:** Regular and smaller.

**Whitespace:**

- Incorporate generous whitespace to give content room to breathe, improve readability, and keep the UI uncluttered and user-friendly.

**Accessibility:**

- Use WCAG-compliant color contrasts for text and UI elements.
- Provide alt text for travel images.
- Ensure navigation is intuitive and supports keyboard and screen readers.

**Responsiveness:**

- Design layouts that adapt seamlessly to various screen sizes and orientations, offering a consistent and optimized user experience on mobile, tablet, and desktop devices.

**RESULT:**

| Ex No: 10 | IDENTIFY A CUSTOMER PROBLEM TO SOLVE |
| --- | --- |
| Date : | |

**AIM :**

To identify customer problems in an Food Ordering App and solve those problems to enhance user experience.

**EXPLANATION :**

**PROBLEMS OF THE CUSTOMER (FOOD ORDERING APP):**

**1. Confusing Menu Navigation:**

- **Problem:** Customers struggle to find specific dishes due to cluttered or disorganized menus.
- **Possible Solution:** Implement intuitive menu layouts with filters (e.g., cuisine type, dietary preferences, price range) and search options like **voice search** or **image-based dish recognition**

**2. Limited Personalization:**

- **Problem:** Customers prefer tailored recommendations based on their dietary needs, past orders, or taste preferences.
- **Possible Solution:** Use AI to provide **personalized dish suggestions**, dynamic meal combos, and curated restaurant options based on user history.

**3. Inadequate Delivery Tracking:**

- **Problem:** Customers often feel uncertain about the status of their food delivery.
- **Possible Solution:** Implement **real-time delivery tracking**, with updates on order preparation, pickup, and estimated delivery time.

**4. Unavailability of Preferred Payment Methods:**

- **Problem:** Customers may abandon orders if their preferred payment options are not available.
- **Possible Solution:** Offer a variety of payment methods such as **UPI, e-wallets, cash-on-delivery, BNPL**, and local payment solutions.

**5. Inefficient Customer Support:**

- **Problem:** Customers may experience delays or difficulty resolving order-related issues.
- **Possible Solution:** Integrate **24/7 chatbot support** for FAQs and quick resolutions, and provide a seamless way to escalate to human agents for complex queries.

## COMMON FOOD ORDERING APP PROBLEMS AND SOLUTIONS:

**1. Cart Abandonment::**

- **Problem:** Customers add items to the cart but do not proceed with the order
- **Possible Solution:** Send **reminder notifications**, offer discounts for completing the purchase, and enable a **quick checkout option**.

**2. Limited Delivery Options:**

- **Problem:** Customers expect flexible delivery times but are limited by rigid options.
- **Possible Solution:** Partner with logistics services to provide **express delivery, scheduled delivery, and contactless delivery**.

**3. Payment Failures:**

- **Problem:** Customers face errors during payment, leading to incomplete transactions.
- **Possible Solution:** Use **robust payment gateways**, enable retry options for failed transactions, and offer **save payment methods** for faster processing.

**4. Poor UI Responsiveness:**

- **Problem:** The app performs poorly on certain devices or screen sizes.are not available.
- **Possible Solution:** Design the app with a **responsive UI** to ensure compatibility with all devices, including smartphones, tablets, and desktops.

**5. Irrelevant Recommendations:**

- **Problem:** Customers receive repetitive or unrelated dish suggestions.
- **Possible Solution:** Use **AI-powered recommendations** based on recent searches, order history, and trending dishes in their locality.

**6. Delayed Delivery:**

- **Problem:** Customers experience delays in food delivery due to inefficiencies in logistics.
- **Possible Solution:** Implement an **optimized delivery system** with live driver tracking and proactive delay notifications.

**RESULT:**

## EMPATHY MAP:

### Says

- I want to modernize our store with technology, but it needs to be simple.
- My father is hesitant about using new tech, so the solution must be easy for him too.
- We need real-time order tracking to stay informed about delays.

### Thinks

- How can I convince my father to trust and use a new app?
- The app needs to be secure for financial transactions to build trust
- How can I ensure the app offers dependable customer support for any issues we may face?

### Does

- Manages store operations using traditional methods like phone calls.
- Tech-savvy, uses smartphone and computer for school and personal tasks.
- Seeks ways to introduce technology gradually while ensuring it's easy for his father to adopt.

### Feels

- Frustrated with the inefficiencies of traditional ordering methods.
- The app needs to be secure for financial transactions to build trust
- Optimistic about the potential benefits of digital tools but cautious about security and ease of use

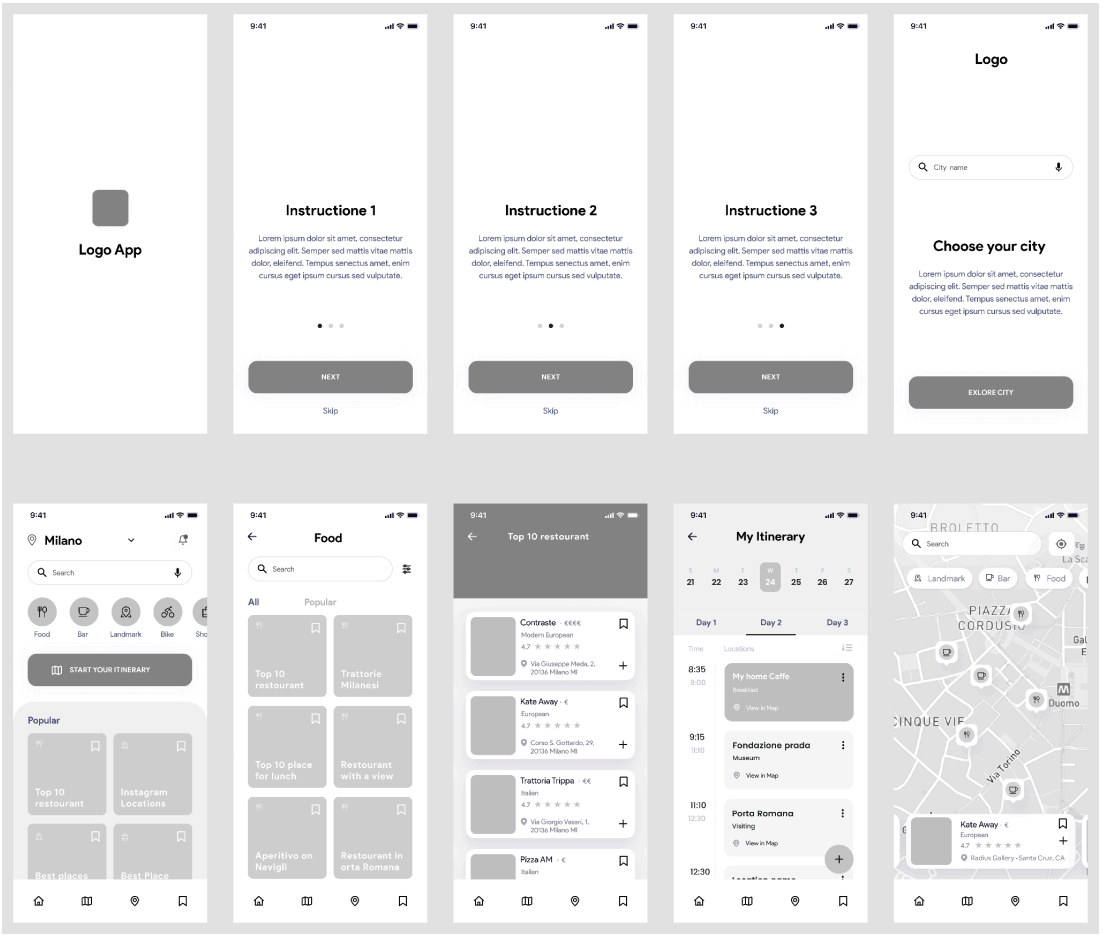
## USER JOURNEY MAP:

| Stage | Action | Thoughts | Feelings |
|---|---|---|---|
| Awareness | Khaled hears about the Zawedni app from a friend or an ad. | "Could this app solve my issues with tracking orders?" | Curious, but skeptical about technology. |
| Consideration | Downloads the app and browses through the features. | "Will this app be easy for my father to use too?" | Cautious but optimistic about the app's potential. |
| Sign-Up | Signs up and explores the interface. | "This seems simple enough to navigate, let's test it out." | Excited to test how well it works for order management. |
| First Order Placement | Places an order through the app for the first time. | "Let's see if this makes ordering easier." | Hopeful but slightly anxious about the outcome. |
| Order Tracking | Uses the real-time tracking feature to monitor the order. | "This is helpful—I know exactly when the order will arrive." | Relieved, starts trusting the process. |
| Delivery & Feedback | Receives the delivery and checks if everything is correct. | "That was quick, and everything is as expected!" | Satisfied with the convenience, but needs consistent accuracy. |

**COMPETITORS:**

- Zomato
- Swiggy
- Zepto

**FLOW DIAGRAM:**




**RESULT:**

| Ex No: 12 | SKETCH,DESIGN WITH POPULAR TOOL AND BUILD A PROTOTYPE AND PERFORM USABILITY TESTING AND IDENTIFY IMPROVEMENTS |
| --- | --- |
| Date : | |

**AIM :**

To sketch, design with popular tool and build a prototype and perform usability testing and identify improvements.

**PROCEDURE :**

To sketch, design with popular tool and build a prototype and perform usability testing and identify improvements.This document outlines the workflow from initial sketches to identifying usability improvements and refining the design to create a user-centric **food ordering app**.

1. **Sketch:**

   **Overview:**

   - **Objective:** Sketch the main screens of the food ordering app, focusing on clear layouts for browsing menus, placing orders, and tracking deliveries.
   - **Considerations:**
     - Highlight essential features like the **search bar** (for finding restaurants or dishes).
     - Include a **prominent call-to-action button** (e.g., "Order Now" or "Track Order").
     - Design intuitive navigation for categories like "Popular Dishes" or "Nearby Restaurants."

**2. Design with a Popular Tool:**

**Design Tool:** Figma

- **Objective:** Develop a high-fidelity design incorporating insights from the sketch.
- **Considerations:**
    - Ensure consistent branding with clean typography and an appealing color palette.
    - Use **vibrant imagery** of dishes and restaurants to create a visually enticing experience.
    - Prioritize a clutter-free interface, highlighting key features like order tracking and personalized recommendations.

**3. Build a Prototype:**

**Build a Prototype:**

- **Objective:** Develop an interactive prototype for testing.
- **Considerations:**
    - Simulate user interactions such as menu browsing, placing an order, and tracking delivery.
    - Include interactive elements like **search functionality**, filters, and payment processes.

**4. Usability Testing:**

**Overview:**

- **Objective:** Evaluate the app's effectiveness and ease of use.
- **Methods:** Conduct remote and in-person usability testing sessions to gather actionable feedback.

**Testing Scenarios:**

- **Task 1: Search for a Restaurant or Dish**
    - **Observation:** Monitor how easily users locate and use the search bar.
- **Task 2: Place an Order**
    - **Observation:** Assess the ease of adding items to the cart, selecting payment methods, and completing the order.
- **Task 3: Apply Filters for Food Categories**
    - **Observation:** Evaluate how efficiently users refine their searches using filters for cuisine, price, or ratings.
- **Task 4: Track an Order**
    - **Observation:** Review user satisfaction with real-time order tracking features and delivery updates.

**5. Identify Improvements:**

**Improvement Insights:**

- **Search Functionality**
    - **Issue:** Users found the search functionality basic, expecting suggestions for dishes and restaurants.
    - **Solution:** Integrate predictive search with real-time suggestions for faster discovery.
- **Order Tracking:**
    - **Issue:** Users wanted clearer and more detailed order tracking.
    - **Solution:** Display a real-time tracking map with estimated delivery time and progress updates.
- **Cart Accessibility:**
    - **Issue:** Some users struggled to find the cart after adding items.
    - **Solution:** Add a **persistent cart icon** in the navigation bar with item count visibility.
- **Payment Process:**
    - **Issue:** Users experienced confusion regarding payment options and applied discounts.
    - **Solution:** Highlight available offers and ensure seamless wallet or card integration.

**6. Iterate:**

- **Sketch Modifications:** Update sketches to address issues identified during usability testing (e.g., reposition filters, enhance cart visibility).
- **Design Adjustments:** Refine the high-fidelity design to incorporate improvements like predictive search and enhanced tracking visuals.
- **Prototype Refinement:** Build a second interactive prototype with updated features for further testing.
- **Usability Testing Round 2:** Conduct a second round of usability testing to validate changes and gather additional insights.

**7. Finalize Design:**

- **High-Fidelity Prototypes:** Add finishing touches to visual design, ensuring polished, professional screens that align with the app's branding.
- **User Flows:** Ensure smooth and intuitive user flows for core tasks such as menu browsing, placing orders, and tracking deliveries.
- **Responsive Design:** Optimize the app for usability across different devices and screen sizes.

**8. Documentation:**

- **Design Decisions:** Maintain a record of all feedback, iterations, and final decisions made during the design process.
- **Style Guides:** Create a comprehensive style guide outlining typography, color schemes, and UI components to ensure consistency in future updates.