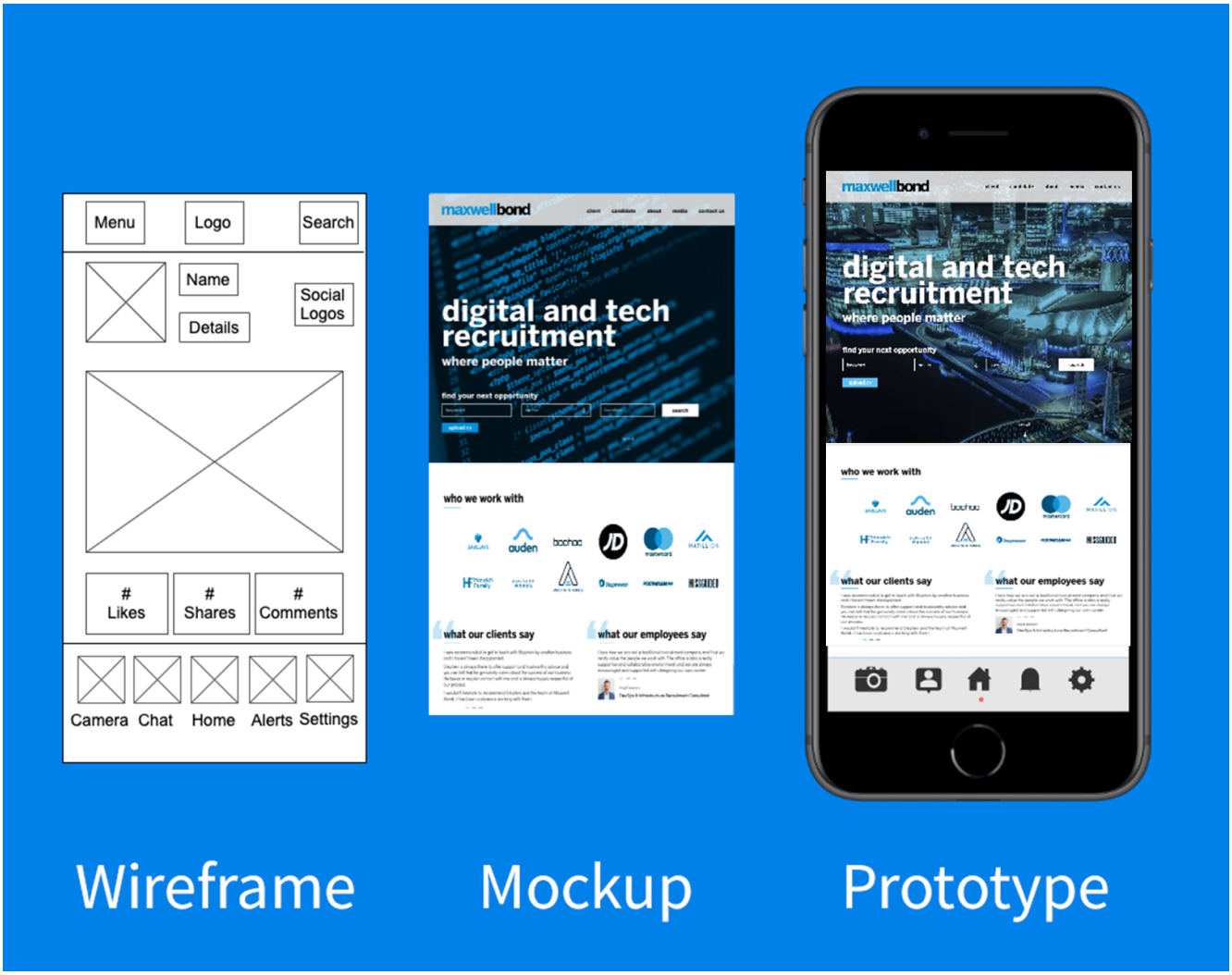
1. Differences Between Wireframe, Mockup, and Prototype



1. **Wireframe**:
   - **Purpose**: Focuses on the basic structure of a design.
   - **Visual Details**: Minimal; uses simple shapes (e.g., boxes, lines) and placeholder text.
   - **Interactivity**: None; it is static and non-interactive.
   - **Tools**: Sketching tools, Balsamiq, Figma (basic features).
   - **When to Use**: Early stages of design to establish layout and structure.
   - **Example**: A black-and-white sketch showing where headers, menus, and buttons will be placed on a web page.
2. **Mockup**:
   - **Purpose**: Focuses on the visual design and aesthetics of the interface.
   - **Visual Details**: High fidelity; includes colors, typography, images, and branding.
   - **Interactivity**: None; it is a static visual representation.
   - **Tools**: Adobe XD, Figma, Sketch.
   - **When to Use**: Mid-stage design to present a polished look without interactivity.
   - **Example**: A pixel-perfect static design of a web page showing how it will look when implemented.

3. **Prototype**:
    - **Purpose**: Simulates the user experience and interactions of the final product.
    - **Visual Details**: Varies; can be low-fidelity (simple, grayscale) or high-fidelity (detailed and polished).
    - **Interactivity**: Yes; includes clickable elements, navigation flows, and other interactive features.
    - **Tools**: Figma (interactive features), InVision, Axure.
    - **When to Use**: Late stages of design to test functionality, flow, and user interactions.
    - **Example**: A clickable web page where users can navigate between screens and test functionality like form submissions.

1.1 Summary of Differences

Aspect	Wireframe	Mockup	Prototype
Purpose	Defines structure/layout	Visualizes design aesthetics	Tests functionality and interactions
Detail Level	Low	High	Medium to high
Interactivity	None	None	Yes
Fidelity	Low	High	Low to high
Tools	Sketching tools, Balsamiq	Adobe XD, Figma	InVision, Figma (interactive), Axure
When to Use	Early design planning	Mid-stage design presentation	Late-stage usability and interaction testing

- Use **wireframes** to communicate structure and layout during brainstorming.
- Use **mockups** to showcase the visual design before coding begins.
- Use **prototypes** to simulate and test the real experience with end users.

2. Good Practices for UX Design

- **Understand the Users**:
    - Conduct user research to understand needs, pain points, and goals.
    - Create user personas to represent your target audience.
    - **Personas**: https://www.hubspot.com/make-my-persona/persona-examples
- **Start with Simplicity**:
    - Keep designs simple and intuitive.
    - Use familiar design patterns to reduce the learning curve.
    - **Wireframes**
- **Maintain Consistency**:
    - Use consistent fonts, colors, and navigation patterns throughout the product.
        - **Choose up to 3 colors (excluding black and white)**
            - https://www.flux-academy.com/blog/how-to-strategically-use-color-in-website-design
        - **Do not use ideal white/black**
        - **Choose up to two fonts and define exact sizes for different purposes (main title, subtitle, content)**

        - **Define exact margins**
        - **Remember about contract between background and text**
            - https://webaim.org/resources/contrastchecker/
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    - Create a design system to ensure uniformity.
    - **For example using styles and component in Figma**
- **Focus on Accessibility**:
    - Ensure your design is usable by people with disabilities (e.g., using alt text, proper contrast ratios, and keyboard navigation).
    - https://www.accessibilitychecker.org/
    - https://www.wcag.com/resource/what-is-wcag/
    - https://developer.mozilla.org/en-US/docs/Web/Accessibility/Understanding_WCAG
    - https://www.w3.org/WAI/standards-guidelines/aria/
- **Prioritize Usability**:
    - Test early and often with real users.
    - Ensure the interface is clear, with minimal cognitive load.
    - **For example: check how much time on average is required for typical user to perform specific actions using your application**
- **Design for Responsiveness**:
    - Optimize for multiple devices and screen sizes.
    - Test the design on desktops, tablets, and smartphones.
    - **Decide whether the application is for ex. mobile-first**
- **Gather Feedback**:
    - Use feedback from users and stakeholders iteratively.
    - Incorporate suggestions to refine the design.
- **Focus on Visual Hierarchy**:
    - Use typography, color, and spacing to direct user attention.
    - Highlight primary actions and content.
- **Test Interactions**:
    - Validate navigation and functionality through usability testing.
    - Ensure transitions and animations enhance, not detract from, usability.
- **Avoid Overdesigning**:
    - Prioritize function over aesthetics.
    - Ensure every design element serves a purpose.