ALLIANCE UNIVERSITY

Private University established in Karnataka State by Act No.34 of year 2010
Recognized by the University Grants Commission (UGC), New Delhi

FINAL COURSE PROJECT

Bachelor of Computer Applications

SEMESTER – II

UI/UX DESIGN

Racing Game UI/UX Design

Submitted By :

1. **Bhuvan B Krishna – 2411021240030**

Faculty Signature

HOD Signature

Department of Computer

Applications Alliance University

Chandapura – Anekal Main Road,

Anekal Bengaluru – 562 106

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Parts of a Graphical User Interface (GUI)

Layout : Grid System

Breaking Down the Grid

Regardless of the type of grid you are using, the grid is made up of three elements: columns, gutters, and margins.

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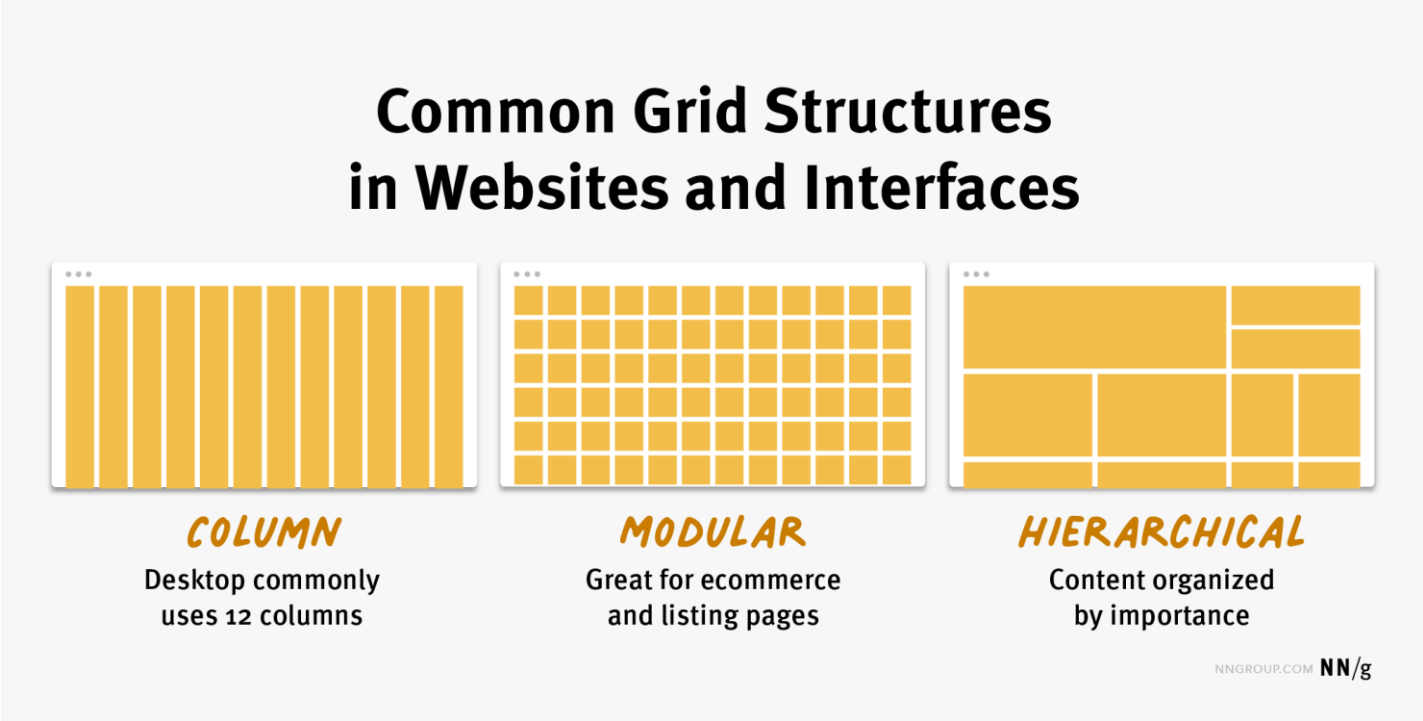
Gutters: The gutter is the space between columns that separates elements and content from different columns. Gutter widths are fixed values but can change based on different breakpoints. For example, wider gutters are appropriate for larger screens, whereas smaller gutters are appropriate for smaller screens like mobile.

Margins: This refers to the left and right outermost areas on the screen. Content does not live in the margins of a grid. This space can be fixed or expressed as a percentage of the screen width and can change at different breakpoints.

Types of Grids in Layouts

There are three common grid types used in websites and interfaces: column grid, modular grid, and hierarchical grid.

The column, modular, and hierarchical grid are commonly used in interfaces.



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Modular grid extends the column grid further by adding rows to it. This intersection of columns and rows make up modules to which elements and content are aligned. Modular grids are great for ecommerce and listing pages, as rows are repeatable to accommodate browsing.

Hierarchical grid: Content is organized by importance using columns, rows, and modules. The most important elements and pieces of content take up the biggest pieces of the grid.

Padding / Margin and gutter **Spacing** increases every 4/8/16px. E.g. 32px padding and 16px spacing. Inner row spacing is usually half of the outer margin values.

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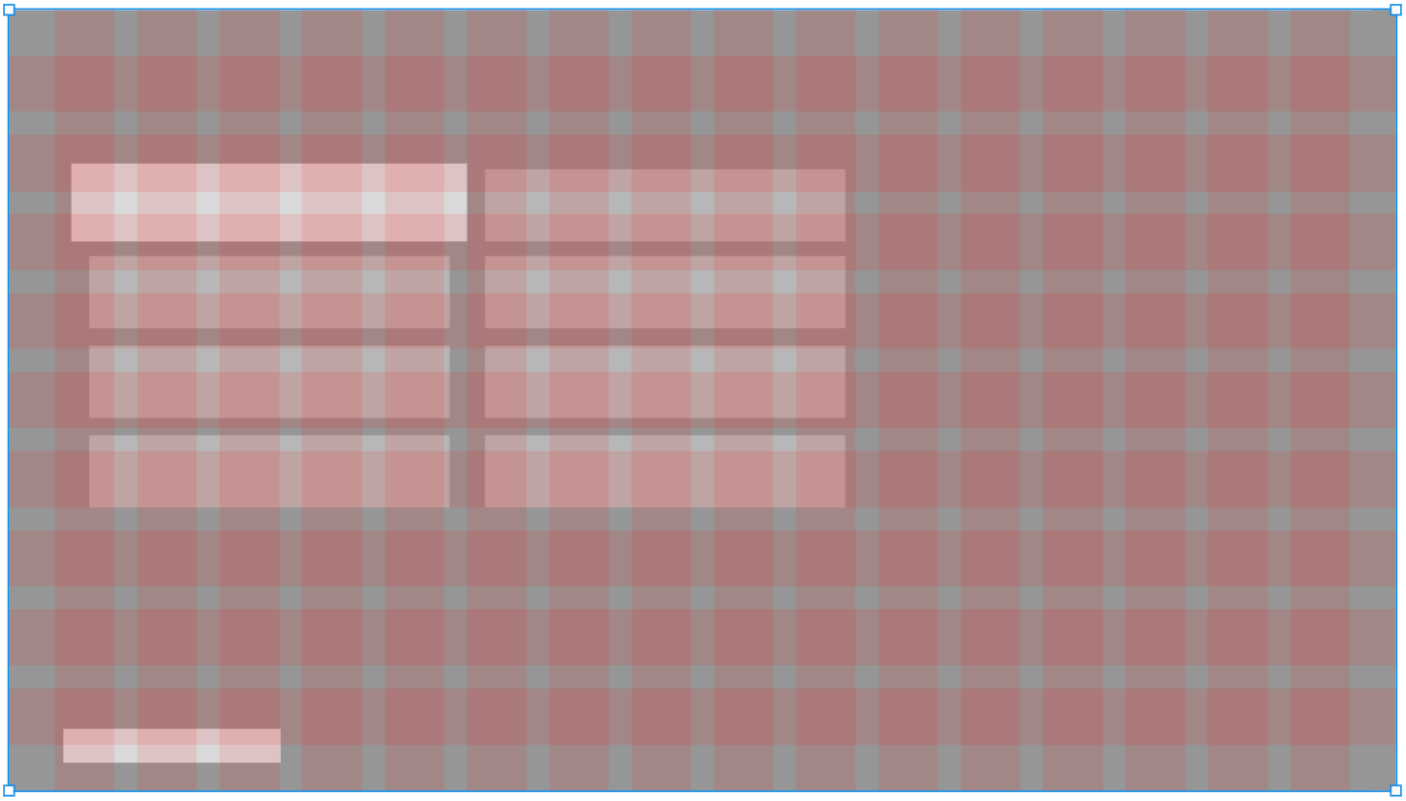


Color : Color Schemes

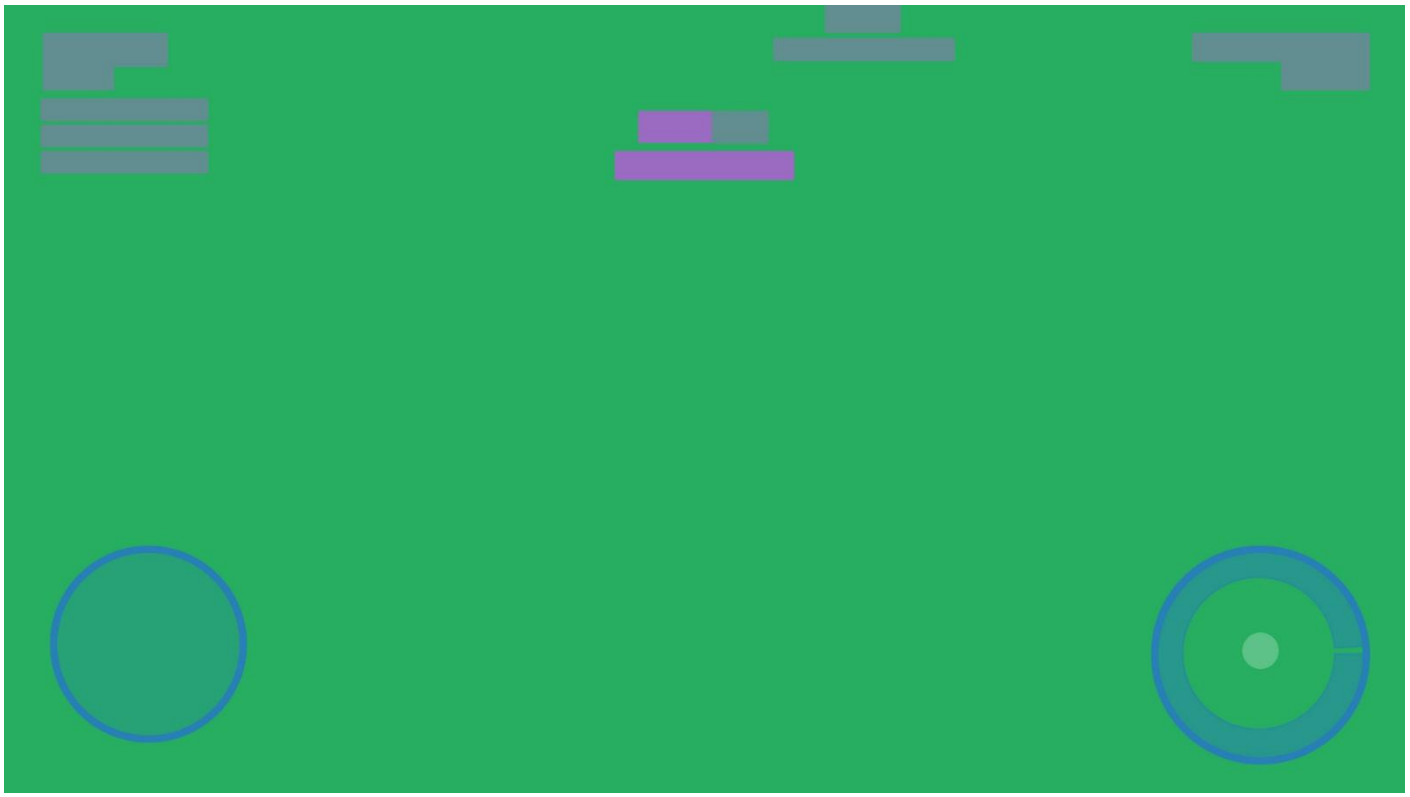
Types of color schemes

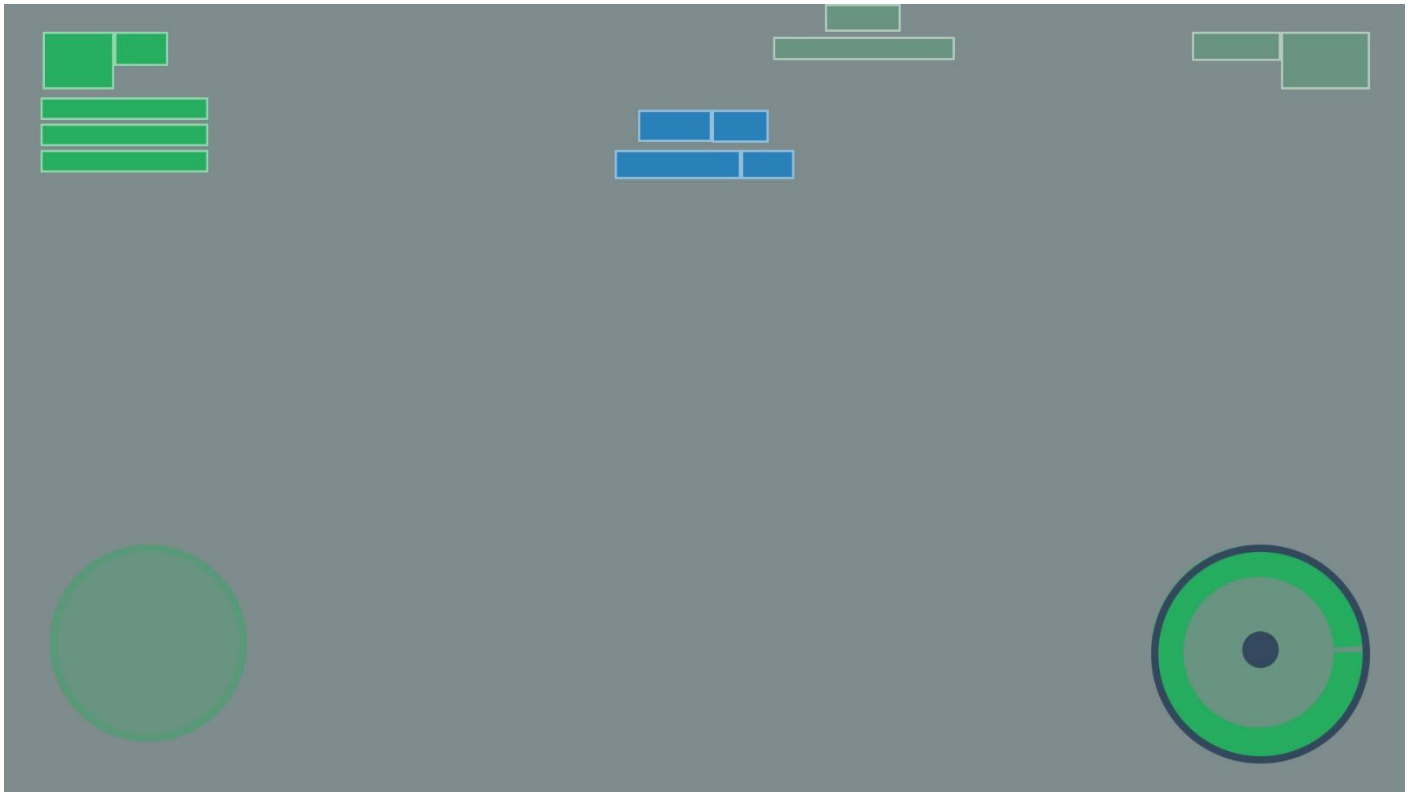
There are several types of color schemes in design trends, but commonly categorized set of seven types of color schemes :

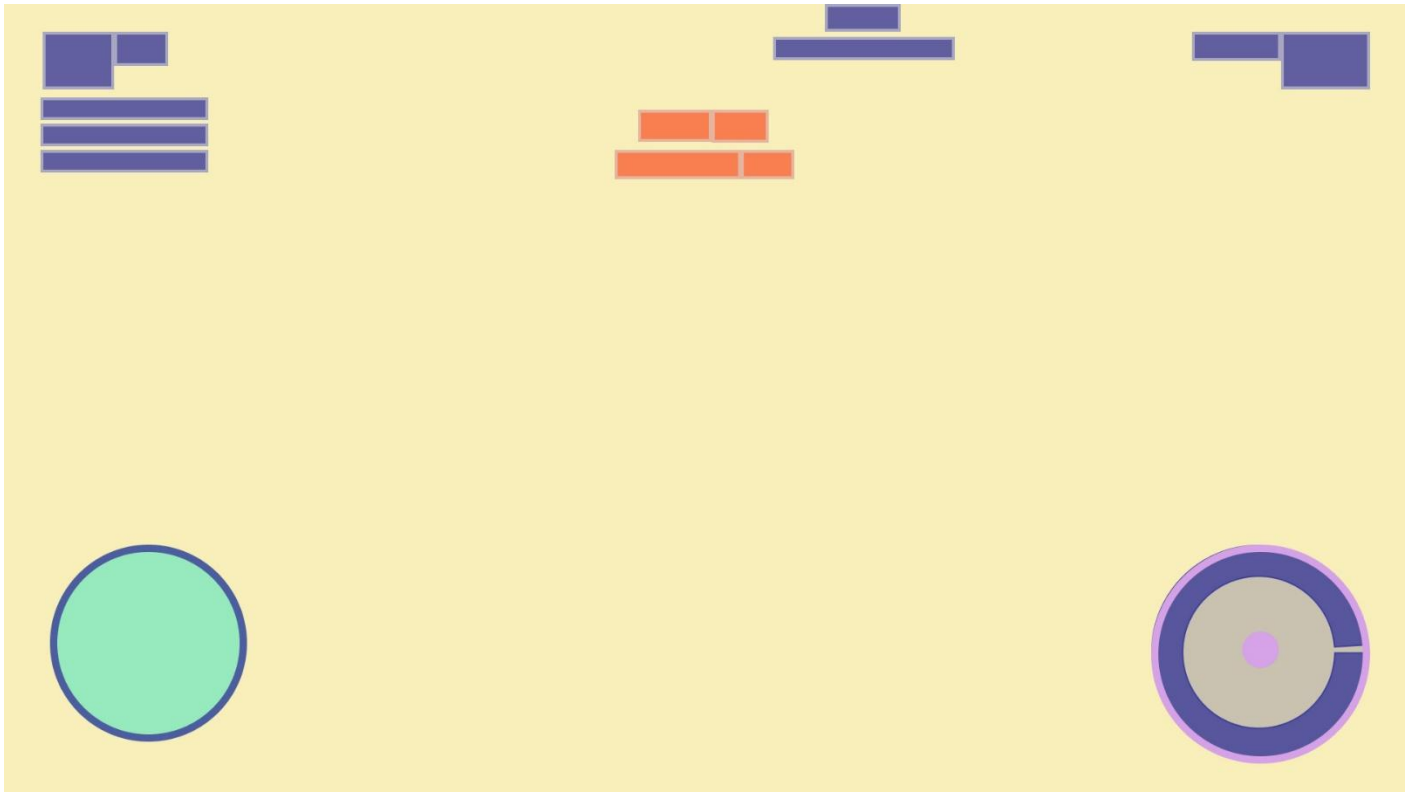
1. **Monochromatic Color Scheme**
2. **Analogous Color Scheme**
3. **Complementary Color Scheme**
4. **Triadic Color Scheme**
5. **Split-Complementary Color Scheme**
6. **Tetradic (Double Complementary) Color Scheme**
7. **Square (Rectangular) Color Scheme**

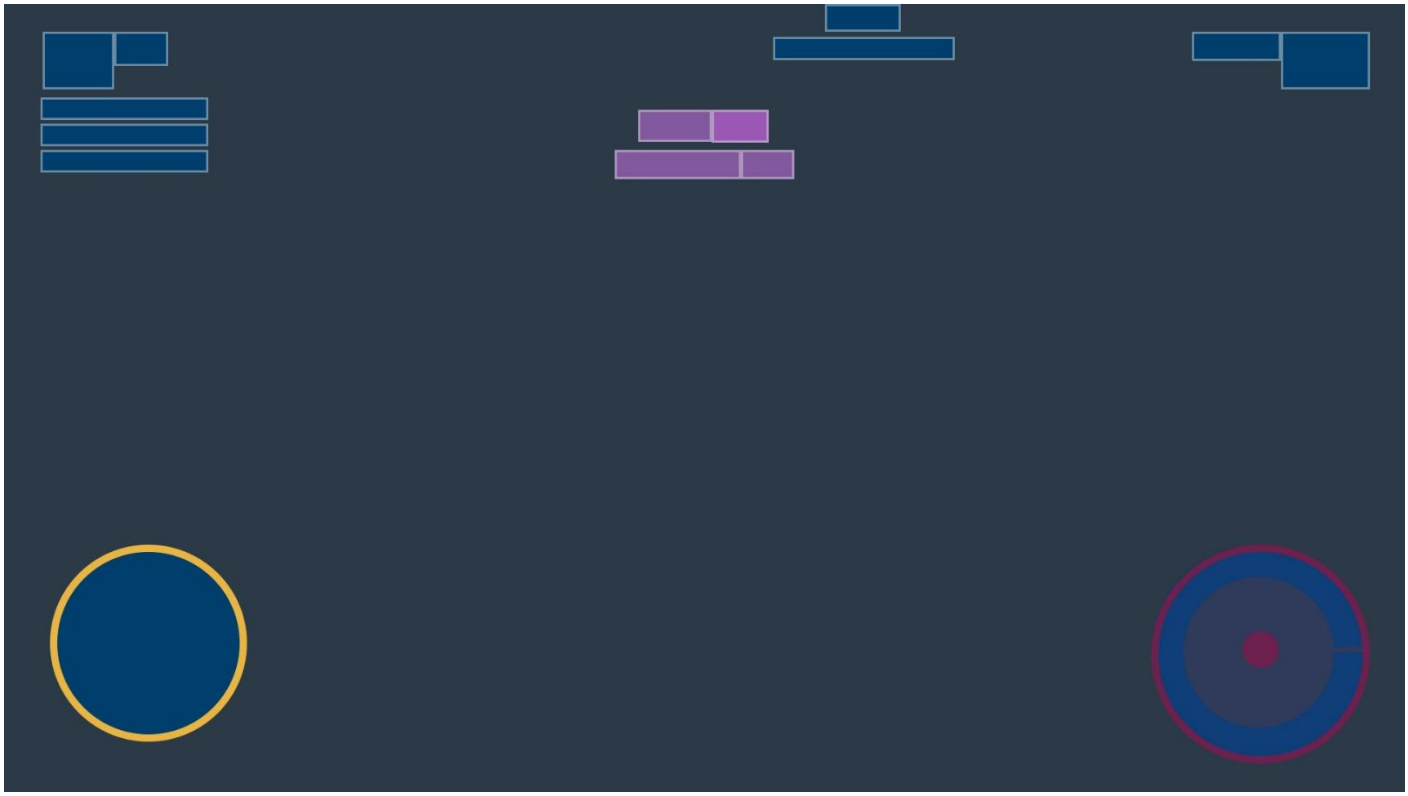
For practical purposes, 3 color or **5 color schemes** are used. So the color 'categories' are **Primary, Secondary, Accent, (Interactive, Disabled).**

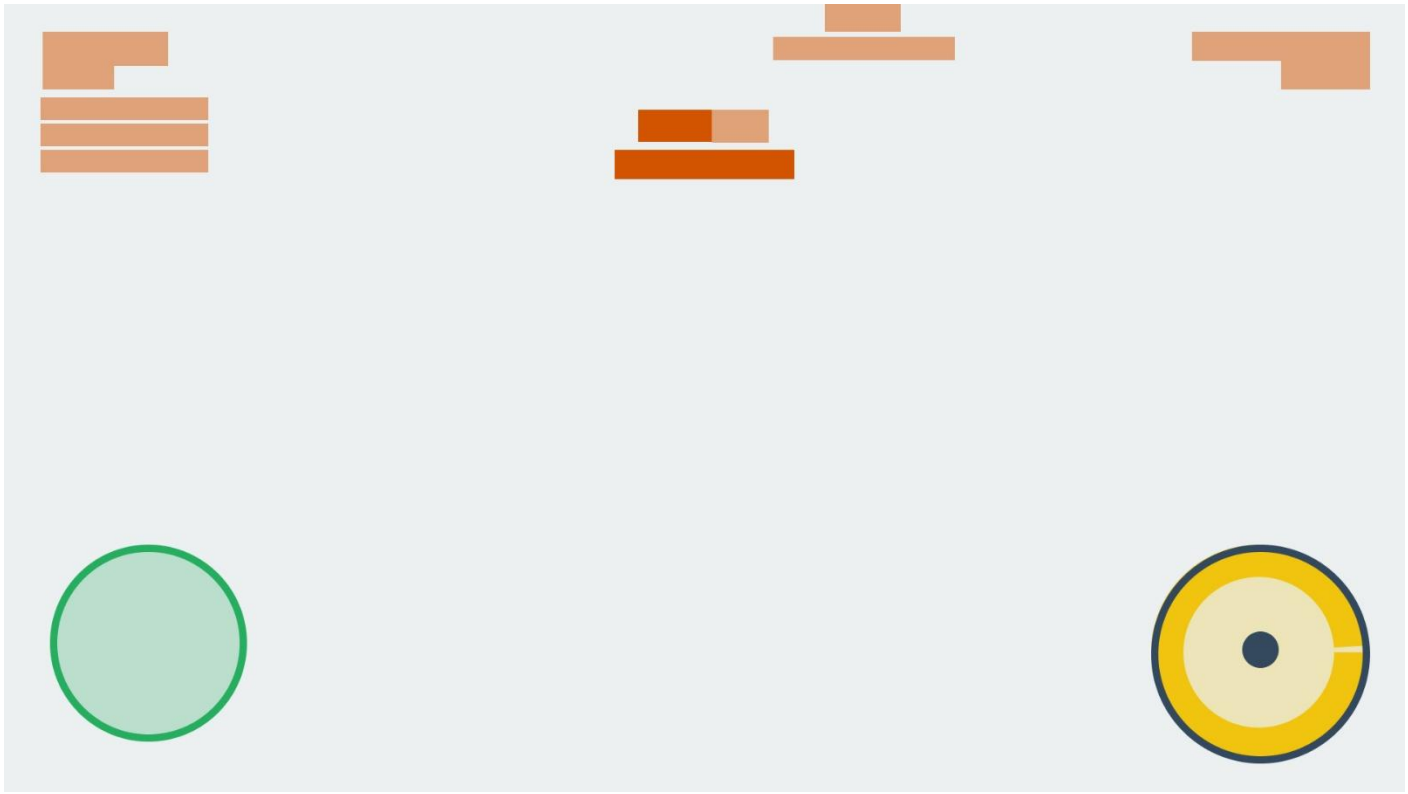

Elements





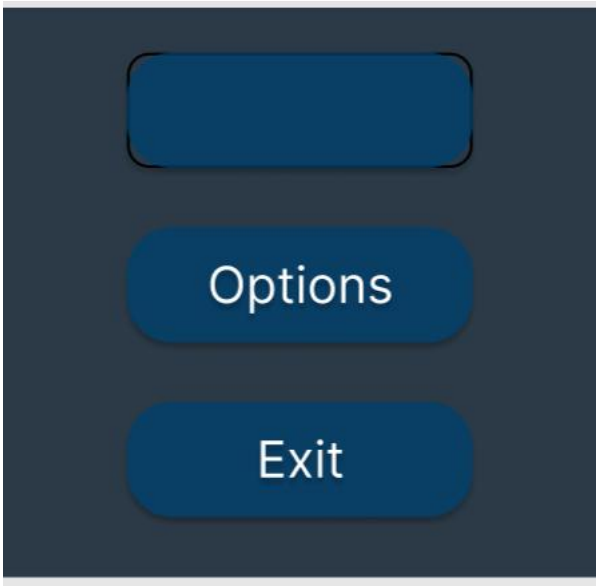






Shapes

Shape may be used to evaluate all visual things. For example, a typical home may be viewed as a rectangle with a triangle on top, and the sun is frequently shown as a circle with lines surrounding it. People may not always be aware of the figures and forms that surround them, yet they have a significant influence on our consciousness and conduct. The psychology of shapes is the science that studies the impact of forms on individuals.



Typography

Typography starts by setting a foundation of **font families and weights** along with fallbacks. It then explores how to build **hierarchy** using size, color, additional details like line-height, and layering responsiveness. Those models are then applied to **components** in a system's library (like Article and Header) as well as custom components made by other teams.

Letter spacing can help bring depth into the font, for icons and logos, and interactive elements of the layout. Further resources and references are given for research.

Wireframing

A wireframe is **a blueprint that outlines the structure and layout of a website, app, or other digital interface in UI/UX (User Interface/User Experience) design** :

- **Purpose :** Wireframes are a key deliverable in UX design that help designers, developers, and other stakeholders understand how a product will look and work. They're created early in the development process to focus on functionality and user experience over visual aesthetics.
- **Features :** Wireframes are kept simple, typically consisting of grayscale outlines and basic shapes. They don't include designs or a great deal of detail, such as colors, fonts, or imagery.

Benefits

Wireframes provide an early visual that can be used to:

- Review with the client
- Get early feedback for prototype usability tests
- Ensure the page content and functionality are positioned correctly
- Agree on the project vision and scope

Types

There are three types of wireframes:

- **Low-fidelity wireframes**: Rough visual representations that are often hand-drawn and don't include actual content
- **Mid-fidelity wireframes**: More precise representations of the layout that use different shades of gray and font weights to convey visual differences
- **High-fidelity wireframes**: Pixel-specific layouts that are designed to scale and are often presented as initial prototypes

Tools

Many designers use a pencil and paper to sketch out their ideas, but there are also digital wireframing apps that make things simple, fast, and easily shareable. Some examples include

Steps to effectively wireframe

Steps to Build Effective Wireframes

1. **Prioritize content and hierarchy**: List and organize the most important elements for each page early. Establish a clear information architecture, so users can navigate content intuitively.
2. **Create large content blocks**: Divide the screen into broad sections for content, then refine these blocks with details like links and placeholders.
3. **Use a grid-based layout**: A clean, grid-oriented structure ensures a balanced, user-friendly layout. This helps users focus and improves overall usability.
4. **Annotate for clarity**: Use annotations to explain functionality and design rationale, ensuring everyone—designers, developers, and stakeholders—can easily interpret the wireframes.
5. **Start with mobile-first design**: By designing for the smallest screen first, you create a more focused, scalable layout that translates well to larger devices.
6. **Add detail in high-fidelity wireframes**: For more advanced wireframes, include accurate sizes for fonts, icons, and other elements. Be specific but avoid overloading the design with unnecessary content at this stage.

Focus on Clarity

Keep your wireframes concise, focusing on core elements like functionality and user flow rather than visual aesthetics. Wireframes are tools for collaboration, not polished deliverables. Their purpose is to ensure alignment across teams, speed up iteration, and refine ideas before committing to high-fidelity designs.

Well-executed wireframes demonstrate your ability to strip a design down to its essentials, helping your team recognize constraints and identify the most effective user-centered solutions.

Prototyping

User interface (UI) prototyping is a key step in the design process that involves creating a digital model of a system's UI to test and validate design concepts.

Types of prototypes

Prototypes can vary in fidelity, from simple sketches to fully interactive digital models:]

- **Low fidelity**: A prototype that doesn't include many details [2]
- **High fidelity**: A prototype that looks and acts as closely as possible to the final product [5]

Benefits

Prototypes help designers:

1. Gather user feedback
2. Refine design concepts
3. Ensure the final product meets user needs

Purpose : Prototypes help designers:

1. Validate their design
2. See how users respond to the UI
3. Identify potential issues and design flaws
4. Generate a good user interface and user experience

Prototyping process

Tools used in out UI Design Process

1. Wireframing - Miro
2. Mood-boarding - PureRef
3. Visual Design - Figma
4. Prototyping - Figma
5. Interactive Prototyping - Unity Engine

Prototyping tools

Designers can use prototyping tools to create interactive mockups. These tools can include:

- Drag-and-drop interfaces
- Pre-built UI components
- Interactive elements
- Animation capabilities
- Collaboration tools

Unity3d Auto Layout : View Grid System

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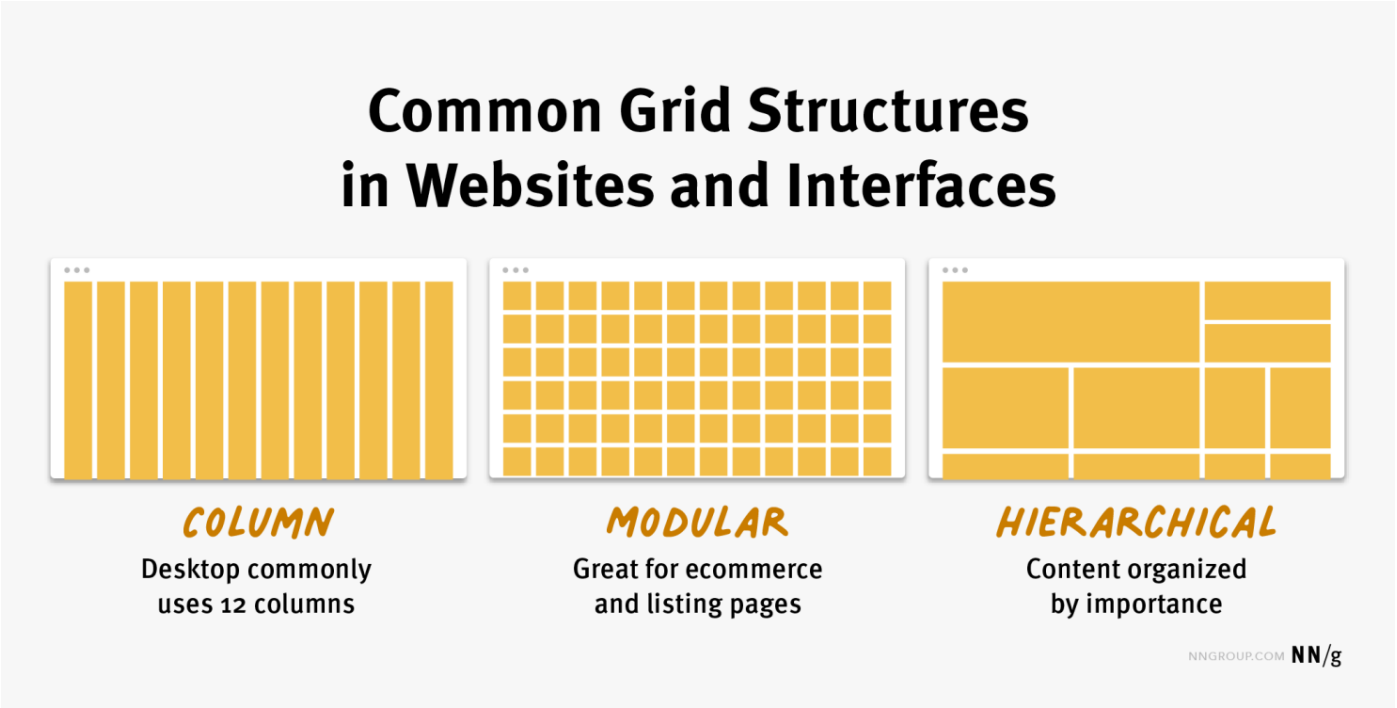

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