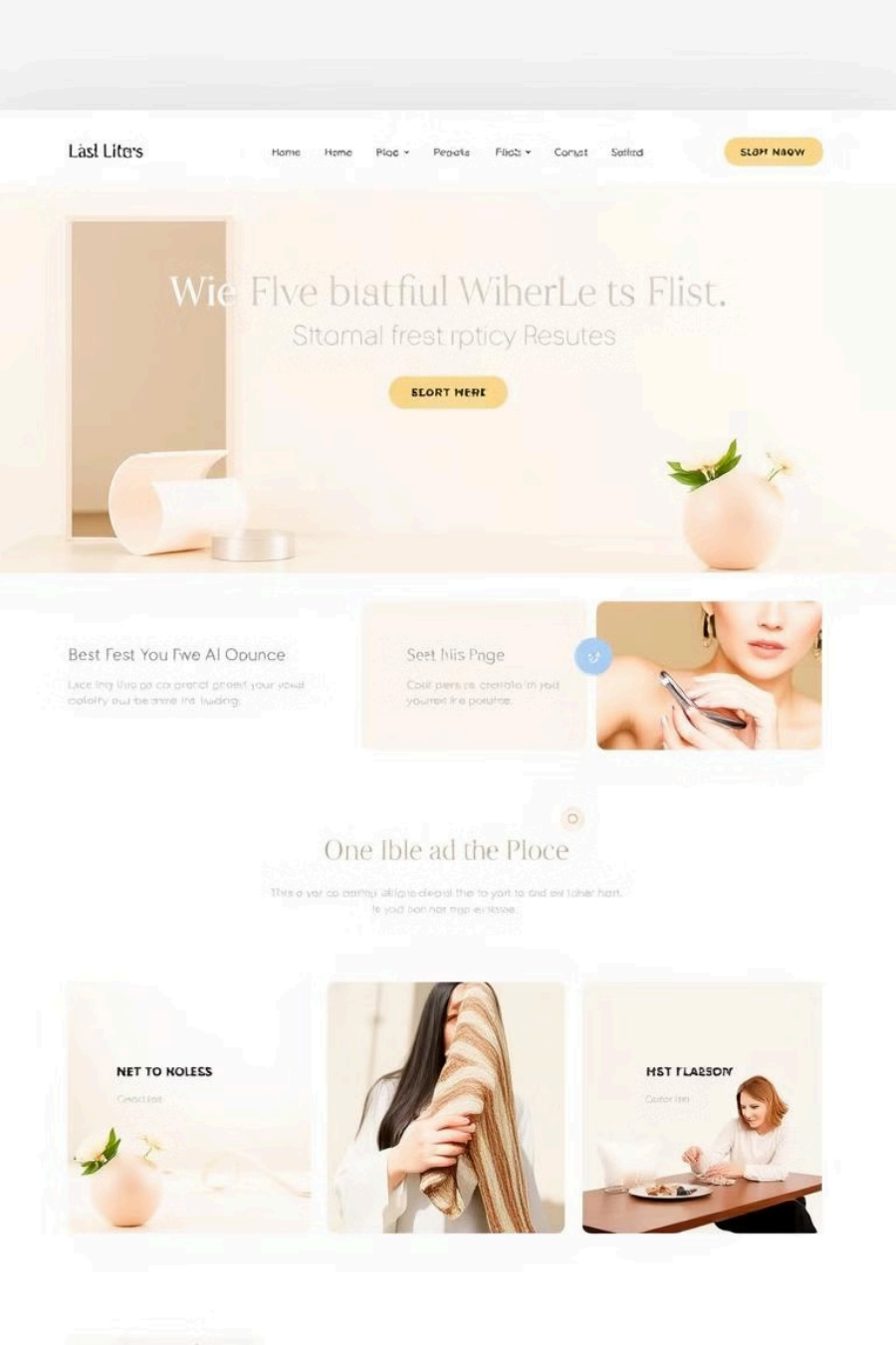# What is Web Development?

Web development is the process of creating and maintaining websites. This encompasses everything from the design and layout to the functionality and interactivity.

Front-end Development

1 ## User Interface

Front-end developers focus on the visual aspects of a website that users see and interact with.

2 ## User Experience

They ensure that the website is easy to use and navigate, creating a positive user experience.

3 ## HTML, CSS, JavaScript

They use languages like HTML, CSS, and JavaScript to build the website's structure, style, and interactivity.

Back-end Development

Server-side Logic

Back-end developers are responsible for the functionality and data management of a website.

They create the server-side logic that processes user requests and manages data.

Databases

A database is **an organized collection of structured information, or data, typically stored electronically in a computer system**.

Programming Languages

They use languages like Python, Java, and PHP to build the back-end of a website.

They interact with the server and database to handle user actions and data requests.

The Front-end Toolkit

HTML (HyperText Markup Language)

HTML is used to structure the content of a webpage, defining elements like headings, paragraphs, and images.

CSS (Cascading Style Sheets)

CSS is used to style the appearance of a webpage, controlling elements like color, fonts, and layout.

JavaScript

JavaScript is used to add interactivity to a webpage, making it dynamic and responsive to user actions.

The Back-end Toolkit

1 — **Server**

A server is a computer that hosts a website and serves its content to users.

2 — **Database**

A database is a structured collection of data that is used to store and manage website information.

3 — **API (Application Programming Interface)**

An API is a set of rules and specifications that allow different software systems to communicate with each other.

The Full-stack Developer

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Front-end Expertise

They possess a deep understanding of HTML, CSS, and JavaScript to build the user interface and experience.

Back-end Proficiency

They are skilled in languages like Python, Java, or PHP to develop server-side logic and database management.
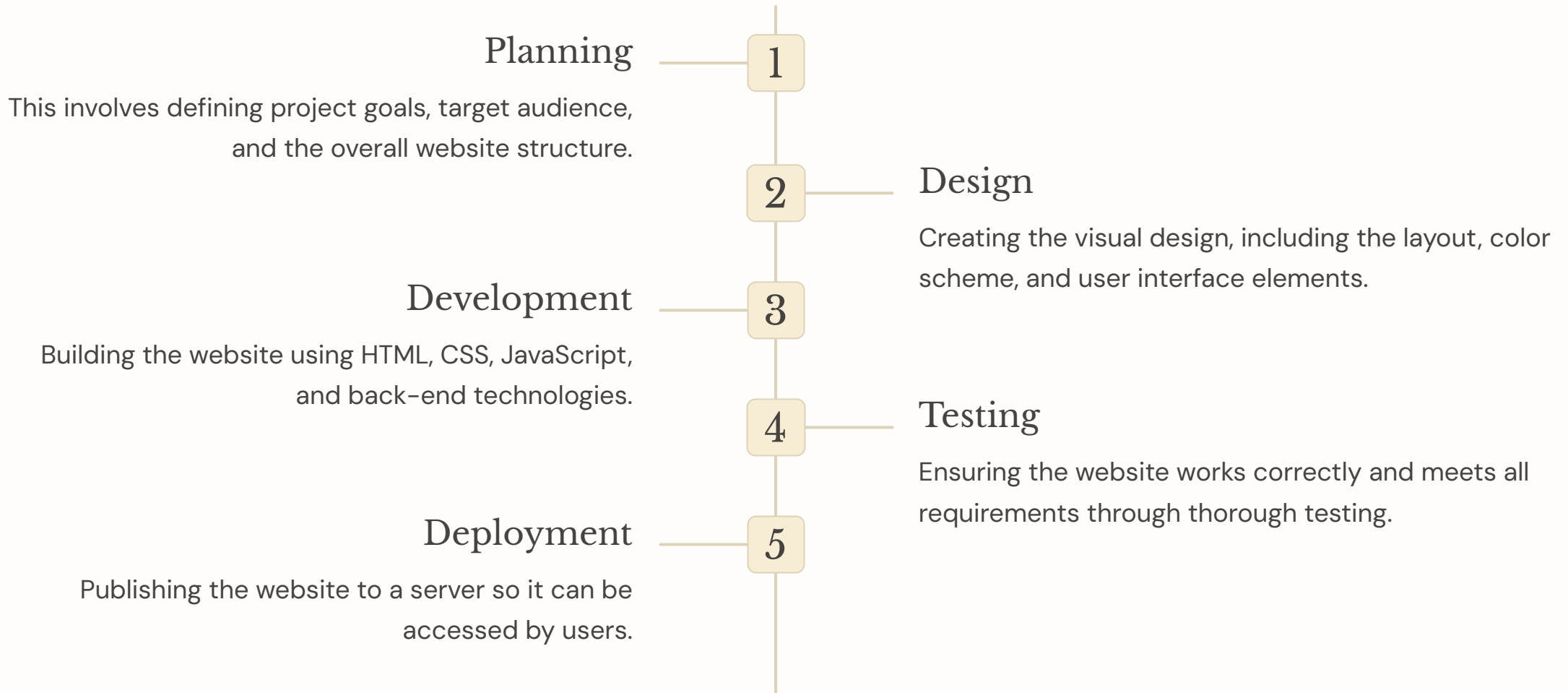
Comprehensive Knowledge

They have a holistic understanding of web development, enabling them to work on both the front-end and back-end aspects of a website.

The Development Process

Planning — 1

This involves defining project goals, target audience, and the overall website structure.

2 — **Design**

Creating the visual design, including the layout, color scheme, and user interface elements.

Development — 3

Building the website using HTML, CSS, JavaScript, and back-end technologies.

4 — **Testing**

Ensuring the website works correctly and meets all requirements through thorough testing.

Deployment — 5

Publishing the website to a server so it can be accessed by users.

The Future of Web Development

Artificial Intelligence (AI)	AI is increasingly being used in web development for tasks like personalization, content generation, and automated testing.
Progressive Web Apps (PWAs)	PWAs provide a native app-like experience on the web, blurring the lines between web and mobile apps.
Blockchain Technology	Blockchain is used to secure and decentralize data, which can have implications for website security and data management.