

Frontend Development Roadmap

FUNDAMENTALS

HTML



- !DOCTYPE
- Block & Inline elements
- Tags & Attributes
- Head & Title
- Imports (script, style...)
- Headings
- Tables
- Anchors & navigation
- Lists (unordered +ordered)
- Forms & Input types
- Events basics
- Images
- Semantic HTML
- Local & Session storage

FUNDAMENTALS

CSS



- Selectors
 - basic
 - combinational
- Psuedo
 - selectors
 - elements
- Specificity
- Inheritance
- Box model
- Fonts & Typography
- Colors
- Positioning
- Units (absolute + relative)
- Overflow
- Float
- Display & Flex

FUNDAMENTALS

JavaScript



- Primitives
- Scopes & Hoisting
- Closures
- Execution context
- Variables (var, let, const)
- Operators
- Type Conversions
- Arrays + methods
- Objects + methods
- Functions + Arrow functions
- Try Catch & Error handling
- Strict mode
- Timeout & Interval
- Classes

Web Fundamentals

- Client Server architecture
- HTTP
- RESTful web services
- Communication
 - Polling
 - Web sockets
- XML & JSON
- HTTPs & SSL
- Authentications
- Cookies & Sessions
- Security
 - XSS
 - CORS
 - CSP
- Caching & compression
- HTTP 2.0

BOM & DOM

- DOM Tree
- Accessing DOM
- Node creation & deletion
- Element selectors
- Events handling
- Events listeners
- Event bubbling & delegation
- Iterating Nodelist
- Attribute manipulation
- AJAX & Fetch
- Event Loop
- Shadow DOM
- CSSOM
- Critical Rendering Path
- Browser APIs
- Browser Internals

Version Control

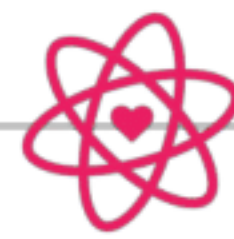
- Git and Github
- Clone
- Pull & Fetch
- Commit
- Log
- Push
- Reset
- Restore
- Switch & Checkout
- Branching
 - Merge
 - Rebase
 - Workflow
- Cherry pick
- Stash
- Squash
- Revert
- Tags

React



- Components & JSX
- State & Props
- Class components & life cycle
- Functional components
- Hooks
 - useState
 - useEffect
 - useRef
- Render props
- Forward refs
- Event handling
- Forms
- React.lazy
- Context API
- Higher order components
- Advanced & Custom hooks
- Portals
- Error boundaries
- Reconciliation
- React internals

React Ecosystem



- Zustand / Redux
- React Router
- Styled Components / Emotion
- Material React
- React Hook Form
- Axios
- Tanstack Query
- Framer Motion
- React intl
- Jest
- React Testing Library
- GraphQL
- Apollo client
- NextJS

HTML



- Meta tags
- Search Engine Optimization
- Responsive images
- Multimedia
 - Audio
 - Video
- SVG animations
- Web Components
- IndexedDB
- iFrame
- Canvas
- WebGL
- Workers
 - web worker
 - service worker
 - shared worker

CSS



- Shadows
- Gradients
- Background images
- Masking & blending
- CSS functions
- Media Queries
- Transforms
- Transitions
- Animations
- Flex advanced
- CSS Grids
- CSS sprites
- CSS variables & counters
- Container queries
- Subgrid
- BEM standards
- Responsive web design

JavaScript



- "this" keyword
- Template strings
- De-structuring
- Rest & Spread
- Callbacks
- Promises
- Async Await
- Prototypes
- Modules
- Sets & Weaksets
- Maps & Weakmaps
- Regular expressions
- Symbols
- Proxy & Reflect
- Iterators + Generators
- Dates & Intl
- Typed Arrays
- ES Next features

Frontend Concepts

- Progressive Web App
- Object Oriented Programming
- Functional Programming
- Reactive Programming
- Test Driven Development
- Accessibility & Usability
- Web Performance
- CSR, SSR, SSG, ISR
- Web Security
- Design patterns
- JAM Stack
- Micro frontend
- User Experience
- CI/CD
- Web Assembly
- Web 3.0

Recommended Tools

Editor



VS Code

Browser



Chrome

Version Control



Git

Language



TypeScript

Task Runner



npm / Yarn

Commit Hook



Husky

Bundler



ViteJS / Webpack

Linter



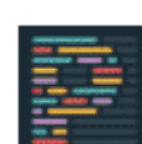
ESlint

Linter



Stylelint

Formatter



Prettier

Popular Tech & Tools

- SASS
- Tailwind CSS
- Bootstrap
- PostCSS
- AntD

- RxJS
- D3JS
- XState
- StencilJS
- Lit Element

- Storybook
- Cypress
- Vitest
- Playwright
- TestCafe



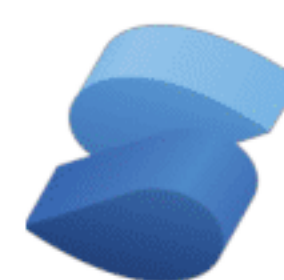
VueJS



Angular



Svelte



SolidJS

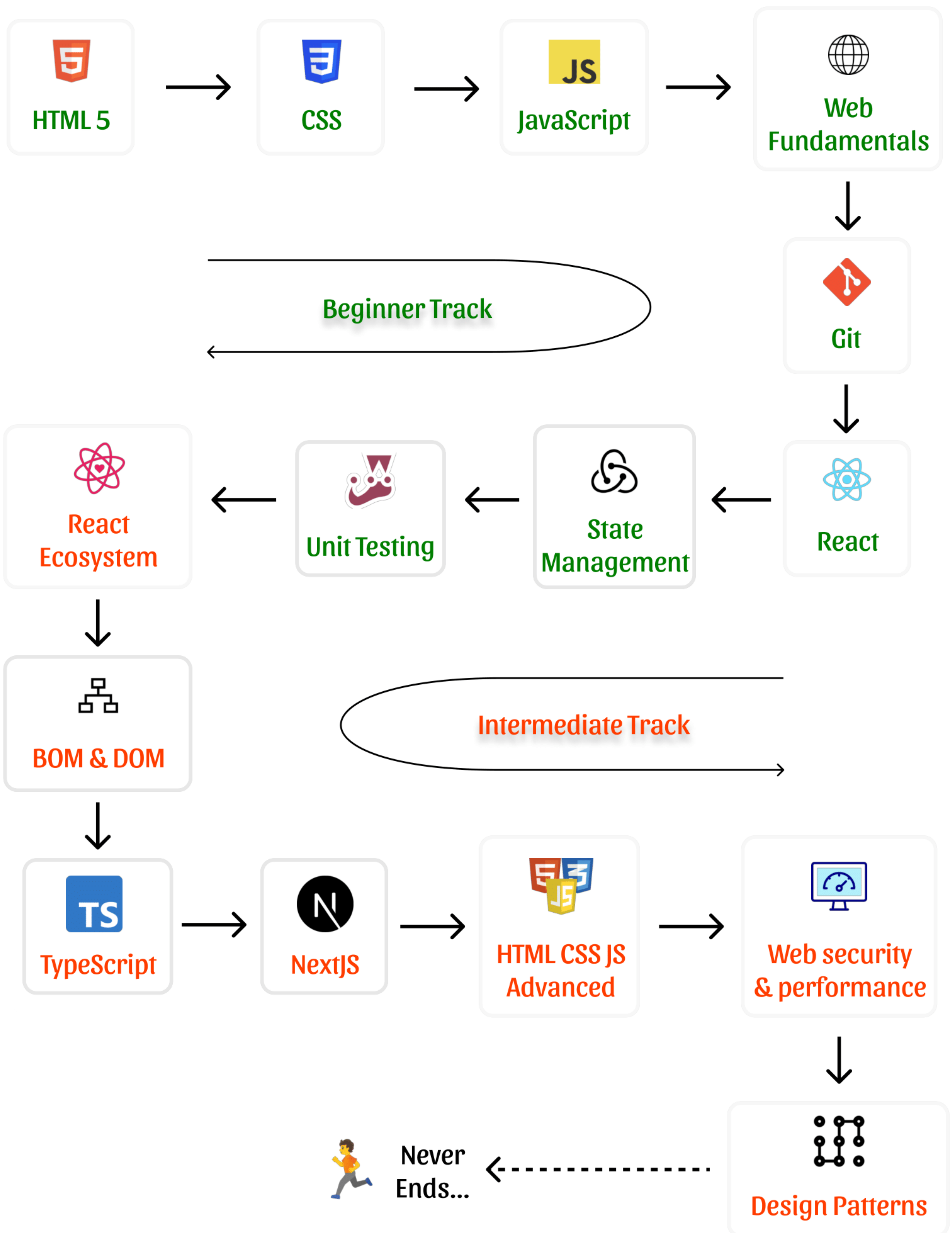


Preact

- ThreeJS
- Electron
- ESBuild
- Babel
- SWC

- Remix
- Gatsby
- Astro
- NodeJS
- Deno

- Docker
- Nx
- Lerna
- Turbo Repo
- SingleSPA



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