2023
Frontend Development
Interview Checklist & Roadmap

HTML

FUNDAMENTALS

- !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

CSS

FUNDAMENTALS

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

JavaScript

FUNDAMENTALS

- 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

ADVANCED

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
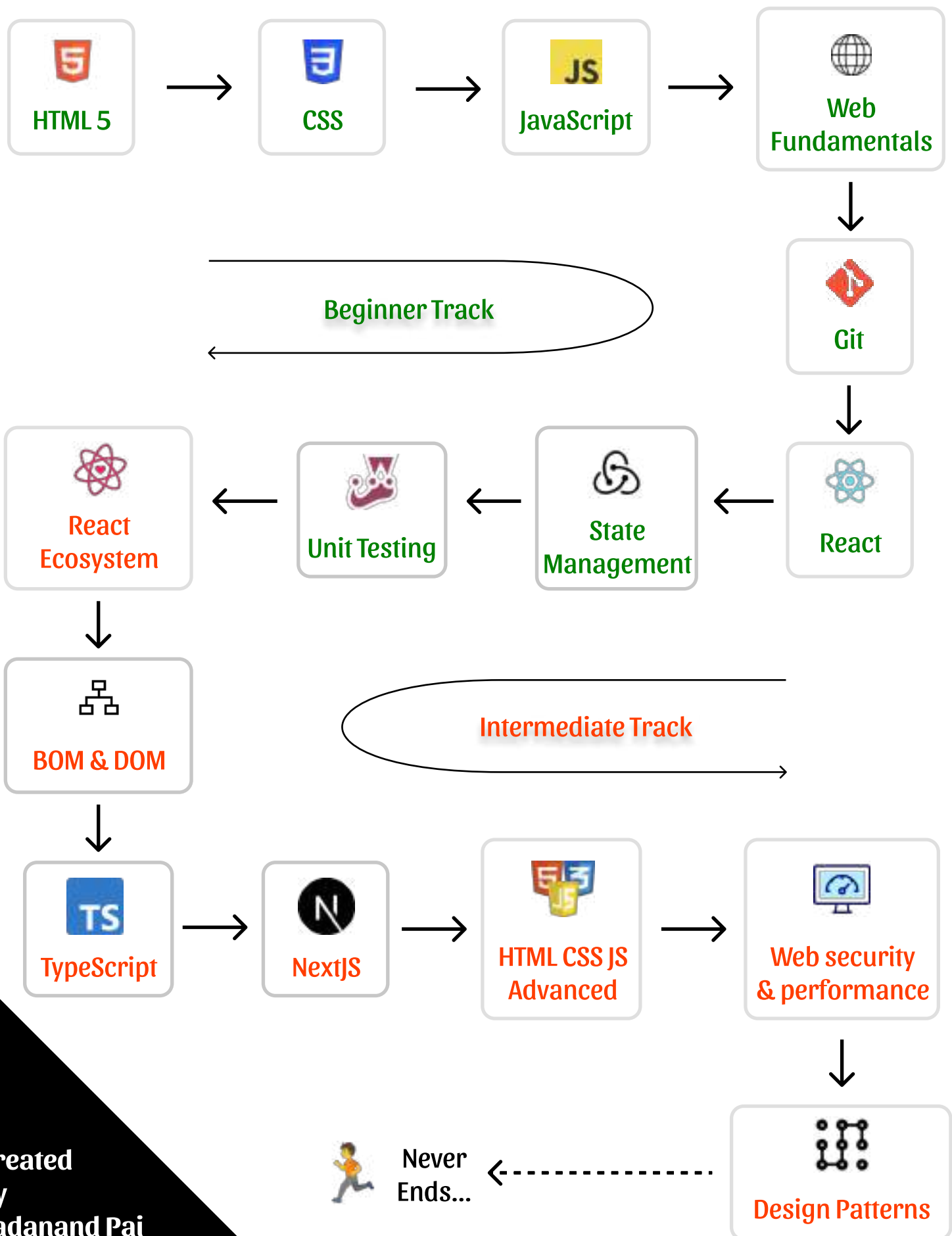
VueJS   Angular   Svelte   SolidJS   Preact

- ThreeJS
- Electron
- ESBuild
- Babel
- SWC

- Remix
- Gatsby
- Astro
- NodeJS
- Deno

- Docker
- Nx
- Lerna
- Turbo Repo
- SingleSPA

Recommended Frontend Roadmap

HTML 5 → **CSS** → **JavaScript** → **Web Fundamentals**

Beginner Track

Web Fundamentals → **Git** → **React**

React Ecosystem ← **Unit Testing** ← **State Management** ← **React**

React Ecosystem → **BOM & DOM**

Intermediate Track

BOM & DOM → **TypeScript** → **NextJS** → **HTML CSS JS Advanced** → **Web security & performance**

Web security & performance → **Design Patterns**

Never Ends... ⇠ **Design Patterns**

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For Frontend Materials, Click Here

This document is a guideline based on personal knowledge & opinions