2024 - UI Curriculum

Document status	IN PROGRESS
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Delivered by	Vinsys
Theme	Build
Sub theme	Local development
Module	UI Programming
Duration	3 days

Pre-requisites

1. HTML, CSS and Basics of Javascript - this can be learned from Pluralsight
2. Typescript - again, this can also be learned from Pluralsight

Learning Objectives

Upon completion of this module, the participant will be able to:

1. Understand basic design principals
2. Understand web development using React.
3. Develop react applications

Topics

Sr.No.	Description	Type	Duration (Hr) -	Day	MCQ
0	**Design Principles**	Topic	1	Day - 1	
1	**Introduction to UI Programming**	Topic	1	Day - 1	
	Role of UI Developer	Subtopic			
	How it's different from UX Design?	Subtopic			
	Course content - UI Technologies	Subtopic			
	Expectations from the course	Subtopic			
	HTML Overview and Building blocks	Subtopic			
2	**Web Responsive Design**	Topic	3	Day - 1	
	CSS media queries	Subtopic			
	Responsive designs using flexbox, CSS3 grids	Subtopic			
	Hands-on programming assignments	Subtopic			
3	**Advance Javascript**	Topic	3	Day - 1	
	OOPS - Classes and Interfaces	Subtopic			
	Functional programming	Subtopic			
	Classes vs Functional programming				
	Javascript vs Typescript				
	ES6 features, Promises, Async Await	Subtopic			
	Hands-on programming assignments	Subtopic			
4	**React**	Topic	12	Day2, Day3	
	Introduction to React	Subtopic			
	Creating React Project	Subtopic			
	Understanding React Components and Properties, Explain component lifecycle	Subtopic			
	Generic components, theming, templating	Subtopic			
	Ag-grid, primereact	Subtopic			
	Stateful and Stateless components, Explain class vs functional components	Subtopic			
	Working with Events	Subtopic			
	Forms and Validation	Subtopic			
	Consuming RESTful web service	Subtopic			
	React Hooks	Subtopic			
	State Management using Redux	Subtopic			
	Unit testing and coverage with React Testing Library	Subtopic			
	Hands-on programming assignments	Subtopic			
	Debugging	Subtopic			
5	**Performance**	Topic	2	Day3	
	Minification, dead code elimination(tree shaking)	Subtopic			
	Optimizing assets (images , videos)	Subtopic			
	Code level performance optimizations	Subtopic			
6	**Security**	Topic	1	Day3	
	Authorization & authentication	Subtopic			
	CSRF, XSRF	Subtopic			
7	**Tooling**	Topic	1	Day3	
	Lighthouse/ Performance tooling	Subtopic			
	Developer tools	Subtopic			

Pre-reading, Resources, Hands-on sessions / exercises

- Atom-Molecule-Organism pattern for UI development
- IT Help Portal - dbSupportPlus
- UC.16.1 Generic UI functions
- Analyze FE Bundle Size
- UX/UI Review workflow

Assignments and Evaluations (optional)

Each topic should have hands-on assignments to confirm learnings.