

Frontend System Design

HLD:

- Requirements
 - Functional
 - Non-functional
- Scoping
- Tech Choices
- Component Architecture
- Data Model
- Data API

LLD:

- Tech Choices
- Component Architecture
- Data Model
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FACEBOOK NEWS FEED

Requirements:

Functional:

- Add Post
 - Image
 - Video
 - Audio
 - Link
 - Text
 - Formatting Text
- View Post
 - Save
 - Report

- Edit (own post)
- Liked & comment, share on a post

Non-functional:

- Mobile/Desktop
- Responsive/Adaptive
- Rendering – CSR/SSR/SSG/ISR
- SPA/MPA
- Authentication
- Authorization
- Profile Management
- Localization
- Internationalization
- Accessibility
- Performance
- Caching
- Optimization
- Security
- Logging/Monitoring/Analytics
- PWA

Teck Stack:

- Framework
- State Management
- Routing
- Folder Structure
- Design system vs custom components
- REST vs GraphQL
- Rendering: CSR/SSR/SSG/ISR
- Mono vs Multi Repo
- Micro-frontend
- Build Tools
- CI/CD

- Docker & Kubernetes

DATA API:

- `getPosts():Post[]`
- `addPost(text,media,tags):Boolean`
- `like(postId):Boolean`
- `share(postId):Boolean`
- `report(postId):Boolean`
- `save(postId):boolean`

DATA MODEL:

- **Posts:**{
 `Id:ID,`
 `text:string,`
 `media:blob,`
 `tags:[string],`
 `likes:[ID:user],`
 `comments:[Comment],`
 `shares:[ID:user],`
 `reports:[ID:user],`
 `createdAt:DateTime,`
 `createdBy:User`
 }
▪ **User:**{
 `id:ID,`
 `location:string,`
 `favouriteTags:[string],`
 `createdAt:DateTime`
 }
▪ **Comment:**{
 `id:ID,`
 `text:string,`
 `media:blob,`
 `replies:[Comment],`

```
createdAt:DateTime,  
createdBy:User  
}
```