ACTION PLAN

| Week | Action |
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| Week 1 | **Requirement Analysis & Environment Setup**  • Define features and system architecture  • Set up Git, MetaMask, Hardhat, Vite, React  • Create project boilerplate (frontend + backend) |
| Week 2 | **Smart Contract Design & Development**  • Design UserRegistry.sol contract  • Implement username registration and validations |
| Week 3 | **Smart Contract Deployment & Integration**  • Deploy to Sepolia or Polygon Mumbai  • Verify on Etherscan  • Integrate with frontend via Ethers.js |
| Week 4 | **Frontend – Wallet Authentication & User Registration**  • Connect MetaMask  • Capture wallet and username  • Call registerUser() from frontend |
| Week 5 | **Frontend – User Dashboard**  • Display username and wallet address  • Fetch contract data  • Implement logout/disconnect functionality |
| Week 6 | **Messaging Module (Real-Time Chat)**  • Choose messaging method (Firebase/XMTP)  • Build chat UI and backend logic  • Enable message exchange via wallet addresses |
| Week 7 | **Testing, Security, and UX Enhancements**  • End-to-end testing (contract, frontend, chat)  • Add error handling and loading states  • Enforce user validation rules   |  | | --- | |