

Amaravati Quantum Valley Hackathon 2025



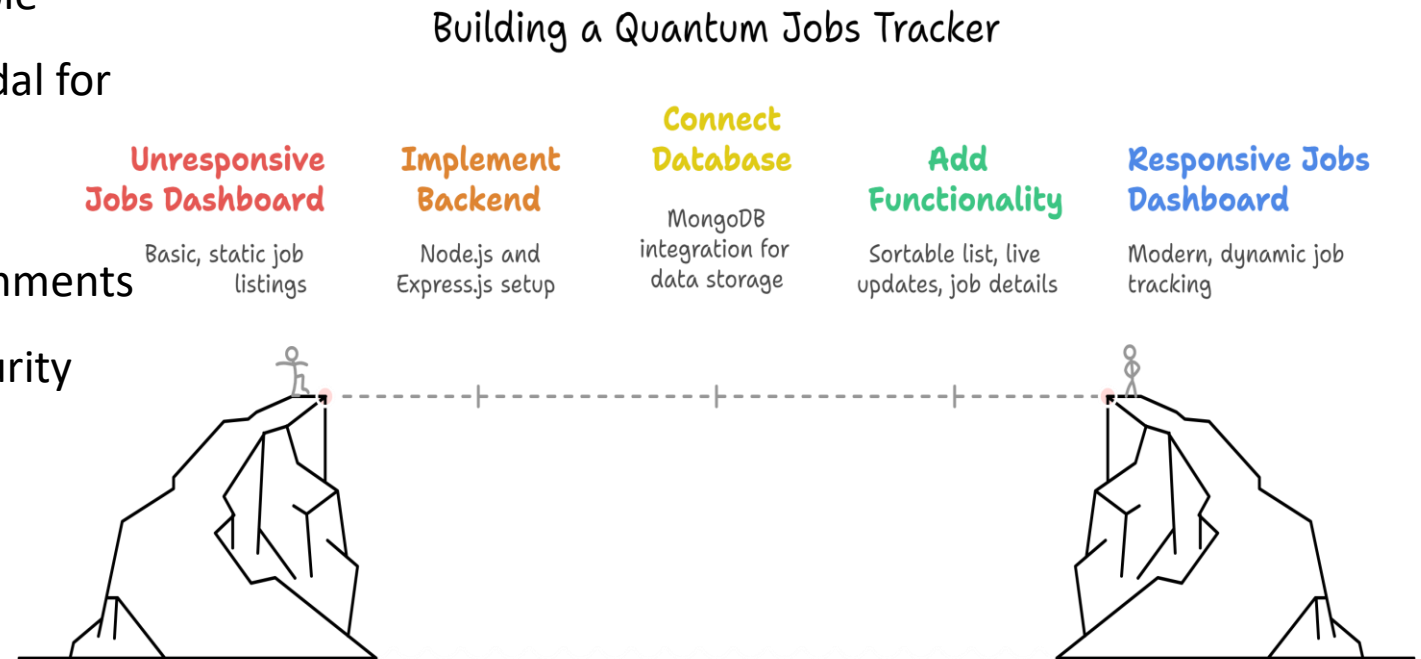
TITLE PAGE

- **Problem Statement ID** – AQVH915
- **Problem Statement Title** - Build a dashboard that shows live/public quantum computing jobs from IBM Quantum
- **Theme** - Quantum Jobs Tracker
- **PS Category**- Software
- **Team ID**-
- **Team Name** – Team Titans



Build a dashboard that shows live/public quantum computing jobs from IBM Quantum

- ❑ **Objective** : Create a responsive dark-themed Quantum Jobs Tracker dashboard using HTML, CSS, and JavaScript for the frontend, with a Node.js and Express.js backend, and MongoDB database
- ❑ **Functionality**: Dashboard with sortable/filterable quantum jobs list, live mock updates, and a modal for detailed job info.
- ❑ **Data Handling**: Code uses mock data with comments on IBM Quantum API integration and a key security warning for handling credentials.



- **Frontend:**
 - HTML, CSS, JavaScript
 - Styling: Tailwind CSS or styled-components for dark, clean UI
- **Backend:**
 - Node.js runtime
 - Express.js web framework
- **Database:**
 - MongoDB (with Mongoose ODM for schema management)

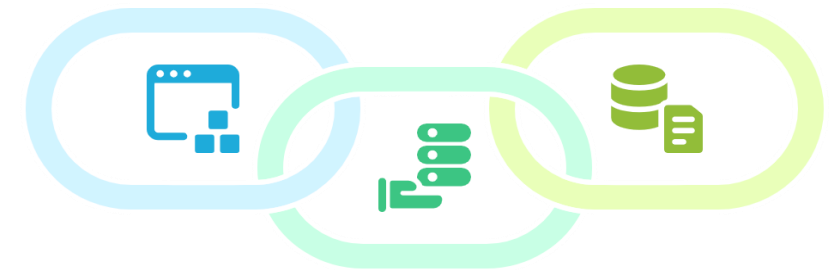
Building Blocks of a Quantum Interface

Frontend

The user-facing part of the interface, focusing on visual appeal and user interaction.

Database

The storage and management of data that the interface relies on.

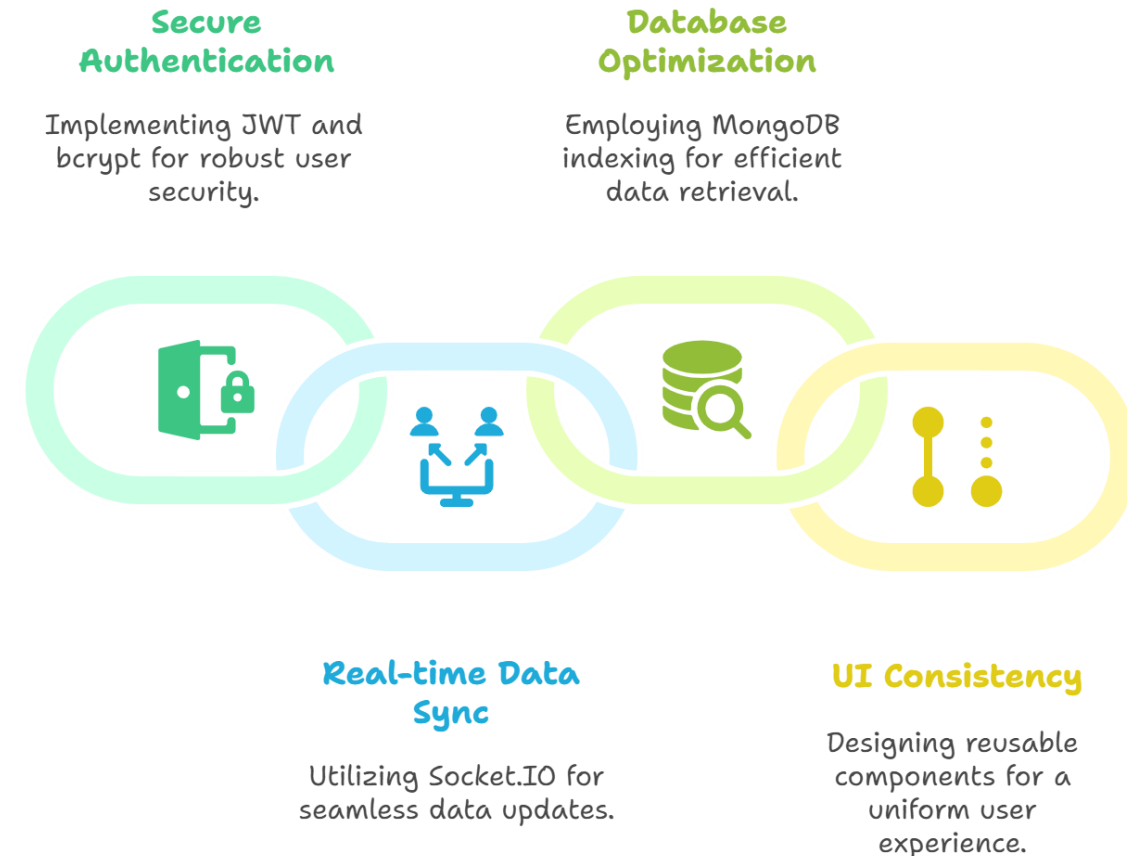


Backend

The server-side logic and data processing that supports the interface.

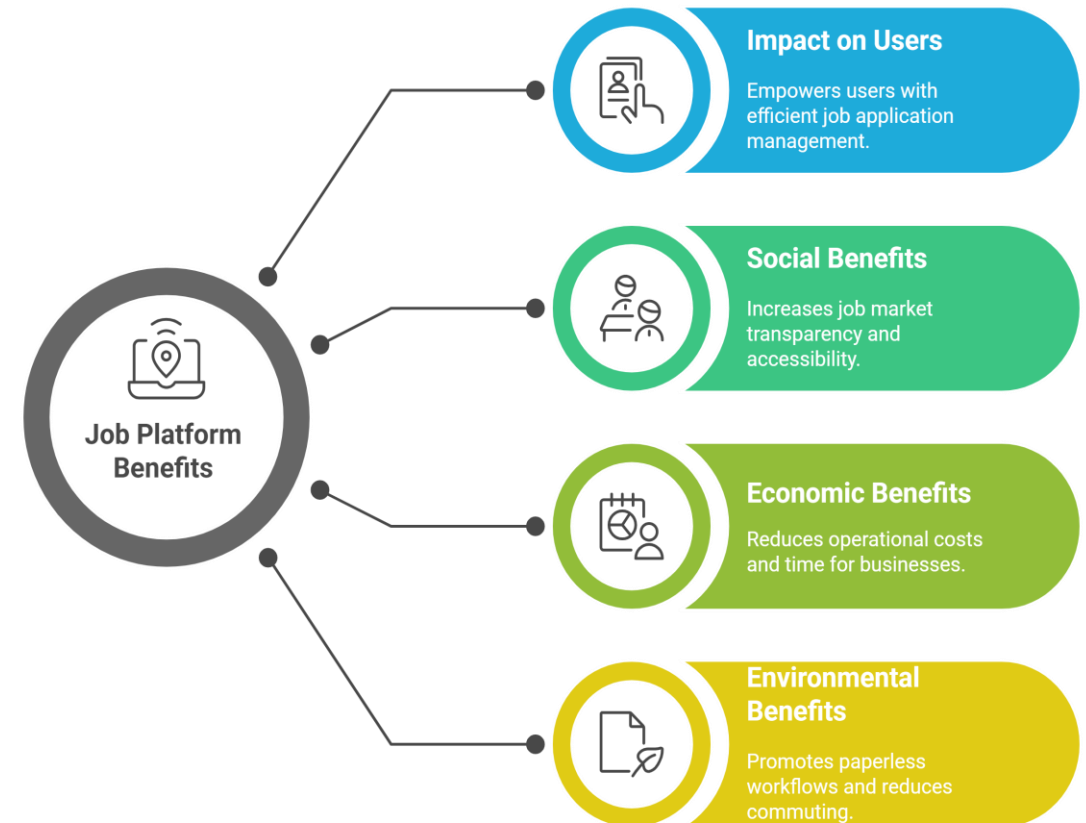
- **Feasibility:**
Fully feasible using MERN stack with real-time and role-based features.
- **Main Challenges:**
Secure authentication, real-time data sync, database optimization, UI consistency.
- **Key Solutions:**
Use JWT and encrypt for security, Redux/Context for state, Socket.IO for updates, MongoDB indexing, reusable UI components, and thorough testing.

MERN Stack Feasibility



- **User Impact:** Enables real-time, personalized job management to boost productivity.
- **Social:** Improves job market transparency and access.
- **Economic:** Cuts costs and streamlines job workflows.
- **Environmental:** Supports digital, paperless processes reducing physical resources and travel

Unveiling the Multifaceted Benefits of a Job Platform



- UK government quantum computing funding overview
- Quantum Workplace intelligence dashboard example
- Key benefits of quantum computing for business
- MERN stack full-stack app guide with real-time features
- MERN stack note-taking app example with secure auth and CRUD

Quantum Computing Resources

