

SB Works – Freelance Finder

Team Information

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- **Team Size:** 4 members
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1. Project Overview

SB Works is a web-based freelance platform that connects clients with skilled freelancers. It focuses on skill-based project matching, real-time communication, and secure project management.

- Clients can post projects across multiple domains (creative, technical, etc.)
- Freelancers can submit proposals based on expertise and showcase portfolios

- Admin ensures transaction security and platform integrity
- Real-time dashboards track projects, proposals, and feedback

The main aim is to streamline freelancing, improve transparency, and foster efficient client-freelancer collaboration.

2. System Architecture

The system uses a client-server model with frontend, backend, and database layers.

- **Frontend:** HTML, CSS, JavaScript, Bootstrap/Material UI – provides dashboards, project listing, messaging system
- **Backend:** Express.js – handles API requests, project submissions, skill matching, admin monitoring
- **Database:** MongoDB – stores users, projects, proposals, feedback
- **Skill Matching:** Algorithm recommends freelancers based on skills and project requirements
- **Communication:** Axios handles frontend-backend API calls; real-time updates displayed on dashboards

Workflow:

1. Client posts a project → stored in MongoDB
2. System matches suitable freelancers → recommended on dashboard
3. Freelancer submits proposal → client reviews → selects freelancer
4. Messaging system enables communication
5. Feedback submitted → dashboard updated
6. Admin monitors transactions and validations

3. Technology Stack

- **Frontend:** HTML, CSS, JS, Bootstrap, Material UI
- **Backend:** Node.js, Express.js
- **Database:** MongoDB
- **Libraries & Tools:** Axios, RESTful APIs, real-time notifications

- **Skill Matching Algorithm:** Custom logic for confidence-based recommendation
- **Security:** Authentication and admin validation

4. Project Structure

- **app/** – Express.js backend files
- **routes/** – Separate routes for projects, proposals, users, and admin
- **utils/** – Utility scripts (matching algorithm, validation functions)
- **templates/** – HTML frontend files
- **static/** – CSS, JS, Bootstrap/Material UI, dashboard logic
- **docs/** – Project report, diagrams, and screenshots

This structure ensures modularity, maintainability, and ease of testing.

5. Implementation Details

Frontend:

- Dashboard for clients and freelancers
- Project posting forms and proposal submission forms
- Messaging interface

Backend:

- Express.js APIs handle project creation, proposal submission, user authentication
- Skill matching logic calculates confidence score and recommends freelancers
- Admin validation checks transactions and platform integrity

Skill Matching:

- Evaluates freelancer skills vs project requirements
- Confidence score $\geq 90\%$ → recommended freelancers
- Projects and proposals stored in MongoDB

Dashboard:

- Real-time updates for active projects, proposals, recommended freelancers, and feedback

6. Development Workflow

- **Phase 1:** Ideation & requirement gathering
- **Phase 2:** Frontend UI development (dashboard, forms, messaging)
- **Phase 3:** Backend API development using Express.js
- **Phase 4:** Skill matching algorithm implementation
- **Phase 5:** Admin module and validation logic
- **Phase 6:** Testing and debugging of frontend, backend, matching algorithm, messaging
- **Phase 7:** Documentation preparation

7. Setup and Installation

1. Clone the repository:
`git clone https://github.com/your-username/sb-works.git`
2. Navigate to the directory and install dependencies:
`npm install`
3. Start backend server:
`node app.js` or `nodemon app.js`
4. Open frontend in a browser (index.html) to access dashboards and project features
5. For real-time dashboard updates, ensure backend is running and MongoDB is connected

8. Features and Functionality

- **Project Posting:** Clients can submit new projects with required skills
- **Proposal Submission:** Freelancers submit bids and attach portfolio
- **Skill-Based Matching:** Recommends suitable freelancers for projects
- **Messaging System:** Real-time chat between clients and freelancers
- **Feedback & Rating:** Clients rate completed projects
- **Admin Monitoring:** Validates transactions, monitors users and projects

- **Dashboard Analytics:** Tracks active projects, proposals, recommendations, and feedback

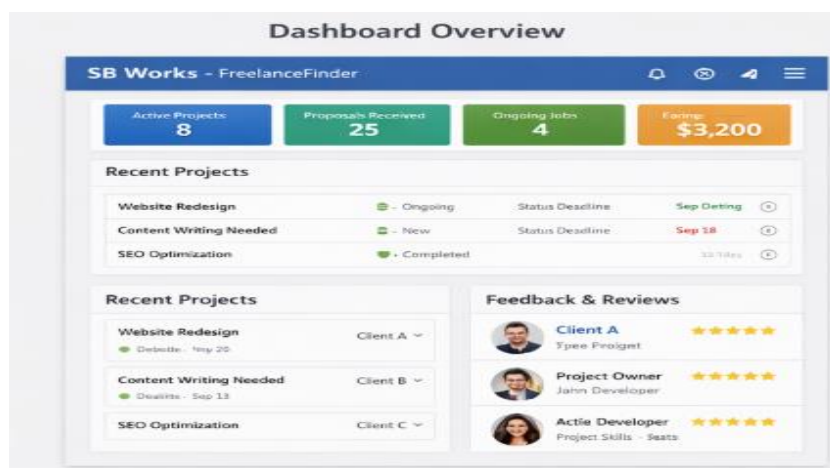
9. API Documentation

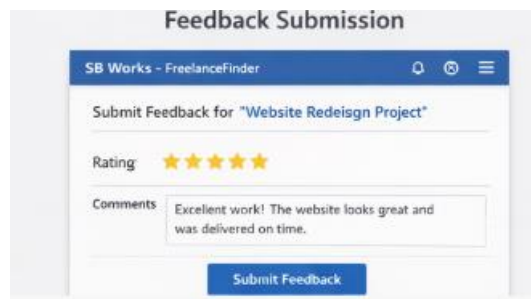
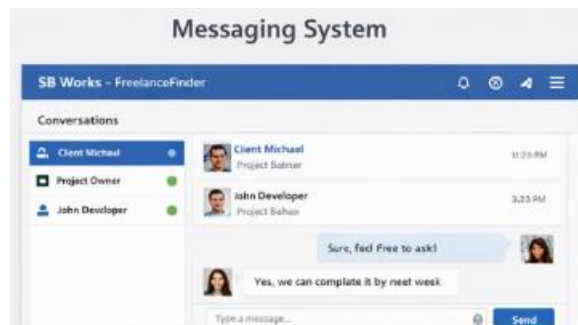
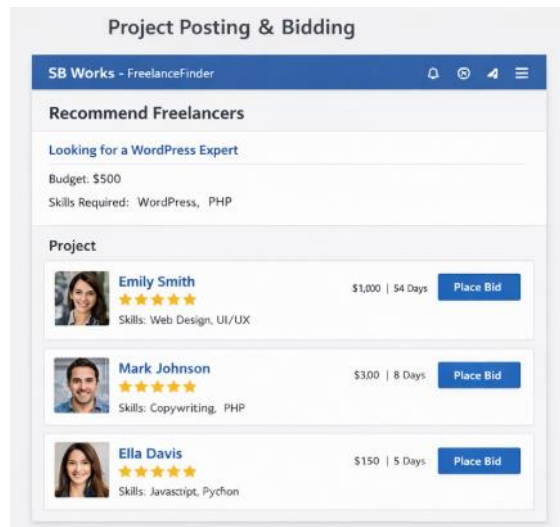
- POST /project – Create a new project
- POST /proposal – Submit proposal for a project
- GET /recommendations/:projectId – Get recommended freelancers with confidence scores
- POST /feedback – Submit client feedback and rating
- GET /dashboard – Get live data for dashboard (projects, proposals, recommendations)

All endpoints return JSON responses; validation and error handling included.

10. Screenshots and Results

The SB Works platform successfully connects clients and freelancers through a streamlined, skill-based matching system. Clients can post projects and receive proposals from qualified freelancers, while recommended freelancers are displayed with confidence scores based on skill alignment. The real-time dashboard tracks active projects, proposals, and feedback, ensuring transparency. The messaging system enables smooth communication, and the feedback module allows clients to rate completed work. Overall, the platform demonstrates efficient project management, reliable freelancer recommendations, and collaborative interactions.





Video & GitHub Links:

- Demo: *(Add demo link)*
- GitHub: *(Add repository link)*

11. Challenges and Solutions

- **Challenge:** Live dashboard not refreshing automatically
Solution: Implemented JavaScript setInterval() to update in real time
- **Challenge:** Matching algorithm misaligned with project requirements
Solution: Optimized skill comparison logic and added confidence threshold
- **Challenge:** Messaging delays with multiple users
Solution: Optimized backend routing and data handling
- **Challenge:** Admin validation load
Solution: Added batch processing and transaction checks

12. Future Enhancements

- Mobile app for clients and freelancers
- Multilingual support for global users
- AI-enhanced skill matching based on past project success
- Advanced analytics for admin (project trends, performance charts)
- Integration with payment gateways for secure transactions
- Notifications via email and SMS for project updates
- Gamification for freelancer engagement

13. Conclusion

SB Works is a comprehensive freelance management platform that bridges clients and freelancers efficiently. It provides skill-based recommendations, secure transactions, real-time dashboards, and communication tools.

Future enhancements will make it more accessible, intelligent, and scalable, improving productivity and user satisfaction for both clients and freelancers.