



**Tagline:** A modern, scalable web application built to solve real-world problems with a clean UI and robust backend.

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## Overview

**GP** is a full-stack web project focused on performance, scalability, and developer-friendly architecture. The project is designed with a clear separation of concerns, secure authentication, and a responsive user experience. It can be extended easily for production use and future features.

This repository contains the complete source code for the GP project, including frontend and backend logic (depending on deployment strategy).

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## Key Features

### 1. Core Functionality

- End-to-end feature implementation tailored to the project's problem statement
- Optimized API communication between frontend and backend
- Clean and reusable component architecture

### 2. Authentication & Security

- Secure user authentication (JWT / OAuth if enabled)
- Protected routes and role-based access (if applicable)
- Environment-based configuration for secrets

### 3. Responsive & Modern UI

- Fully responsive design (mobile, tablet, desktop)
- Smooth user interactions and feedback
- Clean and minimal UI patterns

### 4. Scalable Backend

- Modular API structure
  - Proper error handling and validation
  - Ready for production deployment
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# Tech Stack

## Frontend

- **Framework:** React
- **Language:** JavaScript / TypeScript
- **State Management:** Redux Toolkit / Context API
- **Styling:** CSS Modules / Tailwind CSS
- **Routing:** React Router

## Backend

- **Framework:** Node.js with Express
- **Language:** JavaScript / TypeScript
- **Database:** MongoDB (Mongoose)
- **Authentication:** JWT / OAuth

## DevOps & Deployment

- **Frontend Hosting:** Vercel / Netlify
- **Backend Hosting:** Render / Railway
- **Version Control:** Git & GitHub

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## Project Structure

```
/GP
├── client/                # Frontend source code
│   ├── src/
│   │   ├── components/
│   │   ├── pages/
│   │   ├── hooks/
│   │   ├── store/
│   │   └── utils/
│   └── package.json
├── server/               # Backend source code
│   ├── src/
│   │   ├── controllers/
│   │   ├── routes/
│   │   ├── models/
│   │   ├── middleware/
│   │   └── index.ts
│   └── package.json
```

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└─ README.md

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## Installation & Setup

### 1. Clone the repository

```
git clone https://github.com/VanshWebDev/GP.git  
cd GP
```

### 2. Install dependencies

```
# Frontend  
cd client  
npm install  
  
# Backend  
cd ../server  
npm install
```

### 3. Environment Variables

Create a `.env` file in the `server` directory:

```
PORT=5000  
MONGO_URI=your_mongodb_url  
JWT_SECRET=your_secret_key
```

### 4. Run the project

```
# Backend  
npm run dev  
  
# Frontend  
npm run dev
```

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## Future Enhancements

- Advanced role-based access control
  - Performance optimizations
  - Improved UI/UX animations
  - API rate limiting & caching
  - PWA support
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## Contribution Guidelines

1. Fork the repository
  2. Create a feature branch ( `feature/your-feature-name` )
  3. Commit your changes
  4. Open a Pull Request
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## License

This project is licensed under the **MIT License**.

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## Author

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Made with ❤️ by Vansh Kumar