



**Global Next Consulting India Private Limited**

**GNCIPL**

**(Leader In Consulting)**

GSTIN:09AALCG8170B1ZI

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### **Software Project Documentation Table for Client**

Section	Details
Project Title	Matty - Online Graphic Design Tool (One Tool for Multiple Graphic Design)
Client Name	Confidential
Prepared By	Global Next Consulting India Pvt Ltd. (GNCIPL)
Date	16 July 2025
Project Type	MERN Full Stack Web Application
Technology Stack	MongoDB, Express.js, React.js, Node.js, Cloudinary, JWT
Frontend Tools	React.js, Redux, TailwindCSS, react-konva/fabric.js
Backend Tools	Node.js, Express.js, Mongoose
Database	MongoDB (MongoDB Atlas)
Authentication	JWT-based or OAuth (Google)
Storage	Cloudinary / AWS S3 (for images and exports)
Deployment	Vercel (Frontend), Render/Railway (Backend), MongoDB Atlas (DB)

Section	Details
Modules	User Auth, Canvas Editor, Save/Load Designs, Export PNG/PDF, My Designs Dashboard
Key Features	Drag-drop editor, image upload, text styling, export/download, templates, undo-redo
User Roles	Admin, Registered User
Estimated Duration	6 Weeks (Projected Timeline)
Project Objectives	Build a web-based design platform for creating posters, banners, social media images
Target Users	Designers, Marketing Teams, Social Media Managers, Students
Deliverables	Complete web application, source code, documentation, deployment instructions
Support & Maintenance	3-month bug fix & support after delivery (extendable)
Security Features	JWT Auth, CORS, Secure image handling, Input validation
Version Control	Git (GitHub/Bitbucket)
Testing Strategy	Unit testing, Integration testing, Manual UI Testing
Limitations (MVP)	No real-time collaboration in Phase 1, limited templates
Future Enhancements	Real-time multi-user editing, premium template store, mobile app version
Contact Person	Ravi Kant (Technical Head) <a href="http://www.gncipl.com">www.gncipl.com</a>

Creating a **Matty** using the **MERN Stack** (MongoDB, Express.js, React, Node.js) is a **massive full-stack project** involving advanced front-end graphics rendering, back-end file storage, real-time collaboration, and more.

Here's a **step-by-step blueprint** to guide you through building a Matty graphic design tool using MERN:

## ✂ Project Name: Matty (Graphic Design Web App)

### 🔑 Tech Stack:

- **Frontend:** React.js, Redux, TailwindCSS / MUI, Konva.js or Fabric.js (canvas manipulation)
- **Backend:** Node.js, Express.js
- **Database:** MongoDB (user designs, templates, etc.)
- **Authentication:** JWT / OAuth (Google/Facebook)
- **Image Storage:** Cloudinary / AWS S3
- **Optional Features:** Socket.io (for real-time collaboration), WebRTC (screen sharing), RESTful APIs

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### 📁 Folder Structure (Overview)

/client → React frontend  
/server → Node.js backend  
/uploads → For local uploads (optional if using cloud)

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### 🔥 Key Features (Phase-Wise)

#### 🚀 Phase 1: Basic Graphic Editor (MVP)

Feature	Description
🎨 Canvas Area	Add/drag shapes, images, text
🖼 Image Upload	Upload local images to canvas
🔤 Text Editor	Fonts, sizes, colors, rotation
🔄 Undo/Redo	Keep history of actions
💾 Save Design	Save to MongoDB with user ID
📁 My Designs	User dashboard with saved templates
👤 User Auth	Register/login with JWT

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### 🔑 Tools/Libraries You'll Need

Purpose	Tool
Canvas engine	<a href="#">react-konva</a> or fabric.js
UI Framework	TailwindCSS / MUI
Image hosting	Cloudinary SDK or S3 API
State Management	Redux / Context API

Purpose	Tool
Form Handling	Formik + Yup
Authentication	JWT / Firebase / OAuth
Real-time (optional)	Socket.io

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## Database Schema (MongoDB – Mongoose)

### User Model

```
{
  username: String,
  email: String,
  passwordHash: String,
  createdAt: Date
}
```

### Design Model

```
{
  userId: ObjectId,
  title: String,
  jsonData: Object, // konva/fabric object
  thumbnailUrl: String,
  createdAt: Date
}
```

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## API Endpoints

Method	Endpoint	Function
POST	/api/auth/register	Register new user
POST	/api/auth/login	Login user, return JWT
GET	/api/designs	Fetch user's saved designs
POST	/api/designs	Save a new design
PUT	/api/designs/:id	Update existing design
DELETE	/api/designs/:id	Delete a design

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## Advanced Features (Phase 2)

-  Templates Gallery
-  Team Collaboration (with Socket.io)

- 📁 Export to PNG/PDF
- 🌐 Template Sharing / Public Designs
- 📷 Image Filters
- 💬 Comments on designs (collaborative editing)
- 🔍 Search Designs / Tags
- 📅 Design version history

## 📌 Project Milestones(This is a Virtual Milestone )

### Week Goals

Week 1 Setup MERN stack, auth, project scaffolding

Week 2 Implement Matty editor using react-konva or fabric.js

Week 3 Design saving/loading to MongoDB

Week 4 Image upload + export to PNG/PDF

Week 5 Real-time collab + team designs

Week 6 Final polish, testing, deployment (Render/Netlify + Mongo Atlas)

## 🌐 Deployment

- **Frontend:** Vercel / Netlify
- **Backend:** Render / Railway / Cyclic
- **DB:** MongoDB Atlas
- **Image Hosting:** Cloudinary

## 📁 Advance Feature

- Design history/auto-save
- Role-based access (Admin, User)
- Payments for premium templates
- Mobile view optimization

## 📁 Suggested File Structure (Project Repo / Drive)

project-name/

|

|— 📁 01\_Project\_Charter/

| |— Project\_Charter.pdf

- |
- | — 02\_Requirements/
  - | — SRS\_Document.pdf
  - | — Use\_Cases.md
  - | — User\_Stories.xlsx
- |
- | — 03\_Design/
  - | — UI\_UX\_Design/
    - | — Wireframes/
      - | — Mockups/
    - | — Architecture\_Diagram.png
    - | — Database\_Schema.pdf
- |
- | — 04\_Technical\_Specs/
  - | — TSD\_Technical\_Specification\_Document.pdf
  - | — API\_Documentation/
    - | — swagger.yaml / Postman\_Collection.json
  - | — DB\_Schema\_Details/
- |
- | — 05\_Source\_Code/
  - | — client/ # React frontend
  - | — server/ # Node/Express backend
  - | — .env.example
  - | — README.md
  - | — package.json
- |
- | — 06\_Testing/
  - | — Test\_Plan.pdf
  - | — Test\_Cases.xlsx
  - | — Bug\_Reports/
- |
- | — 07\_Deployment/
  - | — Deployment\_Guide.md
  - | — Dockerfiles/
  - | — CI\_CD\_Workflows/

- |
- | — 08\_Training\_and\_User\_Guide/
- | | — User\_Manual.pdf
- | | — Training\_PPT/
- |
- | — 09\_Maintenance\_and\_Support/
- | | — Support\_Guide.pdf
- | | — SLA\_Agreement.pdf
- |
- | — 10\_Security/
- | | — Security\_Compliance\_Report.pdf
- | | — PenTest\_Summary.pdf
- |
- | — 11\_Change\_Logs/
- | | — changelog.md
- |
- | — 12\_Contracts\_and\_Client\_Docs/
- | | — NDA\_Agreement.pdf
- | | — Client\_Communication\_Log.xlsx

