Requirements - link
Example Projects - link

1. A project title, group name, and group members' names.

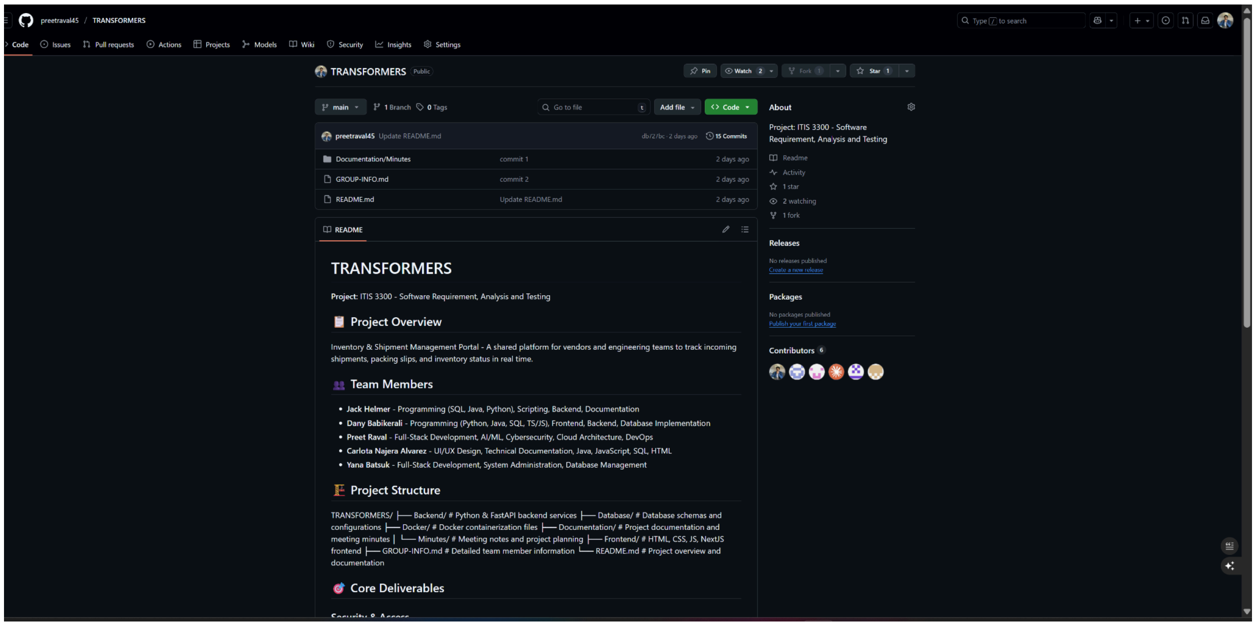
   Group Name: "TRANSFORMERS"

   Members: Preet Raval, Yana Batsuk, Jack Helmer, Dany Babikerali, Carlota Najera Alvarez

2. A project description: a detailed description of the system you plan to develop, including development environments (language, platform, and so on).

   Our project is a centralized inventory and packing slip management system designed to streamline communication between clients and engineering teams. Clients can submit orders, upload packing slips, and receive secure tracking links, while engineers can track incoming inventory, access project-specific documents, and manage stock efficiently. The system features role-based access, audit logs, and optional stretch features like shipment dashboards and barcode scanning. Built with a modern stack—Next.js for frontend, FastAPI with PostgreSQL for backend, and deployed in Docker containers—the platform ensures security, reliability, and ease of use for all stakeholders.

3. A top-level plain text document called README that lists the directory (folder) structure of your project directory (GitHub).



preetraval45 Update README.md db727bc · 2 days ago 15 Commits

Documentation/Minutes	commit 1	2 days ago
GROUP-INFO.md	commit 2	2 days ago
README.md	Update README.md	2 days ago

README

TRANSFORMERS

Project: ITIS 3300 - Software Requirement, Analysis and Testing

📋 Project Overview

Inventory & Shipment Management Portal - A shared platform for vendors and engineering teams to track incoming shipments, packing slips, and inventory status in real time.

👥 Team Members

- **Jack Helmer** - Programming (SQL, Java, Python), Scripting, Backend, Documentation
- **Dany Babikerali** - Programming (Python, Java, SQL, TS/JS), Frontend, Backend, Database Implementation
- **Preet Raval** - Full-Stack Development, AI/ML, Cybersecurity, Cloud Architecture, DevOps
- **Carlota Najera Alvarez** - UI/UX Design, Technical Documentation, Java, JavaScript, SQL, HTML
- **Yana Batsuk** - Full-Stack Development, System Administration, Database Management

🏗 Project Structure

TRANSFORMERS/ ├── Backend/ # Python & FastAPI backend services ├── Database/ # Database schemas and configurations ├── Docker/ # Docker containerization files ├── Documentation/ # Project documentation and meeting minutes │ └── Minutes/ # Meeting notes and project planning ├── Frontend/ # HTML, CSS, JS, NextJS frontend ├── GROUP-INFO.md # Detailed team member information └── README.md # Project overview and documentation

🎯 Core Deliverables

About

Project: ITIS 3300 - Software Requirement, Analysis and Testing

Readme
Activity
1 star
2 watching
1 fork

Releases

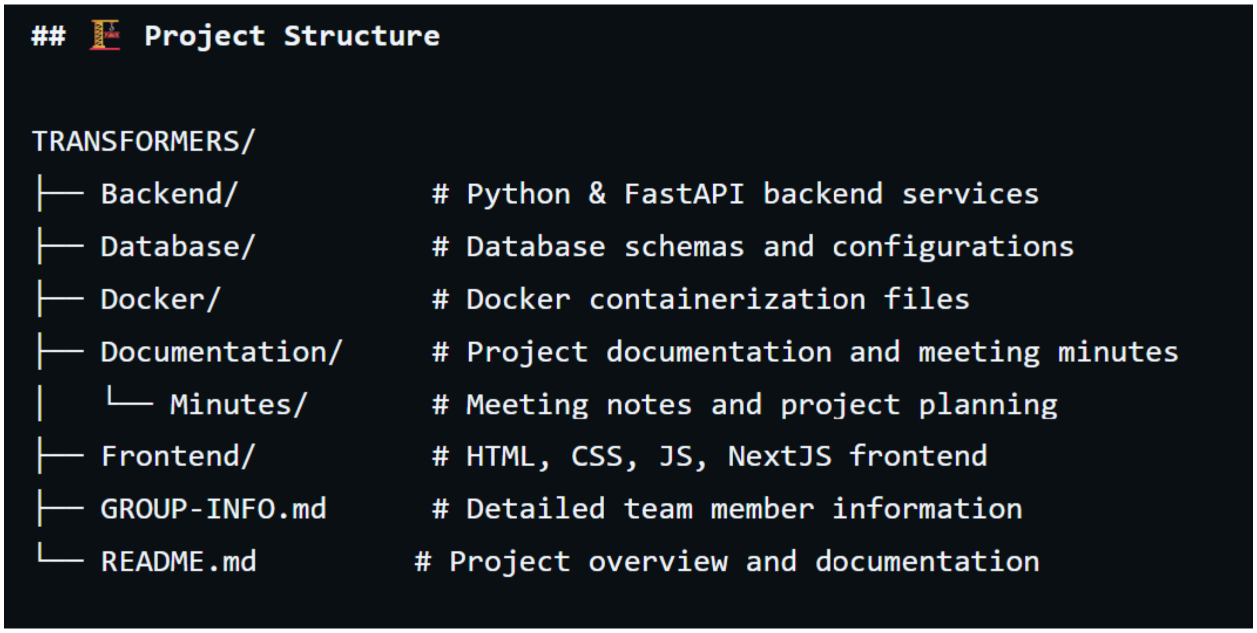
No releases published
Create a new release

Packages

No packages published
Publish your first package

Contributors 6

4. A directory (folder) structure that includes areas for the project source code, planning documents, meeting minutes, and project reports (GitHub).


```
## 🏗 Project Structure

TRANSFORMERS/
├── Backend/             # Python & FastAPI backend services
├── Database/            # Database schemas and configurations
├── Docker/              # Docker containerization files
├── Documentation/       # Project documentation and meeting minutes
│   └── Minutes/         # Meeting notes and project planning
├── Frontend/            # HTML, CSS, JS, NextJS frontend
├── GROUP-INFO.md        # Detailed team member information
└── README.md           # Project overview and documentation
```

5. An initial set of meeting minutes (time, attendees, things discussed, etc.) (GitHub).

   Aug 22, Aug 24 2025 | ITIS 3300 - Transformers Attendees: Carlota Najera, Alvarez Dany Babikerali, Preet Raval, Jack Helmer, Yana Batsuk

   Final Project Outline: Inventory & Shipment Management Portal- Carlota Najera Purpose: Create a shared platform for vendors and engineering teams to track incoming shipments, packing slips, and inventory status in real time.

   Core Deliverables: Security & Access - Password-protected links for external vendors - Audit logs for every upload, edit, and access event - Role-based access (client, engineer, manager)

   Client Side: Order Submission Portal - Upload order details, packing slips, and expected delivery dates - Auto-generate a tracking link and secure password for access

   Engineering Team: Pack Slip Repository - Centralized access to all packing slips with search and tagging - Link to specific engineering projects or deployment sites

   Incoming Inventory Tracker - See what’s arriving, when, and from whom - Filter by project, vendor, or urgency

   Stretch Deliverables

   Client Side: Shipment Status Dashboard - View delivery progress, carrier info, and estimated arrival - Attach documentation (e.g., MSDS sheets, manuals, certifications)

   Engineering Team: Low-Stock & Reorder Alerts - Set thresholds for critical components - Notify purchasing teams when stock dips below safe levels

Barcode Scanning & Tagging - Scan items on arrival to auto-log them into the system - Assign internal tags for location, usage, or team ownership

UI/UX first (Figma)

Frontend: HTML, JS, CSS -> NextJS as needed

Backend: Python & FastAPI Postgres

Hosting and Networking Docker Nginx/Traefik for proxy, Cloudflare for access

6. Create an initial plan that outlines the major timeline for your project and the anticipated milestones. Include a Gantt chart. This document will be modified in later deliverables. While you may not have enough details for a comprehensive plan at this stage, you can conduct a high-level planning exercise and update your Gantt chart according to the major milestones outlined in the document, "**Project-Deliverables (Timelines)**", posted on Canvas as a guide. Additionally, use a Kanban board in your Trello to track the project schedule, including the progress of each team member and their contributions.

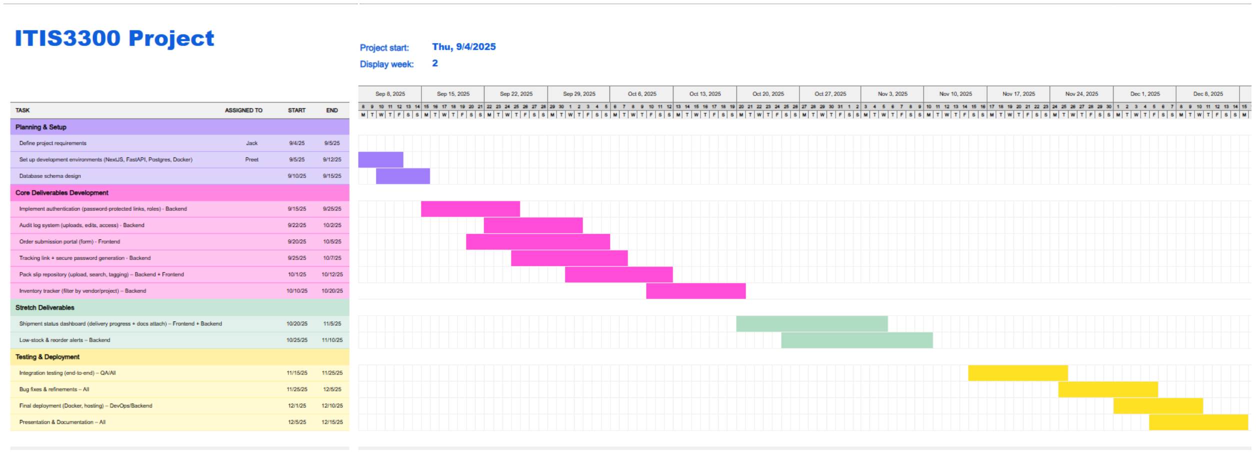
Software

Frontend: HTML, CSS -> NextJS as needed

Backend: Python & FastAPI, Postgres SQL

Deployment: Docker Containers

Gantt Chart



ITIS3300 Project

Project start: Thu, 9/4/2025

Display week: 2

TASK	ASSIGNED TO	START	END
Planning & Setup			
Define project requirements	Jack	9/4/25	9/5/25
Set up development environments (NextJS, FastAPI, Postgres, Docker)	Preet	9/5/25	9/12/25
Database schema design		9/10/25	9/15/25
Core Deliverables Development			
Implement authentication (password-protected links, roles) - Backend		9/15/25	9/25/25
Audit log system (uploads, edits, access) - Backend		9/22/25	10/2/25
Order submission portal (form) - Frontend		9/20/25	10/5/25
Tracking link + secure password generation - Backend		9/25/25	10/7/25
Pack slip repository (upload, search, tagging) – Backend + Frontend		10/1/25	10/12/25
Inventory tracker (filter by vendor/project) – Backend		10/10/25	10/20/25
Stretch Deliverables			
Shipment status dashboard (delivery progress + docs attach) – Frontend + Backend		10/20/25	11/5/25
Low-stock & reorder alerts – Backend		10/25/25	11/10/25
Testing & Deployment			
Integration testing (end-to-end) – QA/All		11/15/25	11/25/25
Bug fixes & refinements – All		11/25/25	12/5/25
Final deployment (Docker, hosting) – DevOps/Backend		12/1/25	12/10/25
Presentation & Documentation – All		12/5/25	12/15/25

Project Description

Core Deliverables

Security & Access

- Password-protected links for external vendors
- Audit logs for every upload, edit, and access event
- Role-based access (client, engineer, manager)

Client Side:

- **Order Submission Portal**
  - Upload order details, packing slips, and expected delivery dates
  - Auto-generate a tracking link and secure password for access

Engineering Team:

- **Pack Slip Repository**
  - Centralized access to all packing slips with search and tagging
  - Link to specific engineering projects or deployment sites
- **Incoming Inventory Tracker**
  - See what's arriving, when, and from whom
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Stretch Deliverables

Client Side:

- Shipment Status Dashboard
  - View delivery progress, carrier info, and estimated arrival
  - Attach documentation (e.g., MSDS sheets, manuals, certifications)

Engineering Team:

- Low-Stock & Reorder Alerts
  - Set thresholds for critical components
  - Notify purchasing teams when stock dips below safe levels
- Barcode Scanning & Tagging
  - Scan items on arrival to auto-log them into the system
  - Assign internal tags for location, usage, or team ownership

7. Risk management (content described above (i)-(iii)).
   a. **Scope Creep & Feature Overload**
      - **Risk:** Adding too many stretch deliverables (e.g., barcode scanning, shipment status dashboard) may delay core features.
      - **Monitoring:** Track deliverables weekly in Trello; flag new feature requests.
      - **Reassessment:** Revisit the scope at each sprint review.
      - **Contingency Plan:** Prioritize **core deliverables first**; push stretch goals to the final sprint only if time/resources allow.

   b. **Integration & System Reliability Issues**

- **Risk:** Backend (FastAPI/Postgres) may not integrate smoothly with frontend (Next.js), causing delays or data sync issues.
- **Monitoring:** Track integration checkpoints (API connection, database queries) on a Trello board.
- **Reassessment:** Test API endpoints after each backend sprint.
- **Contingency Plan:** Develop **mock APIs** for frontend testing; maintain a fallback simplified database schema.

c. Team Coordination & Time Constraints

- **Risk:** Miscommunication or uneven contributions may slow progress, especially with parallel frontend and backend tasks.
- **Monitoring:** Weekly stand-ups; assign clear task ownership in Trello.
- **Reassessment:** Review workload distribution at the midpoint and adjust assignments as needed.
- **Contingency Plan:** If a member falls behind, **reallocate tasks** and simplify non-essential features to ensure timely delivery.

8. A section that describes each team member's roles for the project.

Preet Raval: Docker & Deployment, Backend (FastAPI + Postgres), Project Management

Yana Batsuk: Frontend Development (HTML, CSS, NextJS), UX/UI Design, Testing

Jack Helmer: Documentation, Frontend Support, QA & Testing, Deployment

Dany Babikerali: Backend Programming, Debugging, API Integration

Carlota Najera Alvarez: Database Management, Security & Access Features, Stretch Features