

TaskFlow Pro - Task Management System

1. Project Overview

Project Title: TaskFlow Pro

Description: Modern task management application with productivity analytics

TaskFlow Pro is a comprehensive task management system that helps users organize tasks, track goals, and monitor productivity. It combines traditional task management with modern features like Pomodoro timer, goal tracking, and interactive dashboards.

Core Features:

- Task management with filtering and categorization
- Interactive dashboard with statistics and charts
- Pomodoro timer for focused work sessions
- Goal setting and progress tracking
- Responsive modern UI

2. Technology Stack

Frontend:

- **React.js** - UI development
- **Bootstrap 5** - Styling and responsiveness
- **Chart.js** - Data visualization
- **React Router** - Navigation

Backend:

- **Node.js** - Server runtime
- **Express.js** - Web framework
- **MongoDB** - Database
- **Mongoose** - Database modeling

Development Tools:

- VS Code, Postman, MongoDB Compass
- Git for version control

3. Database Schema

Task Collection:

```
{  
  title: String,  
  description: String,  
  dueDate: Date,  
  status: String,  
  priority: String,  
  category: String,  
  tags: [String],  
  createdAt: Date,  
  updatedAt: Date  
}
```

Goals Collection:

```
{  
  title: String,  
  description: String,  
  dueDate: Date,  
  status: String,  
  priority: String,  
  category: String,  
  tags: [String],  
  createdAt: Date,  
  updatedAt: Date  
}
```

Pomodoro Session:

```
{  
  type: String,  
  duration: Number,  
  completedAt: Date,  
  taskId: ObjectId  
}
```

4. API Endpoints

Tasks API (/api/tasks):

Method	Endpoint	Description
GET	/	Get all tasks
POST	/	Create new task
PUT	/:id	Update task
DELETE	/:id	Delete task
GET	/recent	Get recent tasks
GET	/stats	Get task statistics

Dashboard API (/api/dashboard):

Method	Endpoint	Description
GET	/stats	Get comprehensive statistics

Goals API (/api/goals):

Method	Endpoint	Description
GET	/	Get all goals
POST	/	Create new goal
PUT	/:id/progress	Update goal progress

Pomodoro API (/api/pomodoro):

Method	Endpoint	Description
POST	/session	Log session
GET	/today	Get today's sessions

5. Key Features

1. Task Management:

- Create, read, update, delete tasks
- Filter by status, priority, category
- Search and sort functionality
- Due date tracking with overdue detection

2. Dashboard Analytics:

- Real-time task statistics
- Weekly completion trends
- Priority distribution visualization
- Productivity scoring system

3. Pomodoro Timer:

- 25-minute focus sessions
- 5-minute short breaks
- 15-minute long breaks
- Session history tracking
- Focus time statistics

4. Goal Tracking:

- Set weekly/monthly goals
- Visual progress bars

- Progress tracking
- Deadline management

5. User Interface:

- Responsive design (mobile & desktop)
- Modern clean interface
- Interactive charts and graphs
- Real-time updates

6. Project Structure

Frontend Structure:

```
src/
├── components/
│   ├── Navbar.jsx
│   └── TaskCard.jsx
└── pages/
    ├── Home.jsx (Dashboard)
    ├── AddTask.jsx
    ├── Tasks.jsx
    ├── Pomodoro.jsx
    └── Goals.jsx
└── App.jsx (Routing)
```

Backend Structure:

```
backend/
├── models/
│   ├── task_temp.js
│   ├── Goal.js
│   └── PomodoroSession.js
└── routes/
    ├── taskRoutes.js
    ├── dashboardRoutes.js
    ├── goalRoutes.js
    └── pomodoroRoutes.js
└── server.js
```

7. Implementation Highlights

1. Real-time Dashboard:

- Aggregates data from multiple collections
- Calculates productivity scores
- Displays interactive charts
- Updates without page refresh

2. Efficient Database Queries:

- MongoDB aggregation for statistics
- Optimized indexes for performance
- Virtual fields for calculated properties
- Proper error handling

3. Responsive Design:

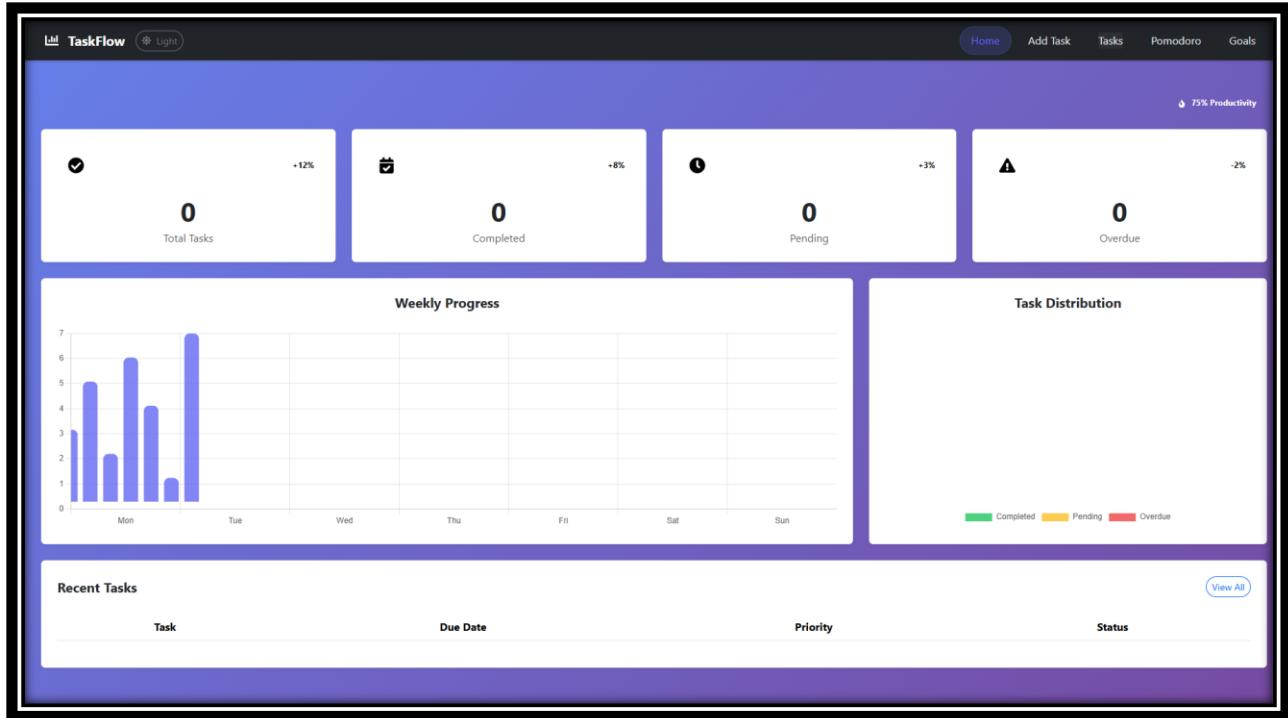
- Mobile-first approach
- Bootstrap grid system
- Adaptive layouts
- Touch-friendly interfaces

4. Code Organization:

- Modular component structure
- Separate API service layer
- Consistent error handling
- Clean code practices

8. Screenshots Summary

UI Pages:



Create New Task

Add details and set priority for your new task

Task Title

Due Date

Priority Level

Low Medium High

Description

Describe your task in detail...

Task Preview

Your Task Title
Task description will appear here
Medium

[Cancel](#) [Add Task](#)

Tips for Effective Task Management

- Be specific with your task titles
- Set realistic due dates
- Use priority levels to focus on what matters most

Your Tasks

Manage and organize all your tasks in one place

[Add New Task](#)

1
Total Tasks

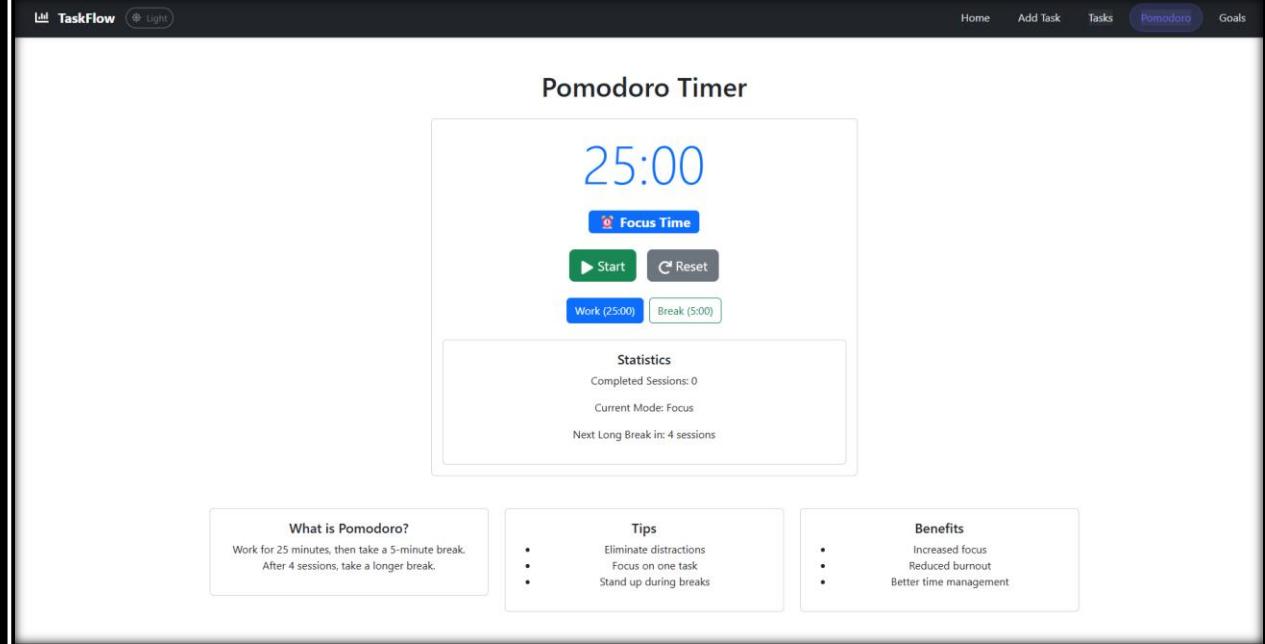
0
Completed

1
Pending

0
Overdue

[Filter](#) [Sort By](#) [Hide Completed](#) 1 tasks found

Task Title	Priority	Due Date	Status
Web Project	High	Feb 05	Pending

The screenshot shows the TaskFlow application's Pomodoro Timer feature. At the top, there is a navigation bar with links for Home, Add Task, Tasks, Pomodoro (which is highlighted in blue), and Goals. The main area is titled "Pomodoro Timer" and displays a digital clock showing "25:00". Below the clock are two buttons: "Start" (green) and "Reset" (grey). Underneath these buttons are two small boxes labeled "Work (25:00)" and "Break (5:00)". To the right of the timer is a "Statistics" section showing "Completed Sessions: 0", "Current Mode: Focus", and "Next Long Break in: 4 sessions". At the bottom of the page, there are three sections: "What is Pomodoro?", "Tips", and "Benefits".

What is Pomodoro?

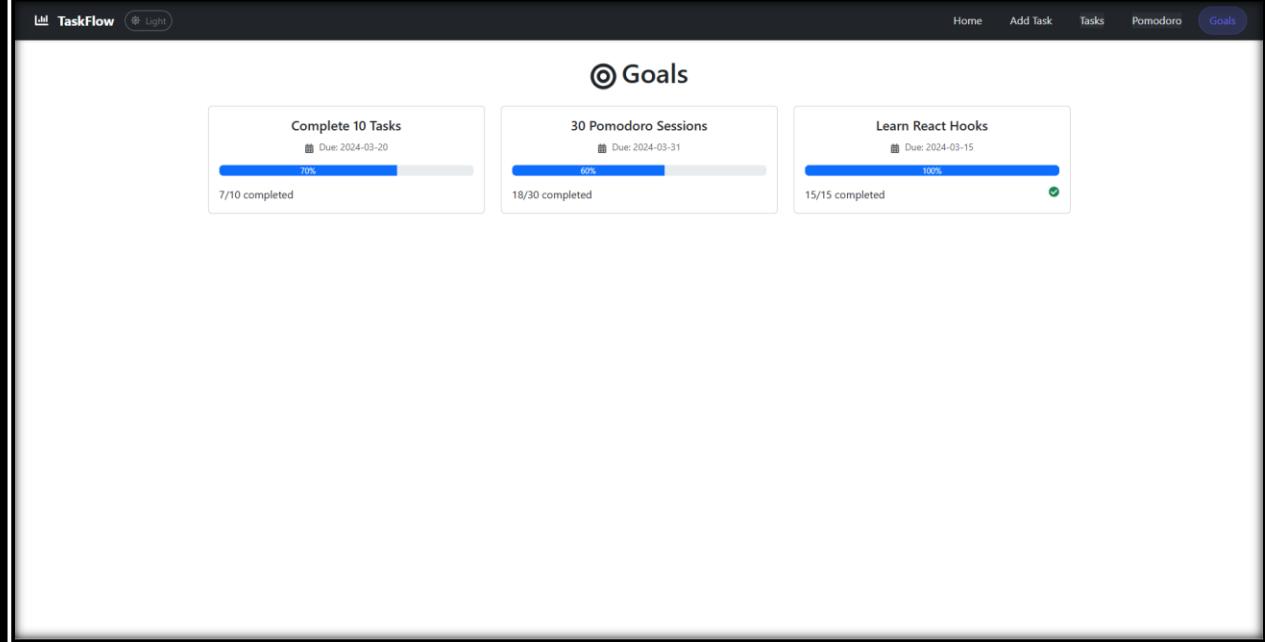
Work for 25 minutes, then take a 5-minute break.
After 4 sessions, take a longer break.

Tips

- Eliminate distractions
- Focus on one task
- Stand up during breaks

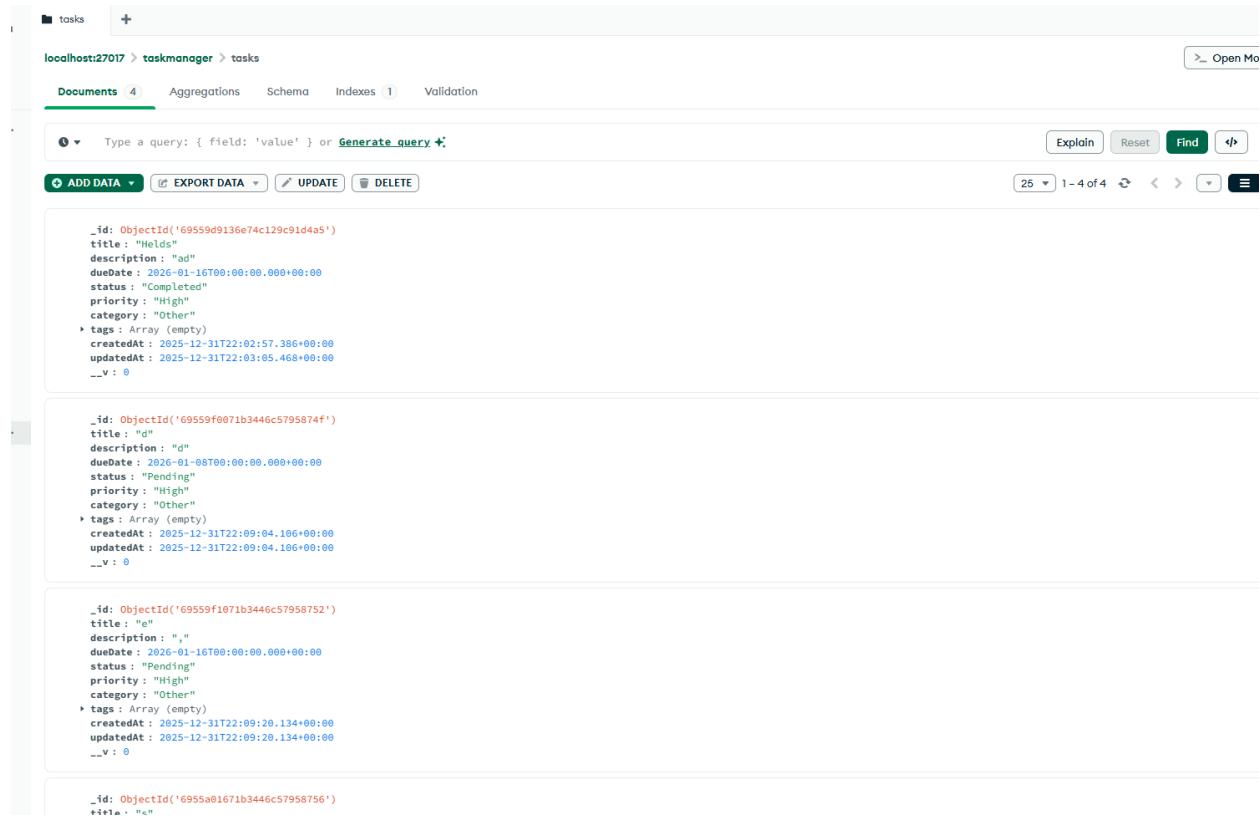
Benefits

- Increased focus
- Reduced burnout
- Better time management

The screenshot shows the TaskFlow application's Goals feature. At the top, there is a navigation bar with links for Home, Add Task, Tasks, Pomodoro, and Goals (which is highlighted in blue). The main area is titled "Goals" and displays three cards representing different goals:

- Complete 10 Tasks**: Due: 2024-03-20. Progress: 70% (7/10 completed).
- 30 Pomodoro Sessions**: Due: 2024-03-31. Progress: 60% (18/30 completed).
- Learn React Hooks**: Due: 2024-03-15. Progress: 100% (15/15 completed, indicated by a green checkmark).

DataBase SS:



The screenshot shows a MongoDB interface with the following documents:

```
_id: ObjectId('69559d9136e74c129c91d4a5')
title: "Holds"
description: "Ad"
dueDate: 2026-01-16T00:00:00.000+00:00
status: "Completed"
priority: "High"
category: "Other"
tags: []
createdAt: 2025-12-31T22:02:57.386+00:00
updatedAt: 2025-12-31T22:03:05.468+00:00
__v: 0

_id: ObjectId('69559f0071b3446c5795874f')
title: "d"
description: "d"
dueDate: 2026-01-08T00:00:00.000+00:00
status: "Pending"
priority: "High"
category: "Other"
tags: []
createdAt: 2025-12-31T22:09:04.106+00:00
updatedAt: 2025-12-31T22:09:04.106+00:00
__v: 0

_id: ObjectId('69559f1071b3446c57958752')
title: ""
description: ""
dueDate: 2026-01-16T00:00:00.000+00:00
status: "Pending"
priority: "High"
category: "Other"
tags: []
createdAt: 2025-12-31T22:09:20.134+00:00
updatedAt: 2025-12-31T22:09:20.134+00:00
__v: 0

_id: ObjectId('6955a01671b3446c57958756')
title: "<"
```

12. Conclusion

TaskFlow Pro successfully implements a modern, feature-rich task management system that demonstrates proficiency in full-stack web development. The project combines practical task management with productivity analytics in an intuitive, responsive interface.

Key Achievements:

- Complete CRUD operations for tasks
- Interactive dashboard with real-time statistics
- Pomodoro timer with session tracking
- Goal setting and progress monitoring
- Responsive design for all devices
- Clean, maintainable code structure

The application is production-ready with proper error handling, data validation, and user-friendly interface, serving as a comprehensive solution for personal productivity management.