

Agadir Task Manager 2025

Mobile Task Management Application

December 2025

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Project Context II

② Why This Project?

-  Efficient daily task management for Agadir citizens
-  Administrative procedures: **Moukawalati, CNSS, Commune**
-  Student exam preparation and assignment tracking
-  Healthcare appointments: **RAMED/AMO** systems
-  General personal organization and productivity

Target Users

-  Students (BTS, OFPPT) managing exam schedules and assignments
-  Entrepreneurs tracking business appointments and deadlines
-  Citizens with administrative tasks requiring timely completion
-  Families managing multiple schedules and appointments
-  Professionals balancing work commitments with personal tasks

① Problem Statement

▲ Current Challenges

- ✗ Forgetting important appointments
- ✗ Missing administrative deadlines
- ✗ Unorganized exam preparation
- ✗ No centralized task management
- ✗ Paper-based reminders get lost

💡 Our Solution

- ✓ Digital task management
- ✓ Deadline reminders
- ✓ Status tracking
- ✓ Accessible anywhere on mobile
- ✓ Secure cloud-based storage

Solution Overview



User Management

- 🛡️ Secure registration & login
- 🔑 JWT-based authentication
- 🔒 Bcrypt password encryption
- ⌚ 7-day token expiration



Task Management

- ➕ CRUD operations
- 📅 Set **due dates**
- ✓ Mark tasks as **complete**
- FilterWhere by **status**



Mobile-First Design

- 📱 React Native cross-platform
- 👉 Intuitive user interface
- 🌐 Moroccan cultural context
- ⚡ Offline capability

<> Technologies Used



Backend



Node.js + Express.js



PostgreSQL database



JWT for authentication



Bcrypt for password hashing



Frontend/Mobile



React Native (Expo)



React Navigation



Axios for API calls



AsyncStorage for tokens



Tools



Postman for API testing



Git & GitHub for version control



Render/Railway for deployment



VS Code for development

System Architecture



Mobile App

React Native cross-platform application with intuitive UI for task management



Express API + JWT Auth

RESTful API with JWT authentication for secure communication



PostgreSQL Database

Relational database storing users and tasks with proper relationships

Application Flow

- 1 User interacts with mobile app

- 2 App sends HTTP requests to API

- 3 API validates JWT token

- 4 API queries database

- 5 Response sent back to app

☰ Database Design (ERD)

👤 Users Table

	id Integer, Auto Increment	
	name String (100)	
	email String (255)	
	password String (255)	
	created_at Timestamp	

📝 Tasks Table

	id Integer, Auto Increment	
	user_id Integer	
	title String (255)	
	description Text	
	status Enum (pending/done)	
	due_date Date	
	created_at Timestamp	

One User → Many Tasks

❖ API Endpoints

→ Authentication

POST /api/auth/register

Register new user

POST /api/auth/login

Login user

Tasks (Protected)

GET /api/tasks

Get all tasks

GET /api/tasks?status=pending

Filter tasks

POST /api/tasks

Create task

PUT /api/tasks/:id

Update task

PATCH /api/tasks/:id/done

Mark as done

DELETE /api/tasks/:id

Delete task



All task endpoints require **JWT token** in Authorization header

Security Features



Authentication

-  **JWT tokens** with 7-day expiration

-  Bearer token in Authorization header

-  Passwords hashed with **bcrypt** (10 salt rounds)



Validation

-  Email format validation

-  Password minimum 6 characters

-  Required field validation

-  SQL injection prevention (parameterized queries)



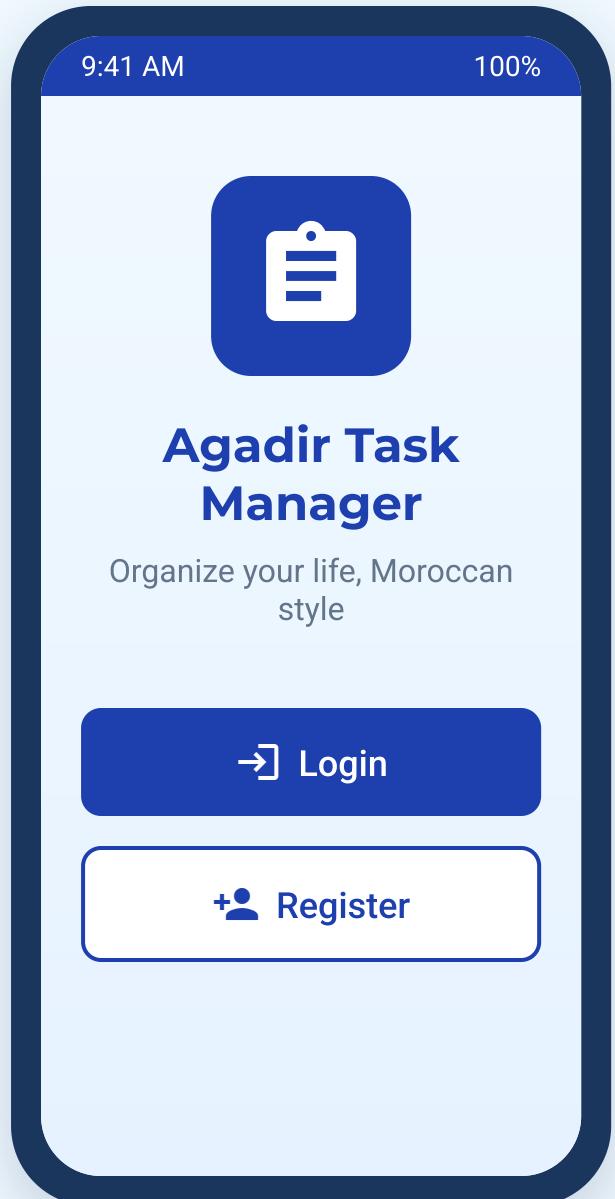
Authorization

-  Users can only access their own tasks

-  Middleware protects all task routes

-  Role-based access control

□ Mobile App - Welcome Screen

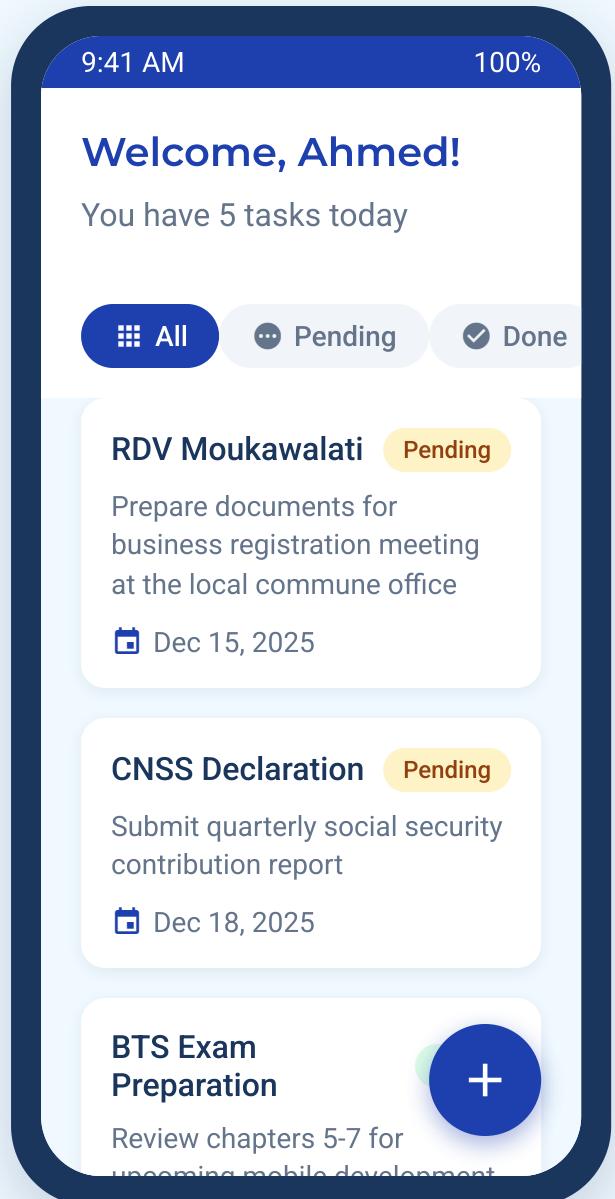


★ Features

- Quick task examples for common administrative procedures
- Smart reminders for important deadlines
- Organized categories for different types of tasks
- Moroccan context with local procedures and terms

■ Made for **Agadir citizens** to simplify daily task management

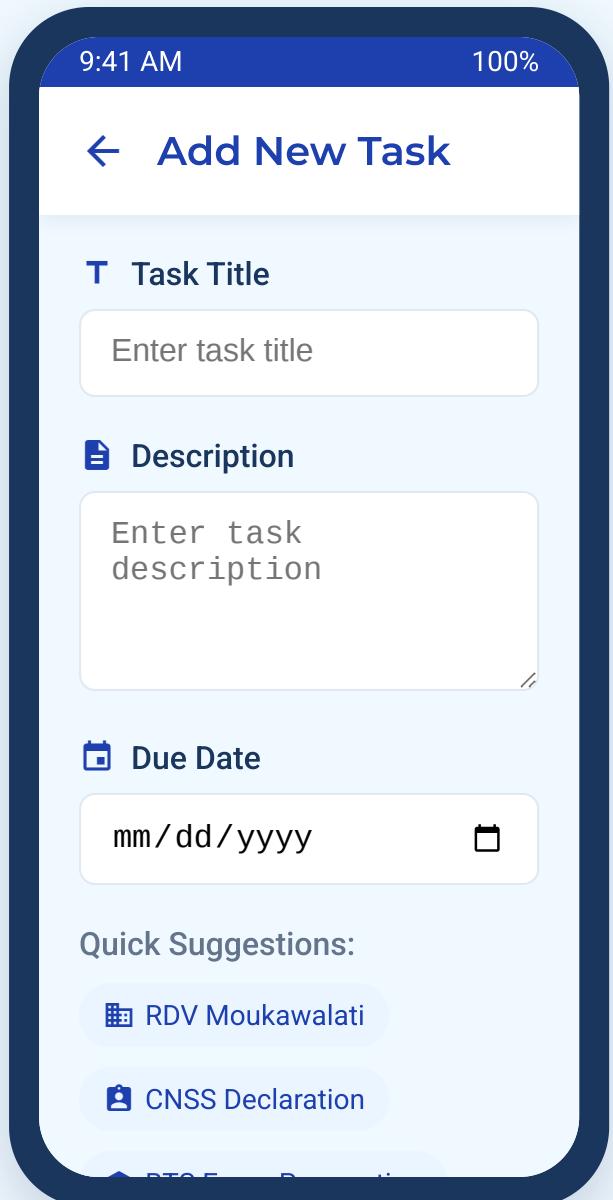
■ Mobile App - Dashboard



■ Dashboard Features

- Personalized welcome with user name and task count**
- Filter tasks by status (All, Pending, Done)**
- Task cards with title, description, status badge, and due date**
- Floating action button for quick task creation**
- Pull-to-refresh functionality for real-time updates**
- Moroccan design with blue ocean color scheme**

⌚ Mobile App - Add Task



✍ Task Creation Features

- Task title input** for clear task identification
- Description textarea** for detailed task information
- Date picker** for setting task deadlines
- Quick suggestions** for common Moroccan administrative tasks
- One-click creation** with validation and error handling
- Task history** tracking for completed and pending items

► Live Demonstration

1

👤 Registration

👁️ Show registration screen

+👤 Create new account

🔑 Receive JWT token

2

➡️ Login

✉️ Login with credentials

👉 Navigate to dashboard

3

📋 Task Management

➕ Create RDV Moukawalati task

FilterWhere tasks by **status**

✓ Mark task as **complete**

trash Delete a task

4

❖ API Testing

💻 Show API endpoints in Postman

🛡️ Demonstrate authentication

↔️ Show JSON responses

Deployment



Backend Deployed on Render

 URL: agadir-task-manager.onrender.com

 PostgreSQL database in cloud

 HTTPS enabled by default

 Environment variables configured



Mobile App

 Tested on Android/iOS emulators

 APK available for Android testing

 Ready for Play Store submission



GitHub Repository

 Complete source code

 Comprehensive documentation

 Installation instructions

 Version control with Git

🔧 Challenges & Solutions



Database Connection



Problem

Connection **timeouts** in production



Solution

Connection pooling, optimized queries



JWT Token Management



Problem

Token **expiration** handling



Solution

Interceptor to catch 401 errors, auto-logout



CORS Issues



Problem

Mobile app **couldn't connect** to API



Solution

Configured CORS middleware properly



Date Handling



Problem

Timezone **inconsistencies**



Solution

Store all dates in **UTC**, format on display

↗ Future Improvements



Phase 2 Features



Email notifications for due tasks



Push notifications



Task sharing between users



Calendar integration



Multi-language (Arabic/French)



Statistics and insights



Customizable themes



Search functionality



File attachments to tasks



Task categories and tags



Technical Enhancements



Redis for caching



WebSocket for real-time updates



Microservices architecture



GraphQL API option



Cloud storage integration



Analytics dashboard



API integrations with third-party services



AI-powered task suggestions

Project Statistics

Lines of Code

 Backend ~800 lines

 Mobile App ~1200 lines

 Total ~2000 lines

Development Time

 Planning & Design 1 day

 Backend Development 1.5 days

 Mobile Development 1.5 days

 Testing & Debugging 0.5 day

 Deployment & Documentation 0.5 day

 Total 5 days

Files Created

 Backend 10 files

 Mobile 12 files

 Documentation 6 files

 Total 28 files

✓ Conclusion



Project Success

Fully functional task management system

Secure authentication with JWT

Clean, intuitive mobile interface

Deployed and accessible online

Complete documentation



Impact

Helps Agadir citizens stay organized

Reduces missed appointments

Improves productivity for users

Easy to use for all age groups



Thank You

Questions?

Demo Not available

Code on GitHub:

<> [https://github.com/marouaneakrich/Agadir-Task-Manager]

Q&A and Resources & Contact

Common Questions

① Why React Native over Flutter?

- ✓ **JavaScript ecosystem**, reusable web development skills, large community

② Why PostgreSQL?

- ✓ **Reliable**, ACID compliant, free hosting options, widely used in industry

③ Security concerns?

- ✓ **JWT tokens**, bcrypt hashing, input validation, parameterized queries

④ Scalability?

- ✓ Can handle **thousands of users**, database indexing, potential for caching

Project Links

🔗 GitHub: github.com/marouaneakrich/agadir-task-manager

❖ Deployed API: agadir-task-manager.onrender.com

📄 Documentation: In repository [/docs](#) folder

Contact

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