**הצעת פרויקט – TaskFlow Pro**

**פיתוח תוכנה מתקדם בענן**

**Project Proposal:** TaskFlow Pro

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**Executive Summary:**

Modern organizations face significant challenges in task management. Small teams often rely on simple todo apps that lack essential features, while enterprise solutions are prohibitively expensive and complex. This creates a gap in the market for a scalable, feature-rich, yet cost-effective task management solution.

**Problem:**

Current task management solutions fail to address the needs of growing organizations:

* Personal todo apps lack role-based access control and analytics
* Enterprise systems require significant infrastructure investment
* No middle-ground solution offers professional features at reasonable cost
* Bulk operations and administrative oversight are typically missing
* Email notifications and audit trails are not integrated

**Solution:**

TaskFlow Pro is a serverless task management system built entirely on AWS cloud services. It provides enterprise-grade features without the enterprise costs by leveraging pay-per-use serverless architecture. The system automatically scales from small teams to large organizations while maintaining consistent performance and cost efficiency.

**Key Features:**

* **Role-Based Access Control**: Separate user and admin roles with group-based permissions
* **Comprehensive Task Management**: Create, read, update, delete tasks with priorities and due dates
* **Bulk Operations**: CSV import/export for efficient task management
* **Real-Time Notifications**: Email alerts via SNS for task events
* **Visual Analytics Dashboard**: Donut charts showing task distribution by priority
* **Modern UI Features**: Dark mode, search, filtering, and responsive design
* **Task Completion Tracking**: Mark tasks as complete with visual indicators
* **Overdue Task Alerts**: Automatic highlighting of overdue tasks
* **Audit Trail**: Complete logging of all system activities via CloudTrail

**Solution and Tools/Technologies (AWS Services):**

* **Amazon S3**: Static website hosting for the React-based frontend
* **Amazon Cognito**: User authentication with Gmail-only registration and group management
* **AWS Lambda**: Four serverless functions handling business logic
* **Amazon DynamoDB**: NoSQL database for task and analytics storage
* **Amazon API Gateway**: RESTful API with Cognito authorization
* **Amazon SNS**: Email notifications for task events
* **Amazon SQS**: Queue for asynchronous bulk import processing
* **Amazon EventBridge**: Daily analytics calculation scheduling
* **AWS Systems Manager**: Parameter Store for configuration management
* **AWS CloudTrail**: Comprehensive audit logging
* **Amazon CloudWatch**: Automatic logging and monitoring

