

# **AI-Powered Business Intelligence System Proposal**

**Prepared for: Magnate Ventures Limited**

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## **1. Executive Summary**

This proposal outlines an AI-powered system designed to optimize Magnate's advertising campaigns and streamline operational workflows. The solution integrates **Dynamic Creative Selection**, **AI-Driven Scheduling**, and **Automated OCR Processing** into a unified platform. The aim is to boost marketing ROI, improve operational efficiency, and enhance decision-making with minimal manual intervention.

## **2. System Overview**

The proposed system consists of **three core modules**, each targeting a specific business challenge:

1. **Dynamic Creative Selector** – Optimizes ad creative selection to maximize engagement.
2. **Greedy Scheduler** – Efficiently schedules campaigns based on priority, availability, and performance.
3. **OCR Demo** – Automates extraction of key information from invoices and purchase orders.

These modules work independently but can be integrated into Magnate's existing campaign management and operational systems.

### 3. Detailed Module Descriptions

#### 3.1 Dynamic Creative Selector

##### Purpose:

Automatically selects the highest-performing creative for a given campaign and audience context, using AI-driven prediction models.

##### How It Works:

- The user uploads or lists multiple creatives (images, videos, banners).
- The system evaluates past performance data, audience preferences, and contextual factors (e.g., time of day, platform type).
- The top-performing creative is selected in real time and pushed for deployment.

##### Key Benefits for Magnate:

- Improves campaign ROI by delivering the right message to the right audience.
- Reduces manual A/B testing time.
- Increases engagement rates with data-backed decisions.

## Magnate Ventures Limited — Pilot Demo

Dynamic creative selector • Greedy scheduler • OCR POC

### 1) Dynamic creative / context-aware selector (demo)

#### Creatives (upload or use samples)

Upload image creatives (multiple)



Drag and drop files here

Limit 200MB per file • PNG, JPG, JPEG

Browse files

Use sample creatives

#### Context controls

Weather

sunny



Hour of day

9



Use sample creatives

Coffee - morning

S1 tags=['morning', 'coffee'] pr=5

Umbrella - rain

S2 tags=['rain', 'umbrella'] pr=6

Nightlife - evening

S3 tags=['night', 'events'] pr=7

Commute - daytime

S4 tags=['day', 'commute'] pr=8

9

☐ Local event happening?

Context snapshot:

{

"weather" : "sunny"

"hour" : 9

"event" : false

}

### 3.2 Greedy Scheduler

#### Purpose:

Optimally schedules campaigns into available time slots to ensure maximum efficiency and visibility.

#### How It Works:

- Users input campaigns and their requirements (priority, duration, constraints).
- The greedy scheduling algorithm allocates campaigns to slots that maximize value without overlaps.
- Results are displayed in a clear, visual timetable.

## Key Benefits for Magnate:

- Maximizes ad inventory utilization.
- Prevents scheduling conflicts.
- Simplifies complex scheduling into a one-click operation.

## 2) Programmatic scheduler — greedy allocation demo

▼ Explain: how scheduler works (greedy)

You supply campaigns with minutes\_needed and priority. The algorithm fills the highest-performance slots first until needs are met.

### Slots (editable)

	≡ slot_id	≡ device_id	≡ capacity_minutes	≡ perf
	Slot1	D1	60	120
	Slot2	D1	60	80
	Slot3	D2	30	50

### Campaigns (editable)

	≡ campaign_id	≡ creative_id	≡ minutes_needed	≡ priority
	C1	S1	40	10
	C2	S2	50	8
	C3	S3	20	6

Run greedy scheduler

## 3.3 OCR Demo

### Purpose:

Automates the reading and processing of invoice and purchase order documents to reduce manual data entry and errors.

### How It Works:

- Users upload scanned invoices or POs.
- The OCR engine extracts relevant fields (e.g., invoice number, vendor name, amount, date).
- Extracted data is displayed, verified, and exported for further use.

## Key Benefits for Magnate:


- Cuts down manual data entry time.

- Reduces human error in financial operations.
- Accelerates document processing and record-keeping.

### 3) OCR — invoice / PO parsing (demo)

Upload invoice image. This demo uses Tesseract OCR and simple regex extraction; accuracy varies by document.

Upload invoice / PO image

 Drag and drop file here  
Limit 200MB per file • PNG, JPG, JPEG, PDF

Browse files

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End of demo. Questions? Use the contact details in the one-pager.

## 4. Implementation Plan

- **Phase 1:** Requirements gathering & system design.
- **Phase 2:** Development of Greedy Scheduler & OCR modules.
- **Phase 3:** Integration with Magnate's systems.
- **Phase 4:** Testing & training of staff.
- **Phase 5:** Deployment & performance monitoring.

## 6. Technical Details

- **Tech Stack:** Python, Streamlit, OCR libraries (Tesseract), scheduling algorithms.
- **Data Handling:** Secure upload and processing, encryption for sensitive invoice data.
- **Integration Points:** Ad management systems, CRM, financial software.

## **7. Expected Benefits**

- 60%+ reduction in scheduling time.
- 70%+ reduction in document entry time.
- Improved ad slot utilization and campaign ROI.
- Reduced human error.

## **8. Conclusion**

Adopting this solution will streamline operations, reduce manual inefficiencies, and enable faster, data-driven decision-making. By delivering personalized and timely client experiences, it will boost satisfaction, strengthen loyalty, and create a competitive edge. Ultimately, these improvements will drive consistent revenue growth and optimize resource utilization.