

## **Ad Banner Management System – Requirement Note (Optimized & Automation Focused)**

### **1. Objective**

To develop a fully automated Ad Banner Management System for TIME's digital ecosystem — covering Main Page, Course Page, Webinar Pages, Student Login Pages, and Student Home Page.

The platform should automate the entire workflow from **slot creation → client request → approval → payment → banner upload → tracking & expiry management**, with integrated notifications and reports.

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### **2. Key Roles and Responsibilities**

#### **A. Client**

1. Login via **Phone Number and OTP**.
2. **View available ad slots** across TIME's pages (with page name, slot position, dimensions, and sample preview).
3. **Raise ad placement request** by selecting slot(s) and defining duration (start–end date).
4. **Upload banner and Purchase Order (PO)** during the request submission.
5. Receive **commercial details** shared by TIME Manager (amount, payment type, installment details).
6. **Make online payment** via integrated Payment Gateway.
7. Option to **renew, pause, or extend** an active banner.
8. Access **performance reports**:
  - Total clicks and impressions
  - CTR (Click-Through Rate)
  - Page-wise performance summary

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#### **B. Manager**

1. **Add Clients** (GST, Address, Contact details).
2. **Define Slot Pricing and Validity Options** (full/installment/pay-later).
3. **Block slots manually** if client cannot raise a request directly.

4. Review and **approve client banners and POs**.
  5. Generate **quotation or proforma invoice** automatically.
  6. Set **installment breakup** with date and amount.
  7. Access **manager dashboard** showing:
    - o Pending approvals
    - o Expiring ads
    - o Revenue and collection status
    - o Slot utilization rate
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#### C. Vice President

1. Review Manager's entries and **approve/reject** with comments.
  2. Dashboard summary of all campaigns: total approved, pending, and expired.
  3. Access consolidated **financial and analytical reports**.
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#### D. PV Sir (Company Head)

1. Final **approval authority** post VP review.
  2. Receives **email with direct approval link** for each ad.
  3. Dashboard showing:
    - o Total approved ads
    - o Ongoing campaigns
    - o Total revenue and pending dues
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#### E. Accounts

1. **Attach invoices** generated from Tally.
2. **Track payments** (full, installment, pay-later).
3. Automated **reconciliation** between Payment Gateway and Tally.
4. Receive **alerts for missed/overdue payments**.
5. Access detailed **payment reports** per client and per slot.

6. System to push the details back to Tally
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#### F. IT Team

1. Define and manage **Slot Master** (page name, location, size, banner type).
  2. Receive **automatic notification** once PV Sir approves the ad.
  3. **Push approved banners automatically** to the respective slots.
  4. Maintain **backup banners** that replace expired ones automatically.
  5. Receive **expiry alerts two days before** campaign end (via mail and WhatsApp).
  6. Maintain **logs for upload, replacement, and removal** actions.
  7. No access to commercial or financial data.
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### 3. Core Functional Modules

#### 3.1 Slot Management

- Centralized slot configuration for all TIME pages.
- Real-time view: Available / Booked / Pending / Expired.
- Auto-expiry of banners post-validity with backup auto-replacement.
- Option to adjust slot rates dynamically by page type and duration.

#### 3.2 Banner Upload and Validation

- Supported formats: JPG, PNG, GIF, HTML5 (configurable).
- Size/dimension validation on upload.
- Preview feature for Manager before approval.
- **AI-based basic validation** (image dimension and inappropriate content check).

#### 3.3 Workflow and Automation

- Fully automated request cycle:  
Client Request → Manager Review → VP Approval → PV Sir Final Approval → IT Deployment → Live Banner.
- Each stage triggers **automatic mail & WhatsApp notifications**.
- Auto-generation of **Release Order** post payment and approval.
- Automated **renewal reminders** to clients before expiry.

### **3.4 Payment Gateway Integration**

- Integrated secure gateway (Razorpay/Paytm).
- Supports full and installment payments.
- Auto-update payment status in Accounts dashboard.
- Payment confirmation triggers **release order and IT upload notification**.

### **3.5 Reports and Analytics**

- **Graphical + Tabular dashboards** for all roles.
- Filters by client, page, slot, and date.
- Key metrics:
  - Active / Expired campaigns
  - Total clicks & CTR
  - Slot utilization rate
  - Revenue and payment status
- Export options: Excel, PDF, CSV.

### **3.6 Notifications (Mail + WhatsApp)**

- Triggers for:
  - Slot booking, approval, payment confirmation
  - Banner upload completion
  - Expiry reminders
  - Payment due alerts
- Integrated via WhatsApp Business API and SMTP email.

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## **4. Technical & Security Framework**

- **Role-Based Access Control (RBAC)** for user-specific access.
- **PCI-DSS compliant encryption** for payment data.
- **Activity logs** for every action (upload, approval, payment).
- **Regular backups and data archiving** for expired campaigns.
- Cloud-hosted, API-driven modular architecture for scalability.

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## **5. Design and User Experience**

- **State-of-the-art responsive design** (desktop & mobile).
  - **Clean dashboards** for each role.
  - Quick search, filters, and graphical summaries.
  - Drag-and-drop slot preview for IT and Managers.
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## **6. Key Automation Outcomes**

- **End-to-end automated approval flow** (no manual follow-ups).
  - **Automatic banner placement and removal** through IT integration.
  - **Real-time notifications** for all key actions.
  - **Centralized dashboards** for transparency.
  - **Integrated payment and accounting** without manual reconciliation.
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