**Email Marketing Template**

1. **User Management Module**

**Features**:

* User registration
* Login (including OAuth integration with Google, Facebook, etc.)
* Forgot password
* Reset password
* Account management (edit profile, update email preferences)
* Role-based access control (admin, editor, viewer)

**Functions**:

* registerUser(): Create a new user.
* loginUser(): Authenticate user login.
* forgotPassword(): Send reset password link.
* resetPassword(): Reset user password.
* editProfile(): Update profile information.
* updatePreferences(): Change user notification and email preferences.
* assignRoles(): Assign or update user roles.

1. **Email Campaign Management Module**

**Features:**

* Create, edit, and manage email campaigns
* Save email templates for reuse
* Upload HTML or use WYSIWYG editor
* Schedule emails for later
* Send emails immediately
* Add UTM parameters for tracking
* Test email feature to preview emails
* Manage email lists (segmentation)

**Functions:**

* createCampaign(): Define new email campaign details.
* editCampaign(): Modify existing campaign details.
* deleteCampaign(): Remove campaign from the list.
* saveTemplate(): Save email templates.
* scheduleEmail(): Set a date and time for email sending.
* sendEmail(): Trigger immediate sending of the email campaign.
* testEmail(): Send a test email for preview.
* addUTMParameters(): Append UTM codes to URLs in the email.
* segmentEmailList(): Group email subscribers for targeted campaigns.

1. **Email Template Designer Module**

** Features:**

* Drag-and-drop editor to create email designs
* Pre-made email templates
* HTML editor for advanced users
* Personalization tags (e.g., {FirstName})
* Save template drafts
* Mobile-responsive design

** Functions:**

* createTemplate(): Use a drag-and-drop or HTML editor to create a template.
* editTemplate(): Edit saved templates.
* previewTemplate(): View the final design on various screen sizes.
* saveDraft(): Save a template as a draft.
* loadPreMadeTemplates(): Load existing templates.

1. **Subscriber Management Module**

**Features**:

* Upload CSV/Excel of subscribers
* Add and remove subscribers manually
* Manage subscriber lists (add/remove lists)
* Segment subscribers by demographics or behavior
* Import and export subscriber lists
* Unsubscribe/opt-out management (compliance with GDPR, CAN-SPAM)

**Functions**:

* addSubscriber(): Manually or via CSV/Excel add a subscriber.
* removeSubscriber(): Remove a subscriber from a list.
* importSubscribers(): Import subscribers from an external source.
* exportSubscribers(): Export subscribers into CSV or Excel.
* segmentSubscribers(): Organize subscribers into targeted lists.
* manageOptOut(): Handle unsubscribe requests and opt-outs.

1. **Analytics & Reporting Module**

**Features**:

* Open rate, click rate, and bounce rate reporting
* Link click tracking
* Unsubscribe tracking
* Engagement tracking (best times, locations, devices)
* Heatmap for email performance
* Export reports to PDF/Excel
* Real-time analytics dashboard

**Functions**:

* viewCampaignAnalytics(): Display campaign performance metrics.
* generateReport(): Create custom reports based on filters (time, campaign, etc.).
* trackClicks(): Log clicks for individual links within emails.
* monitorOpenRate(): Track how many recipients opened the email.
* trackUnsubscribeRate(): Monitor how many recipients unsubscribed.
* generateHeatmap(): Visualize click activity within emails.

1. **Scheduling and Automation Module**

**Features**:

* Create email workflows (e.g., drip campaigns, onboarding sequences)
* Send emails based on triggers (user activity, time-based)
* Automated follow-up emails based on engagement
* Auto-resend to non-openers

**Functions**:

* createWorkflow(): Set up email sequences triggered by events.
* triggerEmail(): Send an email based on specific triggers.
* autoResend(): Resend emails to recipients who didn't open the first email.
* scheduleFollowUp(): Automate follow-up emails after engagement.

1. **API & Integrations Module**

**Features**:

* Integrations with CRM (e.g., Salesforce, HubSpot)
* Integration with e-commerce platforms (e.g., Shopify, WooCommerce)
* API to send emails from external applications
* Webhooks for event tracking
* SMS and social media integration (optional)

**Functions**:

* integrateCRM(): Sync subscriber data with CRM systems.
* integrateEcommerce(): Connect with e-commerce platforms to track purchase behaviors.
* sendEmailViaAPI(): Trigger email sending from external systems.
* receiveWebhook(): Listen to incoming webhooks for events like clicks, opens, and unsubscribes.

1. **Compliance & Security Module**

**Features**:

* GDPR, CAN-SPAM, CCPA compliance
* Double opt-in confirmation
* TLS/SSL encryption for data transmission
* IP-based access control
* Secure API keys for integrations

**Functions**:

* enableDoubleOptIn(): Ensure users confirm subscription via email.
* checkCompliance(): Verify emails for GDPR/CAN-SPAM compliance.
* applyEncryption(): Securely transmit subscriber data.
* manageAPIKeys(): Secure and manage API keys for third-party integrations.

1. **A/B Testing Module**

**Features**:

* Test subject lines, email content, send times
* Split testing across different subscriber segments
* Automatically determine the winner based on metrics (open rate, click rate)

**Functions**:

* createABTest(): Create A/B tests for subject lines, content, etc.
* trackTestResults(): Monitor the performance of the A/B test.
* selectWinner(): Automatically or manually choose the winning variation.

1. **Support & Feedback Module**

**Features**:

* In-app chat for customer support
* Feedback form for feature requests and bug reporting
* Knowledge base integration

**Functions**:

* submitSupportTicket(): Log a support issue or bug.
* sendFeedback(): Allow users to submit feedback.
* searchKnowledgeBase(): Access help articles for common questions.

**Tech Stack Recommendations:**

* **Frontend**: React.js, Tailwind CSS for UI, Next.js for server-side rendering.
* **Backend**: .NET Core or Node.js (Express), JWT for authentication, and APIs.
* **Database**: SQL Server, MongoDB for subscriber lists, or cloud-based databases like Supabase.
* **Email Service**: Integrate with third-party email services like SendGrid, Amazon SES, or Mailgun.
* **Deployment**: Azure, AWS, or Vercel (for frontend/backend) depending on your preferences.

**Project Setup (Vite + React + Tailwind CSS)**

**1- Install Vite & Create Project**

* npm create vite@latest email-marketing-app --template react
* cd email-marketing-app
* npm install

**2- Install Tailwind CSS**

* npm install -D tailwindcss postcss autoprefixer
* npx tailwindcss init

**3- Configure Tailwind CSS**  
Update tailwind.config.js:

* module.exports = {
* content: ['./index.html', './src/\*\*/\*.{js,jsx,ts,tsx}'],
* theme: {
* extend: {},
* },
* plugins: [],
* };

Add Tailwind directives to src/index.css:

@tailwind base;

@tailwind components;

@tailwind utilities;

**4. Run the Project**

npm run dev

Folder Structure

src/

|-- components/

| |-- UserManagement/

| |-- CampaignManagement/

| |-- TemplateDesigner/

| |-- SubscriberManagement/

| |-- Analytics/

| |-- SchedulingAutomation/

| |-- APIIntegrations/

| |-- ComplianceSecurity/

| |-- ABTesting/

| |-- SupportFeedback/

|-- hooks/

|-- services/

|-- utils/

|-- App.jsx

|-- main.jsx

|-- index.css