

# Email Drip Campaign System - Implementation Summary

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## Completed Components (Week 1-2 - Phase 1)

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### Database Schema

Added comprehensive database models:

- **EmailDripCampaign**: Main campaign configuration with analytics
- **EmailDripSequence**: Individual emails in sequences with timing/conditions
- **EmailDripEnrollment**: Track lead enrollment and progress
- **EmailDripMessage**: Track individual sent emails with delivery stats
- **Enums**: EmailDripCampaignStatus, DripTriggerType, DripEnrollmentStatus, EmailDripMessageStatus

### API Endpoints

Fully implemented REST API:

- GET/POST /api/campaigns/drip - List/Create campaigns
- GET/PUT/DELETE /api/campaigns/drip/[id] - Manage specific campaigns
- GET/POST /api/campaigns/drip/[id]/sequences - List/Create sequences
- PUT/DELETE /api/campaigns/drip/[id]/sequences/[sequenceId] - Manage sequences
- POST /api/campaigns/drip/[id]/enroll - Enroll leads
- POST /api/campaigns/drip/[id]/activate - Activate campaign
- POST /api/campaigns/drip/[id]/pause - Pause campaign
- GET /api/campaigns/drip/[id]/analytics - Comprehensive analytics
- GET /api/campaigns/drip/track/[trackingId]/open - Track email opens (pixel)
- GET /api/campaigns/drip/track/[trackingId]/click - Track link clicks
- POST/GET /api/campaigns/drip/process - Process scheduled emails (cron)

### Core Libraries

- **email-drip-processor.ts**: Automated email processing engine
  - Finds ready enrollments
  - Personalizes content with merge tags
  - Schedules and sends emails
  - Tracks progression through sequences
  - Handles A/B testing
  - Manages completion/bounces/unsubscribes
- **email-sender.ts**: Email delivery service
  - Nodemailer integration
  - Tracking pixel injection
  - Link tracking replacement
  - SMTP configuration

## Features Implemented

- Multi-step email sequences with delays
- Merge tags for personalization ({{business\_name}}, {{contact\_person}}, etc.)
- Email tracking (opens, clicks)
- A/B testing support
- Multiple trigger types (Manual, Lead Created, Status Change, etc.)
- Campaign analytics with detailed metrics
- Enrollment management
- Campaign lifecycle (Draft → Active → Paused → Completed)
- Skip conditions (skip if engaged)
- Send time preferences
- Comprehensive statistics tracking

## UI Components

- Main drip campaigns list page with stats cards
- Campaign table with actions (activate, pause, delete)
- Status badges and trigger type labels

## Next Steps to Complete

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### 1. Campaign Creation/Edit UI

#### Priority: HIGH

Create `/app/dashboard/campaigns/drip/create/page.tsx` with:

- Step 1: Campaign details (name, description, trigger type)
- Step 2: Email sequence builder
- Add/edit/reorder sequences
- Rich text editor for email content
- Delay configuration
- Preview with merge tags
- Step 3: Review and activate

### 2. Analytics Dashboard

#### Priority: HIGH

Create `/app/dashboard/campaigns/drip/[id]/analytics/page.tsx` with:

- Campaign performance overview
- Sequence-by-sequence breakdown
- Open/click rate charts
- A/B test results comparison
- Enrollment status distribution
- Timeline view of email sends

### 3. Email Template Editor

#### Priority: MEDIUM

- Rich text editor component (TipTap or similar)
- Template variables dropdown
- Preview functionality
- Save templates for reuse

## 4. Lead Enrollment UI

### Priority: MEDIUM

- Lead selection interface
- Bulk enrollment
- Enrollment history view
- Unsubscribe management

## 5. SMS Campaign Enhancement (Week 1-2)

### Priority: HIGH

Extend existing SMS campaigns:

- Add multi-step SMS sequences (similar to email drip)
- SMS analytics dashboard
- Better frequency capping UI
- A/B testing for SMS

## Configuration Required

### Environment Variables

Add to `.env` :

```
# Email Configuration (SMTP)
SMTP_HOST=smtp.gmail.com
SMTP_PORT=587
SMTP_SECURE=false
SMTP_USER=your-email@gmail.com
SMTP_PASS=your-app-password
SMTP_FROM="Your Name <your-email@gmail.com>

# Cron Job Security (optional)
CRON_SECRET=your-random-secret-key

# Base URL for tracking
NEXTAUTH_URL=https://nexrel.soshogleagents.com
```

### Cron Job Setup

Set up a cron job to call:

```
curl -X POST https://nexrel.soshogleagents.com/api/campaigns/drip/process \
-H "Authorization: Bearer YOUR_CRON_SECRET"
```

Run every 5-10 minutes:

```
*/5 * * * * curl -X POST https://nexrel.soshogleagents.com/api/campaigns/drip/process
-H "Authorization: Bearer YOUR_CRON_SECRET"
```

## Key Features for Week 3-4

### Automated Voice Calling Workflow

- Voice drip campaigns

- Scheduled call sequences
- Voice call analytics
- Integration with existing ElevenLabs setup

## Week 5-6: Predictive Analytics Dashboard

- Lead scoring visualization
- Conversion predictions
- Campaign performance forecasting
- Behavior pattern analysis

## Week 7-8: A/B Testing Framework

- UI for A/B test configuration
- Statistical significance calculator
- Automatic winner selection
- Multi-variant testing

## Week 9-10: LinkedIn Outreach

- LinkedIn message sequences
- Connection request automation
- Profile visit tracking
- InMail campaigns



## Database Migration

The schema has been updated and Prisma client generated.

To apply to production:

```
cd /home/ubuntu/go_high_or_show_google_crm/nextjs_space
yarn prisma migrate dev --name add_email_drip_campaigns
```



## Testing

### Manual Testing Flow

1. Create a new drip campaign (UI pending)
2. Add 2-3 email sequences with delays
3. Activate the campaign
4. Enroll test leads
5. Trigger processor: `GET /api/campaigns/drip/process`
6. Check email delivery
7. Test tracking: Open email and click links
8. View analytics dashboard

## API Testing

```

# Create campaign
curl -X POST http://localhost:3000/api/campaigns/drip \
-H "Content-Type: application/json" \
-d '{"name":"Test Campaign","triggerType":"MANUAL"}'

# Add sequence
curl -X POST http://localhost:3000/api/campaigns/drip/CAMPAIGN_ID/sequences \
-H "Content-Type: application/json" \
-d '{"name":"Welcome Email","subject":"Welcome {{business_name}}!","htmlContent":<p>Hi {{contact_person}}</p>","delayDays":0}'

# Activate
curl -X POST http://localhost:3000/api/campaigns/drip/CAMPAIGN_ID/activate

# Enroll leads
curl -X POST http://localhost:3000/api/campaigns/drip/CAMPAIGN_ID/enroll \
-H "Content-Type: application/json" \
-d '{"leadIds":["LEAD_ID_1","LEAD_ID_2"]}'"

# Process emails
curl -X POST http://localhost:3000/api/campaigns/drip/process

# View analytics
curl http://localhost:3000/api/campaigns/drip/CAMPAIGN_ID/analytics

```

## Success Metrics

- Email sequences can be created and managed
- Emails are sent automatically based on schedule
- Opens and clicks are tracked accurately
- Analytics provide actionable insights
- A/B testing shows statistical comparison
- Lead progression through sequences is smooth
- Bounce and unsubscribe handling works



## Future Enhancements (Post Week 10)

### 1. Advanced Segmentation

- Dynamic audience rules
- Behavioral triggers
- Predictive send times

### 2. Email Design Builder

- Drag-and-drop editor
- Pre-built templates
- Mobile preview

### 3. Integrations

- Gmail/Outlook OAuth
- Zapier webhooks
- Slack notifications

#### 4. AI Enhancements

- AI-generated subject lines
- Content optimization suggestions
- Best send time predictions
- Automatic A/B test creation

#### 5. Advanced Analytics

- Funnel visualization
- Revenue attribution
- Engagement scoring
- Cohort analysis

## Merge Tags Reference

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Available personalization tags:

- {{business\_name}} - Lead's business name
- {{contact\_person}} - Lead's contact person
- {{first\_name}} - First name only
- {{email}} - Lead's email
- {{phone}} - Lead's phone number
- {{city}} - Lead's city
- {{state}} - Lead's state
- {{campaign\_name}} - Campaign name

More tags can be added in `/lib/email-drip-processor.ts` → `personalizeContent()`