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AI-Powered Crypto Newsletter PRD

This product is a **cryptocurrency news newsletter** that delivers **rich, structured updates via email** three times daily (morning, afternoon, evening). Users simply enter their email to subscribe, and the system automatically curates content and sends uniform, branded newsletter editions at scheduled times. The backend pipeline uses **Apify's Twitter Scraper** to fetch the latest crypto-related tweets, then invokes the **OpenAI API** to refine and format that content into concise newsletter sections. The MVP (minimum viable product) focuses on reliability and low cost: it uses Node.js for the server, React for the front end, and Hostinger VPS hosting [1] . The goal is to deliver **genuine, high-quality crypto insights** in a clean, single-column email format that engages readers and minimizes unsubscribes [2] [3] .

Goals and Objectives

- **Timely Updates**: Deliver breaking crypto news in near-real-time. Three emails per day ensure subscribers always see up-to-date market insights without overwhelming them [2] .
- **High-Quality Content**: Only *genuine* information is included. Tweets are carefully selected (highest-engagement "top 20") and rewritten to avoid hype or errors. The OpenAI step emphasizes factual consistency and oversight, especially since crypto is financial content [4] .
- **User Engagement & Retention**: A clear, consistent format with compelling headlines and visuals encourages opens and reduces unsubscribes [5] [6] . Following best practices (branded header, concise copy, easy unsubscribe) helps keep readers active [5] [7] .
- **Scalable MVP**: Launch fast with minimal cost. Use free/cheap tiers where possible (e.g. Apify free trial, free email platform plans, Hostinger VPS) and a simple Node/React stack for maintainability [1] [8] .

Target Users

- **Crypto Enthusiasts/Investors**: People who want quick, reliable crypto news highlights without digging through social media. They expect clear summaries and trust-building elements (logos, branded design).
- **Busy Professionals**: Users who need to stay informed but have limited time. The email's structure (bullet summaries, headlines) is optimized for skimming [6] .
- **Crypto Newcomers**: Those learning about crypto trends. Well-categorized sections (e.g. *Market News*, *Top Token*, *DeFi Updates*) help readers navigate topics of interest.

Key Features and Requirements

- **Email Subscription Flow**:
- Simple signup form (email only) on a React landing page. No account/password; double-opt-in for compliance (send confirmation email).
- Subscriber database to store emails and unsubscribe requests. Unsubscribe link included in every issue [9] .

- Target email count growth up to initial cap (e.g. 1,000 subscribers).

- **Content Scraping and Curation**:

- **Twitter Scraper**: Use Apify's Twitter Scraper to collect public tweets by crypto-related keywords and hashtags (e.g. #Bitcoin, #Ethereum, #DeFi). Apify can fetch various tweet data (text, hashtags, likes, retweets) via search or profile URL [10] . Schedule scraping jobs shortly before each send time.
- **Top-20 Filtering**: For each newsletter issue, select the **20 tweets with highest engagement** (likes/retweets) across all queries. This ensures only the most relevant content. Discard duplicates and outdated items.

- **Topic Categorization**: Group tweets into predefined crypto topics (e.g., *Market Trends*, *Blockchain Tech*, *Altcoins*, *Regulation*). This aids readability. Each section lists about 4–5 tweet summaries so total ≈20 per email.

- **AI Content Generation**:

- **Refinement with OpenAI**: Pass the collected tweets into an OpenAI model (e.g. GPT-4 or GPT-3.5) with a prompt to **summarize and rewrite** them into coherent bullet points or short paragraphs. The prompt enforces a neutral tone, factual accuracy, and a concise style suitable for email. For example: "*Summarize the key point of each tweet in one sentence, focusing on factual information*."

- **Quality Assurance**: Because AI can hallucinate, implement checks: compare generated summaries with original tweet texts, and perhaps run a brief factuality check or human review for the first few issues. OpenAI itself advises **human oversight in financial contexts** to avoid errors [4] .

- **Email Composition and Design**:

- **Template Layout**: Use a **single-column email template** (optimal for mobile and desktop) with a prominent branded header (logo and color) followed by an attention-grabbing headline [5] [3] . The content is divided into sections by topic, each with a bold subheading.
- **Visual Style**: Incorporate **eye-catching visuals or icons** where relevant to match crypto themes (e.g. coin logos or charts) [3] . The example below shows a newsletter header with a fun mascot, illustrating strong branding and visual appeal:

Figure: Example of a branded newsletter header (from the "Milk Road" crypto newsletter). High-quality visuals and a consistent header reinforce brand identity.

Mailmodo's design guide highlights "eye catching visuals" and clear CTAs, while Mailchimp stresses a **branded header with logo and colors** to build recognition [3] [11] . We will follow these guidelines: use clean fonts, consistent color scheme, and short blocks of text (no walls of text). Bullet lists and bolding key terms will make scanning easy [6] .

- **Responsive and Accessible**: Ensure the template is mobile-responsive and follows email accessibility best practices (e.g. alt text for images, sufficient contrast) [12] . Each email ends with a footer containing contact info and an unsubscribe link (legally required) [9] .

- **Uniform Format**: Maintain a **consistent design/template** for every issue so readers instantly recognize the format [13] [7] . Using the same layout each time (and slotting in daily content) builds a professional, cohesive brand image [7] .

- **Scheduling & Delivery**:
- Set up **cron jobs** or scheduled tasks (e.g. `node-cron`) to trigger the pipeline at three fixed times per day (e.g. 8 AM, 1 PM, 6 PM UTC). Each run executes: scrape → process → email compose → send.

- **Email Sending Service**: Integrate a transactional email API (e.g. MailerLite, Brevo/Sendinblue, or AWS SES) to send the newsletters. For an MVP, we recommend providers with **generous free tiers**:

  - **Brevo (Sendinblue):** Free up to 300 emails/day and 100,000 contacts [14]. At 3 sends/day, this easily covers early volume.
  - **MailerLite**: Free for up to 1,000 subscribers and 12,000 emails/month [8]. This also suffices for initial growth.
    Use whichever meets the budget and provides easy API integration.

- **User Experience (UX)**:

- **Sign-up Page**: A simple React frontend with one field (email) and submit. Show a success message and explain "3x daily newsletter".
- **Confirmation & Settings**: Upon signup, send a confirmation email (double opt-in). After signup, users can manage preferences via a link (e.g. adjust topics or frequency in the future). Include a visible "Subscribe / Unsubscribe" link in each email [9].

- **Analytics**: Track opens and clicks to gauge engagement. These metrics will guide future improvements.

- **Technology Stack & Architecture**:

- **Backend**: Node.js server (Express or similar) handles scheduling, calls Apify's API, processes data with OpenAI, and queues emails. Keep the pipeline stateless where possible, storing only minimal data (tweets, logs, subscriber list).
- **Frontend**: React app (served via Hostinger or a CDN) for landing page and (if needed) an admin dashboard. Keep UI minimal since the focus is email.
- **Database**: Light database (e.g. SQLite or small MongoDB) to store subscriber emails and track which newsletters were sent to avoid duplicates.
- **Hosting**: Use Hostinger VPS for cost savings. Hostinger supports Node.js via VPS plans (starting ~$4.99/month) [15] [1]. It provides low-cost servers with root access, multiple data center locations, and a control panel. This is affordable for an MVP [15]. (Alternatively, front-end could deploy on Netlify/Vercel free tier, but we stick with one host for simplicity.)

Non-Functional Requirements

- **Reliability**: The pipeline must complete all three daily runs without failure. Implement logging and alerts (e.g. email on errors). Use Apify's proxies and error-retry logic to handle temporary scraping issues. Apify's scraper has a high success rate [10] but still may need restarts for blocked requests.
- **Performance**: Each run processes only ~20 tweets and sends one email campaign, so performance demands are low. Ensure OpenAI calls and email API calls are asynchronous to avoid blocking.
- **Scalability**: Though MVP is small, design so that it can scale to more subscribers later. Use stateless workers and allow switching to more robust email services or servers if user count grows.
- **Security**: Safely store API keys (OpenAI, Apify, email service) as environment variables. Sanitize all outputs from OpenAI before sending. Do not expose user list; use HTTPS for all endpoints.

- **Compliance**: Follow email laws (include unsubscribe link [9] , honor opt-out promptly) and Twitter's terms (Apify scrapes only public data [10]). Since we process third-party content, include a brief disclaimer (e.g. "compiled from public sources") if needed.
- **Quality Metrics**: Track **open rate**, **click-through rate**, and **unsubscribe rate**. Typical email open rates are ~30–40%, so aim to meet or beat industry benchmarks (Crypto/newsletters often see high engagement). Keep unsubscribe rate low – Mailchimp data suggests well-formatted, relevant newsletters maintain audiences [2] . Also monitor content relevance (avoid spam complaints).

MVP Strategy and Cost Optimization

1. **Free/Cheap Services**: Use free tiers initially. Apify offers a limited free plan or trial; schedule scrapes conservatively. Email via MailerLite/Brevo free plans as noted [14] [8] . Hostinger VPS at ~$5/month [15] is inexpensive. This minimizes cash outlay.
2. **Core Functionality Only**: For MVP, include only essential flows: signup, scraping, AI summarization, email send. Skip advanced features (no user login, no analytics dashboard beyond basic logs).
3. **Simple UI**: A minimal landing page with an email form and "About" info. No need for elaborate front-end – focus effort on backend pipeline reliability.
4. **Monitoring**: Use free monitoring (e.g. uptime robots for cron endpoints) to ensure scheduled tasks run.

Success Criteria

- **Subscriber Growth**: Achieve X subscribers in first month (e.g. 1000).
- **Engagement**: Open rate above 25–30% and click rate > 5%. Low unsubscribe rate (<0.5%).
- **Reliability**: 99% of scheduled emails go out on time without manual intervention.
- **Content Quality**: User feedback indicates content is valuable and accurate; no major factual errors reported (test with small internal audience first).

By delivering a **consistent, brand-aligned email newsletter** powered by automated crypto curation, this product fulfills its mission to inform and engage the crypto community. The PRD above details the features, tech choices, and design principles (with supporting industry references [3] [5] [7]) needed for a successful MVP release.

Sources: Product design relies on best practices in email newsletters [5] [6] [3] [7] , affordable tech solutions [15] [14] [8] , and up-to-date guidance on AI and crypto tools [10] [2] [4] . Each cited reference informed a specific requirement or recommendation in this PRD.

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[1] [15] 12 of the Best Node.js Hosting Platforms for 2025 (Free + Paid)
https://wpshout.com/best-nodejs-hosting/

[2] Best Frequency for Email Newsletters: Daily, Weekly, or Monthly?
https://newsletterpro.com/blog/the-best-frequency-for-email-newsletters-daily-weekly-or-monthly/

[3] [12] Free Crypto Newsletter Email Template
https://www.mailmodo.com/email-templates/crypto-newsletter-email/

[4] How to Trade Crypto with ChatGPT Agent in 2025 (Step-by-Step Guide)
https://cointelegraph.com/news/how-to-use-chatgpt-agent-for-crypto-trading

[5] [6] [7] [9] [11] [13] Email Newsletter Format: 13 Tips for Formatting | Mailchimp
https://mailchimp.com/resources/email-newsletter-format/

[8] [14] The 8 best free email marketing services in 2025 | Zapier
https://zapier.com/blog/free-email-marketing-software/

[10] How to Scrape Twitter: Benchmarks and Twitter Scrapers
https://research.aimultiple.com/twitter-scraper/