**CommSync**

**Tech Stack required:-**

**1. Technology Stack**

You'll need to choose the right stack for front-end, back-end, and real-time communication:

**Frontend (Client-Side)**

* **Framework:** React.js, Next.js, or Vue.js
* **UI Library:** Tailwind CSS, Material UI, or Bootstrap
* **State Management:** Redux, Recoil, or Zustand (if using React)
* **WebSockets for Real-Time Messaging:** Socket.io or WebRTC

**Backend (Server-Side)**

* **Framework:** Node.js (Express.js or Nest.js), Django, or Ruby on Rails
* **Database:** PostgreSQL, MySQL, or MongoDB
* **Authentication:** OAuth (Google, Microsoft, etc.), JWT, Firebase Auth
* **Email Integration:** IMAP, SMTP, or third-party APIs (SendGrid, Mailgun)
* **Real-time Communication:** WebSockets, Firebase Realtime Database, or Pusher

**Storage & Hosting**

* **Cloud Storage:** AWS S3, Google Cloud Storage, Firebase Storage
* **Database Hosting:** AWS RDS, Firebase Firestore, Supabase, or DigitalOcean
* **Application Hosting:** Vercel, Netlify (Frontend), AWS EC2, Heroku (Backend)

**2. Features to Develop**

To build a fully functional Spike alternative, you'll need to implement these features:

**Core Email & Messaging System**

* Email integration (IMAP, SMTP)
* Real-time messaging (WebSockets, WebRTC, or Firebase)
* Unified inbox (merging emails & chat)
* Markdown or WYSIWYG editor for email composition

**Collaboration & Productivity Tools**

* Shared documents (Google Docs-like collaboration)
* Calendar integration (Google Calendar, Outlook API)
* File sharing and attachments (AWS S3, Firebase Storage)
* AI-powered email sorting and smart replies

**Security & Privacy**

* End-to-end encryption (AES, TLS, or OpenPGP)
* Two-factor authentication (2FA)
* Role-based access control (RBAC)

**AI & Automation**

* Smart email categorization using NLP
* AI-powered summarization and auto-replies (OpenAI API)
* Voice notes and transcriptions

**3. Development Roadmap**

1. **MVP (Minimal Viable Product)**
   * User authentication
   * Basic email integration (send/receive)
   * Real-time messaging with WebSockets
   * UI for emails and chat
2. **Advanced Features**
   * Collaboration tools (task management, notes)
   * AI-based email management
   * Voice messages and file sharing
3. **Final Polishing**
   * Mobile responsiveness (React Native for mobile apps)
   * Security enhancements
   * Performance optimization

**4. Third-Party Services & APIs**

* **Email APIs:** Gmail API, Outlook API, SendGrid
* **Chat & WebRTC:** Twilio, Firebase, Pusher
* **AI & NLP:** OpenAI, Google Cloud NLP
* **File Storage:** AWS S3, Firebase Storage
* **Payment Gateway (if required):** Stripe, PayPal

**5. Team & Development Skills Required**

* **Frontend Developers** (React.js, Tailwind CSS)
* **Backend Developers** (Node.js, Express.js, or Django)
* **Database Engineer** (SQL, NoSQL)
* **DevOps** (AWS, Docker, CI/CD)
* **AI/ML Engineer** (If implementing AI features)