AI-Powered Productivity Project: Streamlining Corporate Workflows

Objective: Applied Product Thinking

This project demonstrates my approach to identifying user problems, making design decisions, and considering technical implications for an AI-powered solution. The goal is to explore how autonomous tools can automate tedious business tasks for individuals and small teams.

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1. Field Research

For my field research, I spoke with **Priya Sharma, a neighbor who works as a Senior Marketing Analyst at a large IT services firm in Bengaluru.**

Here's what I learned:

- **Repetitive/Frustrating Tasks:**
    - **Task 1:** "Manually aggregating data for weekly performance reports from various internal dashboards and external tools (e.g., Salesforce, Google Analytics, social media platforms)." She then has to consolidate this into a single PowerPoint or Excel summary.
    - **Task 2:** "Drafting initial versions of internal communications or status updates for different stakeholders after project milestones or team meetings." This often involves tailoring the message for different audiences (e.g., leadership, sales team, technical team).
    - **Task 3:** "Scheduling and rescheduling meetings with multiple internal and external stakeholders across different time zones, often involving several back-and-forth emails to find a common slot."
- **Easiest to Mess Up/Forget:**
    - Priya mentioned that **"manually aggregating data for weekly performance reports"** is the easiest to mess up or forget. "It's so easy to pull the wrong date range, miss a data point, or even just make a copy-paste error between tools. And if I'm rushing, I might forget to include a specific metric that a manager expects. It's critical data, but so prone to human error when done manually."
- **Experience with AI Tools (ChatGPT, Notion AI, etc.):**
    - **What Worked:** "I've used ChatGPT for brainstorming headlines for campaigns and even drafting initial bullet points for presentations. It helps when I'm stuck on how to phrase something. Notion AI is useful for quickly summarizing long meeting notes if someone else has transcribed them."
    - **What Didn't Work:** "For data aggregation, AI tools haven't been helpful because they don't connect to our internal systems or the specific APIs of the marketing platforms we use. I still have to go into each system, download reports, and

manually piece them together. And while AI can draft communications, it struggles with the specific nuances of our company's internal jargon, past project context, or the precise tone needed for a specific leader without me providing extensive, very specific prompts."

Summary & Quote:

Priya's experience highlights that while AI is useful for generic content generation, its real-world application in corporate settings is hindered by the lack of seamless integration with specific data sources and the need for highly contextual understanding. The manual data aggregation for reports is a significant pain point due to its repetitive nature and high potential for error.

"*"The manual data consolidation for my weekly reports is a nightmare. I spend hours just pulling numbers, and it's so easy to make a mistake that could lead to wrong decisions. I wish AI could just connect to all my data sources and give me the summary directly."* - Priya Sharma, Senior Marketing Analyst"

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2. Defined Use Case

Based on my field research, I've chosen to focus on the task of **Automating Weekly Marketing Performance Report Data Aggregation and Summarization.**

- **Why it's worth solving:**
    - **High Frequency & Time Sink:** This is a weekly task taking significant time (Priya mentioned "hours"), which accumulates to a substantial time drain over a month.
    - **High Risk of Error:** As Priya pointed out, manual data pulling and consolidation is highly prone to human error (wrong dates, missed metrics, copy-paste mistakes), leading to potentially flawed strategic decisions.
    - **Repetitive & Low-Value-Add:** The act of pulling raw numbers is tedious and offers little strategic value in itself; the value comes from the analysis, which is currently delayed by manual aggregation.
    - **Directly Impacts Decision Making:** Accurate and timely performance reports are crucial for marketing strategy, budget allocation, and team performance reviews.
    - **Leverages AI Strengths:** AI can excel at data extraction, pattern recognition, and summarization, making it well-suited for this problem.
- **What a great outcome would look like for that user:**
    - Priya would simply define the required metrics, data sources (e.g., Salesforce, Google Analytics, social media platforms), and reporting period once.
    - The AI agent would automatically connect to these sources (where APIs permit), pull the relevant data, consolidate it, and generate a pre-formatted summary or even a draft presentation slide/email highlighting key trends and anomalies.

- This would reduce the report generation time from hours to minutes, virtually eliminate data entry errors, and allow Priya to focus her time on *analyzing* the data and formulating strategic recommendations, rather than just compiling it.
- She would have high confidence in the accuracy of her reports, leading to better-informed business decisions for her firm.

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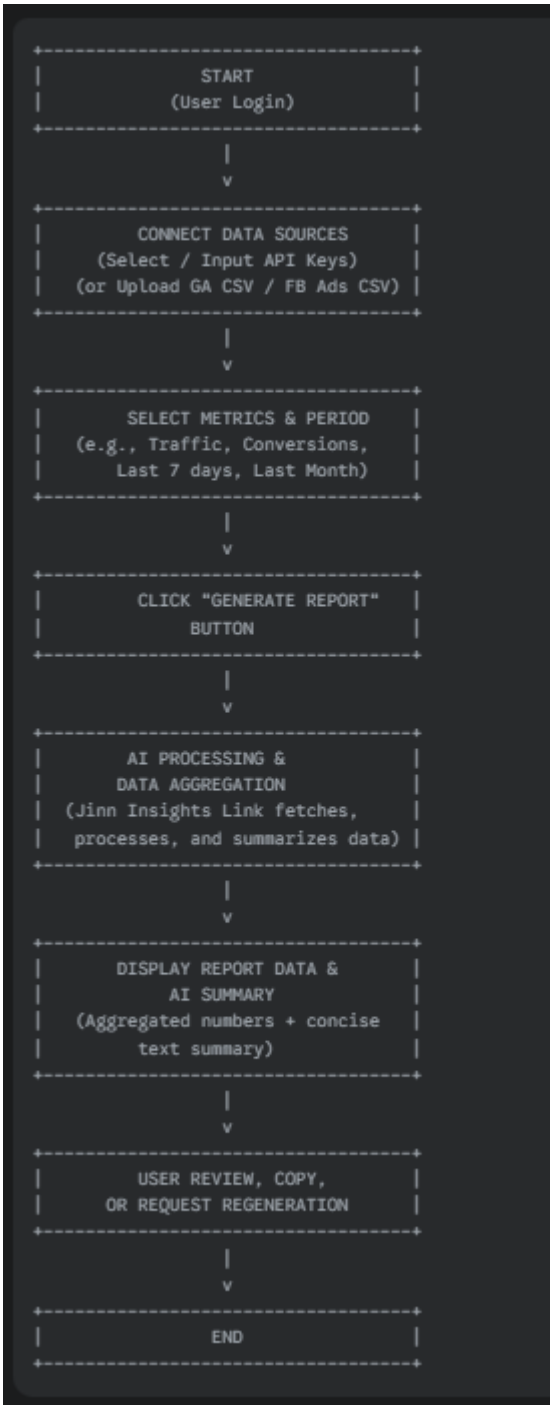
3. Proposed Lean AI-Powered MVP

MVP: An AI Agent for Basic Marketing Data Aggregation & Summary

This MVP will focus on connecting to a *limited set* of common marketing data sources (initially focusing on easily accessible public APIs or structured uploads) to aggregate and summarize key performance metrics.

- **Input, Output, and Basic UX:**
  - **Input:**
    - **Source Configuration:** User selects data sources (e.g., "Google Analytics," "Facebook Ads," "Google Ads"). For MVP, user provides API keys/credentials (or uploads CSVs if direct API is too complex for initial build).
    - **Metrics Selection:** User selects specific metrics to track (e.g., "Website Traffic," "Conversion Rate," "Ad Spend," "Impressions," "Engagement").
    - **Reporting Period:** Date range selector (e.g., "Last 7 days," "Last Month," custom range).
    - **Desired Output Format/Tone:** Dropdown (e.g., "Summary Paragraph," "Bullet Points," "Key Highlights," "Formal," "Concise").
  - **Output:**
    - A dashboard-like view showing aggregated numerical data for selected metrics.
    - A concise, AI-generated summary paragraph or bullet points highlighting key performance trends (e.g., "Website traffic increased by 15% WoW," "Ad spend decreased, but conversions remained stable").
    - Option to "Copy to Clipboard" for easy pasting into reports/emails.
  - **Basic UX:**
    - A simple web-based interface.
    - Clear "Add Data Source" and "Configure Report" sections.
    - A prominent "Generate Report" button.
    - A clean display area for the aggregated data and AI summary.
- **User Flow Sketch (conceptual):**



- **Technical Building Blocks:**
    - **Frontend Framework:** React or Vue.js for a dynamic user interface.
    - **Backend Server:** Python (Flask/Django) or Node.js (Express) to handle API calls, data processing, and communication with AI models.
    - **Database:** PostgreSQL or MongoDB to store user configurations, connected source details (securely encrypted), and generated report history.
    - **Data Source APIs/Libraries:**
        - Google Analytics API: To pull website traffic, conversion data.

        - Facebook Marketing API/Google Ads API: To pull ad spend, impressions, click data.
        - (Alternatively for MVP): Libraries for parsing common CSV formats if direct API integration is deferred (e.g., Pandas in Python).
    - **AI Model API:**
        - OpenAI's GPT-3.5 or GPT-4: For natural language summarization and identifying key trends from the aggregated numerical data.
        - Anthropic's Claude: Another strong option for text generation and summarization.
    - **Authentication & Authorization:** Secure user login and management (e.g., Firebase Auth, Auth0, or custom JWT).
    - **Job Queue/Scheduler (basic):** For handling potentially longer-running data fetching tasks asynchronously.
- **Tradeoffs or Constraints:**
    - **API Integration Complexity & Scope:** Integrating with *all* desired marketing platforms immediately is a large undertaking. The MVP would start with 1-2 most common or easiest-to-integrate APIs (e.g., Google Analytics). Many internal corporate tools might not have external APIs, requiring initial CSV uploads.
    - **Data Volume & Performance:** Handling very large datasets efficiently across multiple sources could be a performance challenge without robust data warehousing solutions (too complex for MVP).
    - **AI Summarization Depth:** The AI summary in an MVP might be general, identifying obvious trends, but lacking the deep, nuanced insights a human analyst would provide without very specific prompting and complex data analysis capabilities.
    - **Security of Credentials:** Handling sensitive API keys/credentials requires robust encryption and security practices, which adds complexity.
    - **Cost of AI & API Calls:** Each API call to external data sources and the LLM incurs costs, which need to be managed.
    - **"Garbage In, Garbage Out":** If the raw data from sources is inconsistent or poorly structured, the AI's summary will reflect those issues.
    - **Limited Customization for Reporting:** The MVP would offer basic summarization, not a fully customizable report builder with charts and graphs, focusing purely on aggregated numbers and text summary.
    - **Compliance/Data Residency (Bengaluru context):** If the data processed is sensitive, considerations for data residency laws and compliance (e.g., GDPR, local Indian regulations) would be a future concern, though less critical for a lean MVP.