Hackathon Proposal

A Better Way To Do Business

HARDPOINT CONSULTING

Objective:

Design innovative AI-driven solutions to address real-world challenges faced by Small and Medium Enterprises (SMEs), leveraging generative AI technologies such as LangChain, LlamaIndex, custom coding, or a combination of the three to create impactful tools.

1. Define Scope and Requirements

- **Input:** Real-world business problems faced by Small and Medium Enterprises (SMEs). SMEs consist of startups, service companies, mom-and-pop shops, etc.
- **Output:** AI-driven tools tailored to solve the needs of the SME business owner.
- **Accuracy:** Solutions should aim for a high level of relevance and usability, with measurable outcomes where possible.

2. Problem Identification

- **Ideation:** Think of ways to use AI to help SMEs plan for the future, reduce stress and complexity, increase sales or profit margins, etc. Also remember that many SMEs do not have large budgets or significant technical skills. What can you build that will be easy to use and make their lives better? Note that this task goes beyond building a chatbot. While your solution must incorporate generative AI, it can also utilize traditional automation and machine learning techniques to create a truly unique solution.
- **Potential Topics:** Competitors are more than welcome to pick any of the topics in this list. However, please do not view this as something that limits your creativity. Solutions that are not on this list will be valued just as highly as long as they meet the objective.
    - Automating the creation of a well-researched SWOT analysis
    - Automating in-depth market research and providing a detailed report
    - Automating the creation of business proposals
    - Automating the creation of marketing content that is exceptionally on-brand
    - Anything else you can think of that meets the objective of this hackathon

3. Solution Design and Development

- **Preprocessing:** Identify the data necessary to solve the problem (e.g., business data, market data) for AI processing. Then automate the collection and cleaning of the data to the greatest extent possible to reduce the burden on the business owner. (Hint: collection can come from asking the business owner their opinion/desire, traditional web scraping, AI agents, and more.)
- **AI Integration:** Use the processed data and AI to solve the problem.

4. Data Validation and Quality Assurance

- **Automated Checks:** Implement algorithms to validate the extracted data (e.g., year format, author names).
- **Manual Review:** Establish a process for manual review, especially for critical or complex sections like 'Core Findings'.
    - This will likely need to be integrated at every extraction task labeled above.

5. User Interface

- **UI for Review/Editing:** Create a simple interface for users to review, edit, and confirm entries before final submission to the database.

6. Testing and Iteration

- **Prototype Testing:** Test the system to ensure the outputs adhere to the Triple-H rule (Helpful, Harmless, and Honest). Work to mitigate risks of the model generating outputs that could harm the business or its brand in any way.
- **Integrated Feedback Loop:** Allow users to provide a simple thumbs up or down. Also, please allow for unstructured text responses that can be used to state why the user voted the way they did.
- **Iterative Improvement:** Build in a way to continuously improve the model and process based on feedback and performance.

7. Documentation and Demonstration

- **Documentation:** Create documentation that is easy to follow, explains your code, and outlines the architecture of your solution in detail.
- **User Guides:** Prepare detailed “how to” documentation for end-users.
- **Demonstration:** Prepare a comprehensive presentation of the solution, including a live demo where possible.
- **Impact Assessment:** Highlight the potential impact on SME operations, efficiency, and decision-making.

8. Deployment and Maintenance

- **Deployment Strategy:** Determine how the software will be deployed (cloud-based, local server, etc.).
- **Maintenance Plan:** Establish a maintenance plan for software updates, model retraining, and database management.

9. Considerations and Challenges:

- **Accuracy vs. Automation Trade-off:** More automation can lead to lower accuracy. Balance is crucial.
- **Model Bias and Limitations:** Language models might introduce biases or misunderstand complex concepts. Do your best to mitigate these risks.
- **Keep The Project Python:** Keep as much of the project as possible python based so a large number of community members can benefit from it.
- **Get creative:** Go beyond the chatbot hype and create a tool that truly helps SMEs.
- **Try different models:** You can experiment with different models, both open and closed source. This includes GPT 3.5 and GPT 4 from OpenAI, any of Anthropic's models, open source models, models that you fine tune, etc.
- **Restrictions:** While you can use the concepts for inspiration for use with other frameworks like LangChain and LlamaIndex, we ask that you please **do not** use OpenAI's Assistants or GPTs.