### **Oregon Blockchain Group**

# **Consulting Report**

# **Triangle Labs' Atlas**



March 2024



The Oregon Blockchain Consulting Group (OBGC) is a community-oriented, studentled organization working to provide a competitive level of service. As a subset of Oregon Blockchain Group, our scope of consulting consists of token logic, internal governance, marketing outreach, tokenomics, data analysis, product and workflow testing, business development, and qo-tomarket strategies. For more information, please visit oregonblockchain.org.

Established in 2022, Triangle Labs crafts web interfaces. Like others, they are pushing the human condition forward with technological advancements in artificial intelligence shaping the modern era. Investors currently are Collab Currency, Kindred, Coinbase, and Distributed Global.





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### **Executive Summary**

#### Atlas Background and Project Overview

Atlas is an advanced LLM platform akin to ChatGPT, allowing users to create customized cores, resembling sections, where they can upload documents and links. The chatbot utilizes these resources (and the internet) with retrieval augmented generation (RAG) to provide tailored responses and insights, enhancing the user's experience with comprehensive and relevant information retrieval. OBGC is partnering with Triangle Labs to product test and professionally develop Atlas.

#### **Clientele Advisory Objectives**

- 1. How easy is product use?
- 2. Who is the best person to use this product?
- 3. How does user experience feel (Success v Satisfaction)?
- 4. What is the appropriate input to provide the best output?
- 5. How can Triangle Labs optimize its business model?

#### **Oregon Blockchain Consulting Findings**

The Oregon Blockchain Group conducted regular surveys among its members and meticulously logged significant prompts and key assessments into a spreadsheet. OBGC rigorously analyzed and experimented with various iterations to optimize efficiency. Below is a devised comprehensive business model to bolster brand visibility, implement pay scaling strategies, and offer additional benefits.

#### Arya Krishnagiri and Sean Casey

Oregon Blockchain Consulting Directors





# Value Proposition

ChatGPT, Gemini, & Meta Al are not your competition.

These companies and similar ones are large-cap entities that can spin off multi-billion-dollar divisions to support their Al infrastructure. The goal of each of these companies is to create a large general intelligence – potentially even a super intelligence – based on the data they have collected over the years. Meta alone is notorious for data collection so much so that it has become a social & national concern, having to meet with Congress multiple times {1}. Furthermore, Gemini (Google) knows all our search history & OpenAl's now Microsoft can give the company access to its four hundred million Outlook {2} accounts & other subsidiary customers' information. The point is Atlas cannot compete in this competition due to the sheer lack of data availability & resources, but that is Atlas's advantage.

ChatGPT was not the end-state turning point of society, but it was a turning point in how people viewed AI could now infiltrate our lives. There is even exceptionally good research that the **transformer model will not be the model** to create a superintelligence that will run our lives.

So how can Triangle Labs capitalize:

Let me run you through a story...





OBGC x Triangle Labs

The year is 2024, the sun is shining, birds are chirping, and you are sitting with a nice cup of coffee banging your head on a table. You have a 5question, 10-part assignment on macroeconomics. Every time you submit a part a new one appears, and you spend time running through the calculations, putting them in ready for the next section. "WHAT! How could it not be 67.5 chickens!" \*\*This answer is incorrect\*\*. You are lost, do not even know how to start, and your attempts just are not working. Do you decide to use the internet to get information your professor cannot answer for you?

You find your exact question on a site \*\*Blocked for a subscription\*\*, again \*Blocked for a subscription\*. You do not want your grade to cave under some busy work assignment, your major is not even in economics, it's marketing. You cave & buy the subscription \*\*No one has answered this question\*\*.

The Problem: You must wait for a response time.

#### Atlas Value Proposition:

Atlas can become an elite platform where students do not have to wait for a response time & instead of crowd-sourcing answers, Atlas can crowdsource information for its Al cores.

#### Base tier

Atlas can offer an organized way to store your class information with an Al that can interpret it. Students can upload their slides, textbooks & other forms of content to create an Al virtual assistant that will help them autogenerate study materials, help with questions, answer homework, etc.





#### Access to a market of Cores

Students will have a limited number of materials at their disposal & it might not be enough to train even a specialized AI properly. To combat this Atlas can house a marketplace of more developed cores that aggregate same subject – or same class – information into a single core for more correct information.



For homework help Atlas can also use OpenAl's strategy of human reinforcement learning {3} by giving Atlas homework questions, having the Al create a response, and then giving a reward to those that can create the correct answer & keep the model on that feedback.

#### Monetization:

- 1. Atlas can remove some of the homework help or study guide features from the base tier & have them be a paid-for service for their customers.
- 2. Atlas can have an app store-like core market where some cores are out for free, but aggregate cores are sold at a premium.
- 3. Atlas can use a core access limit that the user must pay more or a subscription to be able to access an unlimited number of cores (See Revenue Streams).





# **Customer Segments**

Understanding the diverse customer segments is fundamental for Atlas to tailor its product offerings and marketing strategies effectively. By aligning product features and messaging with the specific needs and preferences of these segments, Atlas can enhance its value proposition and drive user engagement and adoption.

#### 1. University Students:

- **Description:** This segment comprises undergraduate and graduate students pursuing academic studies at colleges and universities.
- Needs and Pain Points: University students seek assistance with coursework, assignments, research, and exam preparation. Their pain points include time constraints, difficulty understanding complex concepts, and the need for additional support in learning and academic achievement.
- **Recommendation:** Atlas should prioritize features and resources tailored to university student's academic needs, such as study aids, research tools, and exam preparation guides.

#### 2. High School Students:

- **Description:** High school students preparing for standardized tests, such as the SAT or ACT, represent a significant segment.
- Needs and Pain Points: High school students require guidance and resources to improve test scores and gain admission to desired colleges or universities. Pain points include test anxiety, time management challenges, and the need for effective study strategies.
- **Recommendation:** Atlas can develop specialized resources and study materials targeting high school students' test preparation needs.





#### 3. Online Learners:

- **Description:** With the rise of online education platforms, there is a growing segment of learners seeking digital tools for studying and skill development.
- Needs and Pain Points: Online learners value convenience, flexibility, and personalized learning experiences. Pain points include access to quality educational content, engagement in self-paced learning, and effective time management.
- **Recommendation:** Atlas should offer a seamless and intuitive user experience tailored to online learners' preferences. Incorporating features such as interactive tutorials, self-assessment quizzes, and progress tracking can enhance user retention and satisfaction.



#### 4. Educators and Instructors:

- **Description:** Educators and instructors who utilize AI and technology-enhanced learning tools represent a potential customer segment for Atlas.
- Needs and Pain Points: Educators seek innovative solutions to enhance student engagement, improve learning outcomes, and streamline instructional processes. Pain points include resource limitations, student

motivation, and assessment effectiveness.

• Recommendation: Atlas can develop collaborative features and tools for educators, such as lesson planning templates, student progress dashboards, and peer collaboration forums. Providing training and support resources can increase adoption and satisfaction among educators.





#### 5. Parents and Guardians:

- Description: Parents and guardians of students may seek tools and resources to supplement their child's education and address learning challenges.
- Needs and Pain Points: Parents value tools that support their child's academic success, address learning gaps, and provide visibility into academic progress. Pain points include difficulty in identifying effective learning resources, tracking student performance, and ensuring academic accountability.
- *Recommendation:* Atlas can offer parent-friendly features and resources, such as progress reports, educational content recommendations, and parent-teacher communication channels. Providing access to parent support communities and educational webinars can enhance parent engagement and satisfaction.









# **Customer Relations & Channels**



**Online Platform (Owned Channel):** Atlas could enable users to directly engage with the AI through its online platform, facilitating dynamic conversations and empowering users to enhance the AI's capabilities by uploading pertinent documents or links.

-An introduction page to explain the concepts of Atlas and its use cases.





**Partner Integrations (Partner Channels):** Exploring integration opportunities with various partner platforms and tools could broaden Atlas's reach and functionality, fostering seamless collaboration across different workflows and applications.

- -Canvas
- -Grammarly
- -Chegg
- -Quizlet



API Access (Partner Channels): Offering API access would allow businesses and developers to customize and integrate Atlas's AI capabilities into their applications, expanding its utility to new contexts and use cases.

#### Educational Institutions and

**Enterprises (Partner Channels):** Forge strategic partnerships with educational institutions and enterprises to tailor Atlas's offerings to meet specific needs, providing specialized services such as **content generation and knowledge management solutions**.

- -student discounts
- -tests using Al/ without Al

**Social Media and Content Marketing (Owned Channel):** Utilizing social media platforms and content marketing strategies could enable Atlas to connect with users, delivering valuable insights and cultivating a vibrant community focused on Al-driven knowledge management.

- -LinkedIn: ads, student promotion
- -Twitter: retweets, AI news





### Resources

Atlas's key resources are segmented into five primary categories: team, intellectual property, financial capital, infrastructure, and partnerships.



#### Team

As an early-stage startup, Atlas operates with a lean team primarily consisting of its founders and developers. This dynamic allows for agile decision-making and a hands-on approach across various functions such as engineering, operations, finance, sales, and legal.

#### Intellectual Property

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As for intellectual property, Atlas currently does not hold any patents or trademarks over the ability to create and use cores in an Al tool. They also do not hold any trademarks or patents over their UX / UI design, and more generally, Atlas currently does not hold any patents or trademarks over anything regarding their platform.





#### Financial Capital

Atlas receives most of its funding through VC investors. They have received funding from numerous companies. Their only financial capital now includes current cash on hand. Atlas is not currently generating revenue from its product (although it most likely will in the future), and they have minimal costs because they do not have a physical office or an extensive team of employees.

#### Infrastructure

Atlas adopts a strategic approach to infrastructure, relying on third-party Al services provided by Mistral Al and cloud-based storage solutions. By eschewing ownership of computing resources and physical servers, Atlas ensures scalability, cost-effectiveness, and operational agility. The company's extensive codebase, housed and maintained on GitHub, serves as a foundational asset driving innovation and product development.



#### Partnerships

Atlas has cultivated a robust network of strategic partnerships, particularly with prominent VC investors and industry stakeholders. Collaborations with Coinbase, Kindred, and Distributed Global not only infuse capital but also provide invaluable expertise and resources for product refinement and market expansion. Additionally, partnerships

with organizations like the Oregon Blockchain Group contribute to Atlas's product quality and market validation. The active online community surrounding Atlas underscores its widespread support and potential for future growth.





### **Revenue Streams**

Atlas can benefit most from a 3-tiered payment system.

Tier 1	Tier 2	Tier 3
Pay a one- time charge to permit them to create a constrained number of new cores with a capped amount of data on each, and all their cores are public.	Pay a <b>one-</b> <b>time</b> charge to upload <b>slightly more</b> <b>data</b> to each core, and all their cores are public.	Pay a monthly price to gain access to unlimited cores, unlimited data, and a marketplace for cores. Also, a user has the choice to create private/public cores.





### Free option:



A user is capped on the number of cores and the amount of data in each core, and all their cores are public.

The thought processes behind our above strategies are as follows:

We view Atlas's cores as like Spotify's playlists; the cores, like playlists, become very sticky when the user has spent time creating and curating information. As cores/playlists become increasingly unique, it becomes difficult for users to switch to another service provider. The objective then is to make switching costs as high as possible before confronting the user with a paywall. The switching cost must be greater than the cost to pay for the service.

Tier 1 is for users who require more cores for more classes, whereas Tier 2 is for users who are in more dataintensive courses and require greater depth within their cores for classes. All cores from the free version, Tier 1, and Tier 2 will be displayed in the marketplace, creating strong network effects to power interest in Tier 3.

Tier 3 permits users unlimited cores and data for classes, offering depth and breadth. By far, the biggest value added to Tier 3 users is that they gain access to a catalog of cores from free, Tier 1, and Tier 2 users.





### **Key Partners**

For Al companies to achieve long-term growth, partnerships are crucial. These partnerships can be categorized broadly:





- **1. Technology Providers:** This includes companies offering software, hardware, or infrastructure necessary for AI development and operation.
- **2. Cloud Services:** These providers offer cloud computing resources for running and scaling Al applications.
- **3. Data Providers:** These entities possess valuable data sets that can be used to train and improve AI models.
- **4. Industry Partners:** Collaborations with companies in relevant industries can lead to specific applications and domain knowledge integration.
- **5. Academia and Research Institutions:** These partnerships foster innovation through collaborative research and access to expertise.
- **6. Additional Funding:** Venture capitalists and angel investors provide capital for growth and development.

Academia and research institutions are the key partners for Atlas. The platform, designed for students, changes the landscape of standardized testing. Large research institutions also serve as suitable places for data collection for LLM training.

As Al becomes more integrated into daily life, prompt engineering and understanding of how to communicate with Al becomes paramount. A unique partnership could involve the College Board to develop a new exam section where students can use Al. The questions could be designed to require students first to use the Al to understand concepts and problems, then prompt it to support their work, such as coding a website or writing a short passage.

Technology-based services and firms offer various partnership opportunities. This could involve collaborating with complementary businesses or cloud service providers like AWS, Azure, and Google Cloud. C3.ai serves as a compelling case study for such partnerships with **three** notable examples. In 2018, they partnered with Microsoft to create a "better together" solution, integrating C3.ai's low-code platform for





scaling AI and IoT with Microsoft Azure. Additionally, C3.ai partnered with Raytheon to support the US Air Force's Rapid Sustainment Office. {4}

Monetization is a struggle for young Al startups. Angels and VCs are key partners in sustaining early growth and scaling the business to maximum revenue capture. Twin Ventures is a fund founded by twins Snehal and Swapnil, successful entrepreneurs who invest in early-stage Al startups as angels or pre-seed investors. They have built a network of partnering VCs to collaborate and co-invest in Seed and Series A rounds. This could be an excellent firm to partner with as a young Al startup.





# **Key Activities**

When considering key activities, Atlas possesses the foundational elements necessary to achieve its objectives. While the AI chatbot functions adequately, albeit at a level slightly below GPT-3.5, its ability to browse the users' cores to answer user inquiries **adds value** to its service offering.

However, a significant challenge arises concerning the functionality of cores, which serve as crucial reference points for the chatbot's responses. Although some team members have managed to find functional cores, OBGC has encountered difficulties in this regard. Cores serve as repositories of data relevant to the user's query. Yet, Atlas refrains from disclosing its storage mechanism, indicating that much of the data is embedded within the model's behavior. This dynamic adaptation process enables the language model to enhance its responses over time.

Cores also enable users to upload subject-related data, enhancing the chatbot's contextual understanding. Additionally, Discover cores, comprising aggregated data from multiple users, offer a higher level of customization. However, despite the conceptual framework, several operational challenges persist, particularly in the chatbot's ability to reference cores effectively.

To address these issues and enhance user experience, it is imperative to prioritize core refinement and streamline the chatbot's self-awareness capabilities. Furthermore, integrating the chatbot seamlessly into various platforms commonly used by students, such as Canvas and Blackboard, could unlock additional monetization opportunities. By offering Atlas as an extension for modern assignment and homework workflows, the platform can tap into new revenue streams while catering to evolving user needs. Overall, optimizing Atlas's functionality and accessibility is essential for driving long-term growth and profitability in the competitive Al landscape.





# Survey and Prompt Optimization Analysis













The survey data collected from various users between January 28, 2024, and March 3, 2024, provides insight into their experiences with the Atlas platform. Users uploaded various materials, including PDFs, DOCX files, links, and copied text, encompassing class notes, syllabi, textbooks, assignments, projects, articles, quizzes, and more. Feedback on Atlas's performance varied, with some users reporting success in obtaining answers to their questions, while others encountered issues such as application errors, crashes, and difficulties accessing or losing uploaded files. Although overall satisfaction levels were generally positive, users expressed frustration with bugs and limitations, including deleted cores, inability to reference cores effectively, and occasional inaccuracies in responses. Some users were surprised by the platform's inability to read certain file types or its responses to specific queries.

TERM OVERVIEW					
SPRINT 1		SPRINT 2			
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	
Everybody	Get to know triangle labs     Get to know th UI and the     product	Besearch AI applications for sudents (products, use cable competitors, innovations)     Deliverable?	Thoughts on Triangle Labs so far     Problems and Issues     First impressions     What has changed     Deliverable?	INTERNAL CHECK IM Is this system working Should we change our strategy External Continue Research on Al applications for students (products, use cases, competitors, new innovations) Deliverable?	
Low (Dhru, Sean)	Notes from class     Syllabus	Notes from class     Assignment and Quizzes	Notes from class     Assignment and Quizzes     I outside resource	Notes from class     Assignment or Quizzes	
Medium (Owen, Nick)	Notes from class     Assignments and Quizzes     Syllabus	Notes from class     Assignments and     Quizzes     Projects     1 outside resource	Notes from class     Assignments and Quizzes     Projects	Notes from class     Assignments and     Quizzes     Projects     1 outside resource	
High (unlimited) (Bobby, Arya)	Notes from class     Syllabus     Ploutside resource     Quit or Assignments	Notes from class     Projects     Assignments and     Quizzes	Notes from class     Projects     Assignments and Quizzes     1 outside resource	<ul> <li>Notes from class</li> <li>Projects</li> <li>Assignments and Quizzes</li> </ul>	

Suggestions for improvement included better handling of uploaded files, improved error handling, increased responsiveness to commands, and enhancements to core referencing capabilities. While users acknowledged the platform's potential, they emphasized the need for ongoing enhancements

#### Figure B3

to address usability issues and improve overall functionality.

Starting this project, we opted to separate our team into groups of three based on input levels (low, medium, high). Our calendar {**Figure B3**} denotes the separation of teams that allows us to simulate varying student behaviors. By cross-referencing input levels with AI performances, we can derive key performance indicators.





Our main sources of starting content were mostly class notes in the forms of PDFs and documents {**Figure B1 and B2**}.



#### Figure B4

Above is a chart **{Figure B4}** tracking our movements over the project. Highlighting the success and satisfaction of our team members over 10 weeks. Starting at an average of **8**, where members felt satisfied and accomplished through its uses. A steady decline as many encountered bugs, lack of comprehension, and inability to reference its previous inputs. A steep drop-off associated with the huge change in UI/UX design put our progress to a halt, rendering the platform nearly unusable. As Atlas implemented changes, the group noticed further improvements.







Figure B5

OBGC documented a workbook **{Figure B5}** collecting our inputs and outputs. It also includes a rating system, cores utilized, and feedback.

Atlas demonstrates a varied performance across the questions asked. Let's break down its performance by a few specific categories:

**Cash Budgeting Disadvantages:** The AI provides a **comprehensive explanation** of why accurate estimation, and timely updates are crucial for cash budgeting. It correctly identifies the factors that accentuate the disadvantage. However, it fails to address the other options, missing an opportunity to provide a complete analysis. Overall, the response demonstrates a good understanding but lacks completeness.

**Calculation of EBITDA:** The AI **delivers a thorough response**, explaining the significance of calculating EBITDA for financial analysis. It provides a **comprehensive understanding** of why EBITDA calculation is essential. This response showcases the AI's ability to provide detailed and informative explanations.





Quarterly Monitoring Tool: In this case, the Al directly addresses the question and identifies an appropriate tool for quarterly monitoring. It correctly identifies "Accounts receivable aging" as an appropriate tool, showcasing its ability to provide accurate and relevant information.

**Poetry Attribution and Themes:** In the responses related to the poem "Weaver" by Grantland Rice, the Al provides incorrect answers, indicating confusion or misattribution regarding the authorship of the poem. Additionally, it fails to address the themes explored in the poem, showing a **lack of comprehension** in this context.

**CB Annualized EBITDA Coverage Ratio**: This response seems to be **incorrect** as it discusses a different topic related to covenants instead of addressing the given question. It appears there might have been a mix-up or **misinterpretation** of the question. This demonstrates a **limitation** in the Al's ability to accurately interpret and respond to questions at times.

Overall, Atlas demonstrates a mix of strengths and weaknesses in its performance. It can provide detailed explanations and relevant information in some cases but may struggle with accurately interpreting and responding to certain types of questions, particularly those involving the interpretation of literature or creative works.







### Note to the Reader

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