

Project Business Case

Group No 3 – Team Members

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Project Name AdviseWise: AI-Powered Academic Advising System 🎓	Project Manager(s) Tejal Palwankar, Shubham Patil, Tanmay Doke, Ishita Trivedi, Manali Chaudhari.
Description <p>The AI-Powered Academic Advising System is a transformative project designed to revolutionize the academic advising process at Syracuse University. Leveraging advanced artificial intelligence (AI) technologies, the system aims to provide personalized guidance to students throughout their academic journey. By analyzing individual student profiles, academic history, and career aspirations, the system will offer tailored recommendations, career path insights, and real-time feedback to enhance overall academic success.</p>	Scope <p>The project will focus on developing an AI-powered system that provides personalized academic guidance, career path alignment, efficient scheduling assistance, real-time performance monitoring, an interactive chatbot interface, historical data analysis, goal alignment and progress tracking, integration with learning analytics, notifications and reminders, and a feedback mechanism.</p>
Justification – Rationale <p>The primary beneficiary of this project would be the current and future students at Syracuse University. The key benefits provided would include (but not limited to) the following -</p> <ol style="list-style-type: none">1. Enhancing the academic experience for students through personalized guidance and efficient scheduling.2. Empowering advisors with tools to reach more students and provide tailored support.3. Improving student success rates and graduation outcomes.4. Demonstrating innovation and leadership in education, enhancing the university's reputation.	Success Criteria <p>Increased Student Engagement, Enhanced Academic Performance, Positive Student Feedback, Advisor Efficiency, Alignment with Career Goals, Integration and Adoption, Financial Viability.</p>

<p>The secondary benefit of this system would be realized when the system is sold / licensed to other universities, starting from the NY region, and later expanding to other universities in the US.</p>	
<p>Alternatives Considered</p> <ol style="list-style-type: none"> 1. Traditional Advising Enhancement: Implementing a system to improve existing advising methods without AI integration, focusing on manual scheduling assistance, historical data analysis, and advisor training. 2. Third-Party Software Integration: Exploring the integration of commercially available advising software platforms that may not be AI-powered but offer some level of customization and support for academic advising tasks. 3. Outsourced Advising Services: Considering the option of outsourcing advising services to third-party firms specializing in academic advising and student support, which may offer personalized guidance without the need for in-house AI development. 4. Collaborative Partnerships: Forming partnerships with other universities or educational institutions to share advising resources and expertise, potentially leveraging their existing systems, or jointly developing a new advising solution. 5. Student Peer Advising Programs: Implementing peer advising programs where senior students or trained peer mentors provide guidance and support to their peers, supplementing the work of professional advisors. 	<p>Other</p> <p>-</p>
<p>Project Sponsor</p> <p>Syracuse University</p>	<p>Date of Project Approval</p> <p>02/14/2024</p>

<p>Executive Summary</p>	<p><i>Include a concise overview of the key sections of the business case.</i></p> <p>The AI-Powered Academic Advising System represents an innovative leap forward for Syracuse University, aiming to fundamentally transform the academic advising landscape. The system will be designed to tackle significant issues present in the existing advisory framework, such as</p>
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	<p>the limited availability of advisors, ineffective student advising, and the complex process of navigating academic options. Utilizing sophisticated AI technology, the initiative is set to offer customized academic advice, align students with suitable career paths, assist with efficient schedule planning, and provide immediate tracking of academic progress, all through an interactive experience.</p> <p>The primary goal of this system is to improve student academic achievements, boost career readiness, heighten satisfaction with advisory services, reduce the workload on advisors, and enable more strategic decision-making based on data. This comprehensive strategy offers advantages to students by giving them customized advice for their academics and careers. It also aids academic advisors, alumni, and university management by enhancing the rates of student success and graduation.</p>
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Business Strategy	<p><i>Summarize how this project contributes to the overall business strategy of the organization.</i></p> <p>Stakeholder Collaboration:</p> <ul style="list-style-type: none"> Actively involve students, academic advisors, alumni, and university leaders from the beginning to align the system with their requirements and expectations. Form collaborations with industry specialists and businesses for guidance on career compatibility and prospects. <p>Development and Deployment:</p> <ul style="list-style-type: none"> Implement a flexible development strategy that supports incremental development, launching, and refining of the system based on ongoing input from early-stage users. Emphasize protecting user confidentiality and data integrity, adhering to applicable legislations and university guidelines. <p>Monetizing and Sustainability:</p> <ul style="list-style-type: none"> Investigate various income sources, such as advanced options for alumni and partnerships with businesses interested in identifying emerging talent early. Pursue financial support from sources dedicated to educational and tech innovation to back the initial creation and introduction of the system. <p>Scalability and Evolution:</p> <ul style="list-style-type: none"> Build the system to be scalable from the start, to facilitate eventual extension to additional academic departments or institutions. Regularly enhance the AI with new data, insights, and trends in education to maintain the system's relevance and efficiency.
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Considerations	<p><i>Provide a brief listing of the different options considered for facilitating this strategy, and which option was selected.</i></p> <p>Initially the system is to be built for Syracuse University and later can be incorporated for other universities across the country.</p> <p>Data Protection and Transparency:</p> <ul style="list-style-type: none"> • Institute strong safeguards for student data to comply with regulations such as FERPA. • Clearly inform users about the usage and storage of their personal information. <p>Inclusivity and Equity:</p> <ul style="list-style-type: none"> • Train AI models with varied data to reduce bias and ensure equitable guidance. • Perform regular reviews and updates on the models to rectify any biases that arise. <p>Synergy with Existing Systems:</p> <ul style="list-style-type: none"> • Guarantee smooth integration with the university's current systems (Myslice and Handshake) for immediate data synchronization. • Plan for the necessary technical infrastructure requirements, including server capabilities, growth potential, and ongoing maintenance. <p>Encouraging System Utilization:</p> <ul style="list-style-type: none"> • Create a detailed strategy to introduce the system to students, advisors, and other relevant parties to achieve high user engagement. • Provide ample resources for training and support to ensure a user-friendly transition and experience. <p>Iterative Enhancement and Feedback:</p> <ul style="list-style-type: none"> • Set up a system for gathering and evaluating user feedback to continuously advance the system. • Track and assess KPIs to gauge the project's success and inform data-driven improvements in the future.
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Project Benefits	<p><i>Indicate the benefit name, benefit owner, benefit description, benefit category (cashable or noncashable benefits), benefit realization approach and measurement.</i></p> <p>Benefit Name:</p> <ul style="list-style-type: none"> • Enhanced Student Success: This encompasses personalized learning, real-time performance monitoring, and efficient scheduling tools, leading to improved academic outcomes and reduced challenges.
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	<p>Benefit Owner:</p> <ul style="list-style-type: none"> • Wei Gao - Associate Director for Operations and Outreach. • Samantha B. Somma - International Student and Scholar Advisor <p>Benefit Description:</p> <ul style="list-style-type: none"> • This project provides a comprehensive suite of tools and resources to personalize academic experience, align career aspirations, monitor performance, optimize scheduling, and enhance user engagement, leading to improved student outcomes, increased employability, and overall platform value. <p>Benefit Category:</p> <ul style="list-style-type: none"> • Cashable: Increased graduation rates improved academic performance (reduced probation rates, higher grades). • Non-cashable: Improved student satisfaction, reduced dropout rates, increased course completion rates. <p>Benefits Realization Approach:</p> <ul style="list-style-type: none"> • Track key metrics like graduation rates, probation rates, average grades, course completion rates, and student feedback. • Conduct surveys to measure student satisfaction with the tools and overall experience. • Analyze cost-benefit ratio to assess budgetary impact.
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Time Frame	<p>Requirements Gathering (1 month):</p> <ul style="list-style-type: none"> • Conduct workshops and interviews with stakeholders to gather detailed requirements for the system. • Analyze existing advising processes and identify areas for improvement. <p>System Design (2 months):</p> <ul style="list-style-type: none"> • Develop a comprehensive system design, including AI algorithms, database architecture, and user interface specifications. • Review the design with stakeholders and incorporate feedback. <p>Development (4 months):</p> <ul style="list-style-type: none"> • Implement the system components based on the approved design, focusing on scalability, security, and performance. • Conduct regular testing and debugging to ensure functionality and reliability. <p>Testing (1.5 months):</p>
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	<ul style="list-style-type: none">• Conduct thorough testing, including unit testing, integration testing, and user acceptance testing.• Identify and resolve any issues or bugs discovered during testing. <p>Deployment (1 month):</p> <ul style="list-style-type: none">• Deploy the system in a staged manner, starting with a pilot group before full-scale implementation.• Provide training and support to academic advisors and end-users. <p>Monitoring and Optimization (Continuous):</p> <ul style="list-style-type: none">• Monitor system performance and user feedback to identify areas for optimization and improvement.• Implement updates and enhancements based on user feedback and changing requirements. <p>Total Time Frame: 9.5 months approximately.</p> <p>This time frame allows for thorough planning, development, testing, and deployment of the AI-Powered Academic Advising System while ensuring sufficient time for stakeholder engagement and feedback. It also includes provisions for ongoing monitoring and optimization to ensure the long-term success and effectiveness of the system.</p>
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Costs

Estimate the cost of executing the project management plan over the project schedule.

Include cost types such as internal, external and software/licenses, as well as cost treatment such as OPEX and CAPEX.

Cost Type	Description	Cost Estimate
Internal Costs (OPEX)		
Salaries and Benefits	Project manager, developers, testers, etc.	\$ 200,000.00
Overhead Costs	Office space, utilities, equipment	\$ 50,000.00
Training Costs	Training for project team members	\$ 20,000.00
Total Internal Costs		\$ 270,000.00
External Costs (OPEX/CAPEX)		
Consultants	External advisory or consulting services	\$ 30,000.00
Software Development Tools & Licenses	Development tools, licenses, subscriptions	\$ 40,000.00
Cloud Services	Hosting fees for cloud infrastructure	\$ 15,000.00
External Testing Services	Third-party testing services	\$ 25,000.00
Total External Costs		\$ 110,000.00
Software/Licenses (OPEX/CAPEX)		
Software Licenses	Licenses for development tools, software	\$ 20,000.00
Subscriptions	Subscription fees for third-party software services	\$ 10,000.00
Total Software/Licenses Costs		\$ 30,000.00
Grand Total		\$ 410,000.00

Investment Metrics

Overall Financial Performance: Positive NPV, short payback period, and increasing cost-benefit ratio suggest project's financial viability and profitability.

			Net Cash Flow	Cumulative	Cumulative	Cost-Benefit Ratio
Years	Benefits (PV)	Costs (PV)	(Benefits - Costs)	NPV	Cash Flow	(Benefits/Costs)
1	\$100,000	\$80,000	\$20,000	\$20,000	\$20,000	1.25
2	\$120,000	\$90,000	\$30,000	\$50,000	\$50,000	1.33
3	\$140,000	\$100,000	\$40,000	\$90,000	\$90,000	1.4
4	\$160,000	\$110,000	\$50,000	\$140,000	\$140,000	1.45
5	\$180,000	\$120,000	\$60,000	\$200,000	\$200,000	1.5

Risks

Data Privacy and Security Risks:

- ### Technology Implementation Risks:

- ### User Acceptance and Adoption Risks:

- ### Ethical and Bias Risks:

- ### Dependency Risks:

- Over-reliance on the AI-Powered Academic Advising System may lead to dependency issues, where students and advisors neglect critical thinking or human judgment.

	<p>Regulatory and Compliance Risks:</p> <ul style="list-style-type: none"> • Failure to comply with legal or regulatory requirements, such as data protection laws or university policies, may result in penalties or reputational damage.
Assumptions	<p><i>The assumptions impacting the cost, benefits, and overall business case for the AI-Powered Academic Advising System project:</i></p> <p>Cost-related:</p> <ul style="list-style-type: none"> • Estimated costs for software development tools and licenses are accurate and remain stable. • Salaries and benefits for project team members remain consistent throughout the project duration. • Overhead costs, such as office space and utilities, do not fluctuate significantly. • Training costs for staff are based on standard programs and do not incur unexpected expenses. <p>Benefits-related:</p> <ul style="list-style-type: none"> • Projected benefits, such as improved academic performance and increased employability, are based on historical data and assumptions about student behavior. • AI algorithms and predictive models accurately predict students' academic needs and career aspirations. • Adoption rate of the AI-Powered Academic Advising System by students and academic advisors aligns with expectations. <p>Business Case-related:</p> <ul style="list-style-type: none"> • Projected ROI and financial metrics are based on assumptions about cost savings, revenue generation, and other financial factors. • Market demand for AI-powered academic advising solutions remains consistent and supportive of the project's business case. • Regulatory compliance and data privacy requirements are adequately addressed. • External factors such as changes in technology, market conditions, or regulations are accounted for in the business case.