| **PRESENTER** | **SLIDES** | **TIME** |
| --- | --- | --- |
| Karen: | 1 - 4, 22 | ~2.44 I still have one more slide to do |
| Cody | 4 - 7 | ~2.29 |
| James | 8 - 11 |  |
| Dratin | 12 - 14 | ~ 1 min 48 sec |
| Adam C | 15 - 17 |  |
| Adam M | 18 - 21 |  |

Title Slide - Karen

Script:

"Welcome to our presentation on the Student Retention Analytics Tool, a groundbreaking project developed by Team Echo as part of our CSC480A Computer Science Capstone Project at National University. I'm Karen Ross, and I'll be guiding you through our journey in enhancing student retention through innovative data analytics."

Slide 2: Agenda - Karen

Script:

"

Slide 3: Project Team - Karen

Script:

"Let's introduce our team. We have Adam Carrigan, our Program Tester and Data Analyst with a diverse background in aerospace and entrepreneurship. James Gilligan, a Data Analyst, brings expertise in airborne sensors and naval warfare. Cody Lepp, our software engineer and concept designer, specializes in customer interface and technical writing. Adam Mason, another Data Analyst, combines IT and customer service skills. I, Karen Ross, our Scrum Master, am skilled in several programming languages, and Dratin Wood, our Software Developer, excels in customer service and data management."

I’m now going to pass the presentation over to Cody; who will be discussing the Project introduction, Background, and Objectives!

**Cody Lepp Slides 4 - 7**

Thank You, Karen.

The Student Retention Analytics Tool is our solution to a critical challenge in education: student retention. By leveraging data analytics to examine attendance, learning progress, and feedback, we aim to equip educators with the right tools for generating actionable insights. We aim to bridge traditional teaching methods with modern, data-driven approaches, enhancing the learning experience and improving retention rates. I want to highlight the four critical components of our project: respecting the existing LMS, creating and integrating an analytical engine powered by ML, and automatic report generation.

Slide 5: Background and Need for the Project

Educational institutions face a constant challenge in student retention. The Education Advisory Board published a report in 2021 stating the complexities of maintaining retention rates throughout a traditional four-year institution. Which can be succinctly summarized by the following:

American higher education is facing a challenge due to declining birth rates, which may lead to a nationwide contraction in college attendance by 2030. To prepare for this, colleges and universities must reshape their enrollment strategies and focus on retaining students to offset declines in new student enrollment. Improving retention rates can potentially preserve millions of dollars in tuition and ultimately benefit the top line.

Traditional tracking methods need to be revised to understand complex engagement patterns. Our project addresses this gap with a data-driven tool designed to adapt to various educational needs, comprehensively analyzing factors affecting student retention.

Slide 6: Project Objectives

Our primary objective is to develop an analytics tool to understand and influence student retention. This involves six pillars that act as the foundational guidance in developing our software system.

Slide 7: Scope

Additionally, we are harnessing advanced analytics and machine learning to provide a deeper understanding of retention factors. Our project is focused exclusively on educational institutions, enhancing student success without disrupting existing educational strategies.

Next up is James, and he will be covering our customers and stakeholders as well as our project requirements.

Slides 8-9: Customers and Stakeholders - James

Script for Slide 8: James

"Thanks, Cody. Our primary customers are educational institutions, especially administrative staff, who will be using the tool for retention monitoring. The educational institution’s instructors are our secondary users, applying insights from the student retention tool to support students at risk of disengagement."

Script for Slide 9: James

"Our stakeholders include educational administrators and tutors, the educational institution’s marketing and sales teams, executives, parents, and the students themselves. Each plays a vital role in the tool's success and benefits from its insights."

Slides 10-11: Project Requirements - James

Script for Slide 10: James

"Our tool has several functional requirements: access to academic data, student progress visualization, disenrollment reporting, data retention, trend analysis, and at-risk student identification."

Script for Slide 11: James

"In terms of non-functional requirements, we prioritize a user-friendly interface, robust data security, timely notifications, performance, scalability, OS compatibility, and data integrity.

An example use-case of this application is a teacher who wants to prevent her students from becoming disengaged from the program. The teacher accesses the database, pulls the class records, and adjusts the output to show students near the at-risk threshold.”

Dratin will now cover the Project Assumptions, Constraints and Priorities.

Slides 12-14: Project Assumptions, Constraints, and Priorities - Dratin

Script for Slide 12:

"Thanks James… As we embark on this project, a few key assumptions are foundational to our success. We're anticipating active engagement with the application from students, educators, and program coordinators. Ensuring access to accurate data, timely stakeholder input, technology compatibility, and regulatory compliance are critical aspects that form the basis of our project assumptions."

Script for Slide 13: - Dratin

"As we navigate this project, we must also be mindful of certain constraints. Firstly, our budget; being a school project, this is an unfunded endeavor across all development, testing, and implementation phases. Time is another key constraint, with a fixed timeline aligned with our academic calendar. Staffing considerations include the availability and skill levels of our team and technology limitations arise from existing infrastructure constraints and compatibility issues. Lastly, external dependencies, such as reliance on third-party services or APIs, present risks that need careful management."

Script for Slide 14: - Dratin

"As we acknowledge the constraints influencing our project, it's equally important to highlight our key priorities. Beginning with User Experience, we aim for a user-friendly interface that accommodates all users. This aligns seamlessly with Feature Development, emphasizing functionalities related to student performance, attendance, and engagement tracking. Moreover, our dedication to Data Security and Privacy ensures protection of sensitive student information. Scalability and Adaptability also take precedence, ensuring our system can flexibly evolve as needed. Lastly, Quality Assurance and Stakeholder Collaboration stand as pillars, highlighting our commitment to rigorous testing and open communication with stakeholders... I'm now going to pass things over to Adam C to cover our Project Delivery Methods."

Slides 15-17: Project Delivery Methods - Adam C

Thank you, Dratin!

Agile

Script for Slide 15: Adam C

To meet customer expectations, we are committed to delivering the SRT on schedule through incremental website application updates, ensuring functionality, usability, and performance align with expectations.

Script for Slide 16: Adam C

To ensure customer requirements are met, the tool is designed to be OS agnostic, with minimal hardware requirements, and will integrate seamlessly with customer databases.

Script for Slide 17: Adam C

Additionally, we place a high priority on security. As we are implementing industry-standard security measures, ensuring data integrity and privacy compliance throughout the development and deployment process.

Adam M is next up, and he will be covering our Evaluation, Selection of Technology and Tools slides and the Agile Team Formation and Responsibilities.

Slides 18-19: Evaluation, Selection of Technology and Tools - Adam M

Script for Slide 18:Adam M

Thanks Adam!

"We've selected MySQL and MongoDB for our database needs as they are easy to use, are comparitively high performers and more secure. PyQt6 is our choice for GUI development for its user friendly syntax and simplicity, and Pandas and Scikit-learn are key in our data processing and analysis."

Script for Slide 19: Adam M

"For web development, we're using Django due to its large community support and for its speed and scalability. For data visualization, Seaborn, as for many professionals is our go-to. Our tool also includes machine learning models for deeper analytical insights."

Slides 20-21: Agile Team Formation, Responsibilities, and Implementation Iterations

Script for Slide 20: Adam M

"Our team has embraced Agile methodologies as it is perfect for a team meeting deadlines while maintaining communication. Wiith clear roles and responsibilities assigned to each member, we are ensuring efficient workflow, accountability, and traceability. Throughout our iterations, we will maintain communication with team members and stakeholders. The team is committed to ensure each feature is complete and functional."

Script for Slide 21: Adam M

"We have structured the project into four iterative phases over eight weeks scheduled from the begining of January to the first week of March. We will be focusing on different features in each phase and culminating in a final project presentation. As with any business, features can change according to customer needs and requirements"

To finish this up, I will pass the presentation back to Karen for our conclusion.

Slide 22: Conclusion - Karen

Script:

Thanks Adam!

"As we conclude, let's recap the key takeaways from our project. Our primary objective has been to enhance the teaching experience by integrating an automated system focused on student retention. This system analyzes key factors like attendance patterns, learning progress, and feedback, providing vital insights into student engagement and challenges.

A proactive approach is implemented through alerts for 'at-risk' students, allowing for timely interventions. The development of this tool has been guided by Agile methodology, ensuring adaptability and continuous refinement based on feedback.

Finally, the success of our project lies in its real-world impact. We've aimed to foster an environment where educators can focus more on teaching with a comprehensive understanding of student development. This project will significantly streamline educational processes, benefiting teachers, students, and parents.

Thank you for your attention, and we would like to express our gratitude to our mentors and advisors who have been instrumental in guiding this project."