Red Cloud Indian School

Executive Summary

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Background

The Red Cloud Indian School is a private Catholic K-12 school located in Pine Ridge, South Dakota. It was founded through a partnership between the Jesuits and the Lakȟóta people and currently has 131 faculty members and around 600 students. It primarily serves children from the Oglala Lakȟóta Native American tribe on the Pine Ridge reservation. The mission of Red Cloud Indian school is to develop and grow as a vibrant Church, through an education of the mind and spirit that promotes Lakȟóta and Catholic values.

Project Description

Project Opportunity

To support the Red Cloud Indian School's goal of providing an effective, individualized education for each student, the Lakȟóta Immersion Classroom has requested a learning management tool that helps keep track of each student's progress, allows for self-pacing, and offers an intuitive and interactive interface. Thus, we have the opportunity to explore or design such an application to fill their void.

Project Vision

Our team's project goal is to design and build an application that helps to address the Lakȟóta Immersion Classroom's learning management needs. We saw four main advantages to this approach; this gave our team the ability to tailor the application specifically to the client's needs, write documentation in a way that best fits the client's understanding, craft a privacy and data policy that best describes our client's situation, and design the layout of the application based on the results of user testing with the client.

Project Outcomes

We developed a Canvas plug-in called BoomBridge that extracts Boom Cards grade information from screenshots and auto grades assignments, which saves each teacher up to 10 minutes per day. We fulfilled all three of the client's needs: deliver interactive lessons, allow tracking of student progress, and offer self-directed learning to students. Students can now

receive grades automatically. Teachers can create BoomBridge assignments with no input from the project team, implying sustained capacity. The IT department will be able to maintain BoomBrige with a preconfigured server, server image, and the Project Documentation Package.

Project Deliverables

The primary deliverables include the BoomBridge Canvas plug-in, the GitHub code repositories of BoomBridge, and the Project Documentation Package. BoomBridge is a Canvas plug-in that auto grades student-submitted screenshots of their Boom Cards results. The documentation package includes the code repository, the server deployment specifications, Canvas tool configuration instructions, maintenance information, and a privacy policy section to help our client navigate the FERPA compliance requirement imposed on BoomBridge.

Recommendations

First, we recommend that Red Cloud conducts training sessions during which teachers and students learn to use BoomBridge. Second, the BoomBridge solution is currently hosted on a server in CMU's Information Systems department. While we have provided Red Cloud with several application migration options, we recommend they migrate BoomBridge to their own on-premises server. Last, Red Cloud could benefit from having access to an external professional who is familiar with full-stack development and deployment using our software stack.

For future IS teams working with Red Cloud, they should first contact Boom Card to see if they have a first-party plug-in available. If the first-party option is not available, we recommend future teams focus on ensuring the solution's compatibility with the up-to-date Boom Cards UI, speeding up the OCR process, implementing anti-cheating features, and conducting more user testing.

Student Consulting Team

Caitlin Huang was the Technical and Quality Assurance Lead. She is a third-year Information Systems student with an additional major in Statistics and Machine Learning, graduating in May 2022. She will intern with UnitedHealth Group this summer and Finisar this fall.

Kevin Wang was the Project Manager and Design Lead. He is a third-year Information Systems student with an additional major in Human-Computer Interaction, graduating in May 2022. This summer, he will be interning with Apple as an Engineering Program Manager Intern.

David Yuan was the Client Relations Management Lead. He is a fourth-year Information Systems student with an additional major in Statistics and Machine Learning, graduating in May 2021. He is working full-time at Tapad starting this summer.