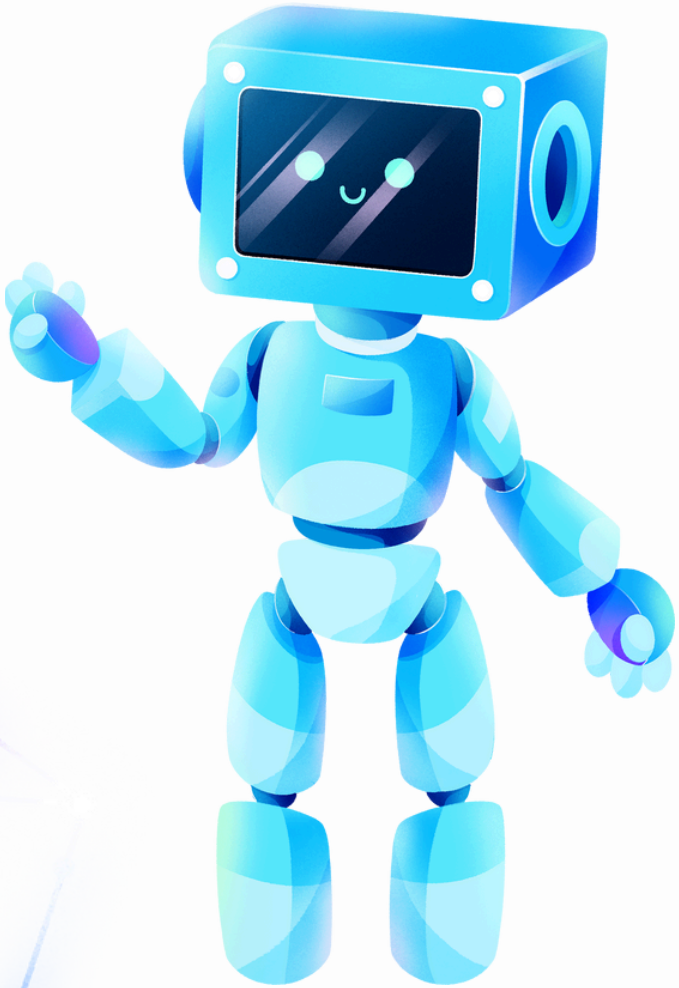


CHATBOX PROJECT

Chat Masters

EDIT 7550E **JULY 2, 2024**

TABLE OF CONTENT

OUR TEAM

Rylee Kramer

Project Manager

Rylee Kramer is a M.Ed student in Learning, Design, and Technology at the University of Georgia. She earned her Bachelor's degree in Music Education and taught P3-8th grade music and band for four years with the Archdiocese of Milwaukee. While in this position, she took note of her abilities in organizing curriculum, implementing procedures, and directing large groups, which led her to pursue Instructional Design and Development

Anh Nguyen

Anh Nguyen is an M.Ed student in Learning, Design, and Technology at the University of Georgia. She received a B.Ed in Mathematics Education (6-12) from the University of Georgia. She has taught high school math for approximately four years in Gwinnett County and has acquired a certificate in teaching gifted education. Currently, she is a Learning and Development intern at BrandSafway.

OUR TEAM

Hsuan-mein (Regina) Yang

Hsuan-mein (Regina) Yang is currently pursuing her doctoral studies in Nutritional Sciences at the University of Georgia. She has enrolled in instructional design courses to enhance her expertise and proficiency, which are necessary to equip her with the skills and knowledge essential for effectively designing educational materials and methodologies in the field of nutritional sciences.

Shannon Wozniak

Shannon Wozniak is an M.ED student in Learning, Design, and Technology at UGA with a concentration in Instructional Design. She received a bachelor's in Elementary Education at ECU and a Master's in Educational Technology at CMU. Shannon taught elementary students for 13 years, before leaving the profession. Currently, Shannon has started an internship with Wright's Resume and Connections.

PROJECT DESCRIPTION

CLIENT

Dr. Johannes Cronje

BACKGROUND

Professor Johannes Conjé has dedicated his career at Cape Peninsula University of Technology (CPUT) to mentoring Masters and Doctoral students in their research endeavors. As a respected professor, Professor Conjé has recently turned his attention to the potential of Large Language Models (LLMs) to revolutionize the research coaching process. With the rapid advancements in LLMs, Professor Conjé is actively encouraging his students to harness this technology as a form of peer coaching. However, students have encountered challenges in effectively prompting these models to obtain constructive feedback on their work. To address this, the project aims to develop a Chatbot to facilitate this interaction.

The Chatbot will pose a pre-set series of questions to students, who will then respond and receive coaching based on their inputs. Crucially, the Chatbot will not provide direct answers but instead highlight valuable aspects of the student's responses, thereby supporting their research development. This innovative tool is intended to bridge the gap between traditional peer coaching and AI-enhanced coaching, offering students a novel way to refine their research skills. By leveraging the GROW method—a widely recognized coaching acronym for Goal, Reality, Options, and Way Forward—the project seeks to provide a structured and effective approach to research coaching.

The foundation of this project includes several key components: a detailed methodology outlining the research approach, Professor Conjé's coaching worksheet, and a comprehensive paper discussing the use of AI as a coaching tool in academic settings. The project will specifically explore the GROW method with 4th-year Information Technology students, culminating in a 3,000-5,000 word research report. This initiative aligns with scheduling needs, ensuring students receive timely and relevant feedback as they progress through their research projects. By integrating LLMs into the coaching process, the project aspires to enhance the quality of student research and provide a robust framework for academic success at CPUT.

GOALS

Project Goals

1. Create a ChatBot that aids Master and Doctoral students in preparing their research topic.
2. Develop the ChatBot in a way that resembles a coach instead of an answer database.
3. Provide students a resource to structure their interaction with Large Language Models, LLMs.

Objectives

1. Create an intuitive and accessible ChatBot interface that students can easily navigate.
2. Ensure the ChatBot poses a pre-set series of questions aimed at guiding students through the research topic development process.
3. Integrate the GROW coaching method into the ChatBot's interaction model.
4. Program the ChatBot to provide constructive feedback by identifying valuable aspects in students' responses without giving answers.
5. Provide resources and guidelines within the ChatBot to help students effectively prompt LLMs for research coaching purposes.

CONSTRAINTS

REQUIRED CONDITIONS

- **Reliable data sources**
  - This chatbot is designed as an instructional resource for master's and doctoral students. The use of credible sources is essential. The developer should integrate sources from academic databases and libraries, ensuring the use of up-to-date and peer-reviewed references.
- **User privacy and data security**
  - This chatbot should comply with privacy regulations, such as GDPR (General Data Protection Regulation), which is the protection of natural persons concerning the processing of personal data, including data wholly or partly by automated means, and FERPA (Family Educational Rights and Privacy Act), which protects the privacy of student education records.
  - This chatbot should also ensure secure storage and transmission of user data.
- **Natural Language Processing**
  - This is an essential requirement because this chatbot is intended to serve as a coach to guide students in developing their projects. Advanced NLP capabilities enable it to understand academic terminology, handle complex and context-specific queries, and generate coaching-based conversations with students.
- **Personalization**
  - This chatbot should be able to tailor responses based on the student's field of study and interests, learning and adapting its responses according to student requests and demands.

CONSTRAINTS

ITEMS TO INCLUDE

- **Pre-set series of questions**
  - A pre-set series of questions are asked by the client to help students articulate their research interests and goals. These questions prompt students to initiate critical thinking about project choices.
- **Coaching-based conversations**
- **Machine training protocol**
  - How the development team trains this chatbot can significantly impact future users' overall experience. Therefore, a structured training program that covers various situations and topics should be included.
- **User instructions**
  - Clear user instructions can facilitate a faster understanding of the chatbot functions and enhance the overall user experience.
- **Chatbox Protype**
  - A prototype developed on Articulate Storyline will be created with sample scripts and coaching scenarios for the tech team to use as a base for their work.
- **Budget assessment**
  - The assessment should encompass all costs associated with the development and ongoing maintenance of the bot, including human resources, literature resources, and technical support.
- **Support and help options**
  - This design ensures users can easily access FAQs, help documents, or connect with human advisors if the bot encounters an error.

CONSTRAINTS

ITEMS TO EXCLUDE

- **Outdated information and unverified sources**
- **Personal Identifiable Information sharing**
- **Reassemble team or resources**
  - Reassembling the team or reallocating resources could potentially disrupt bot development and its ongoing maintenance.
- **Resources in languages not supported by the ChatBot**
- **In-Person Training**
  - In-person training may be difficult to coordinate and achieve widespread adoption.

CONSTRAINTS

- **Limit in facilitating critical thinking**
- **Limit in facilitating reflective thinking**
  - The current AI model provides straightforward answers to questions, potentially limiting the training of critical and reflective thinking skills that are emphasized as learning techniques. These skills are crucial for equipping students with the ability to think broadly and make informed judgments about various situations.

CONTRAINTS

KNOWN RISKS

- **Misinterpretation of queries**
  - Potential misunderstandings could evolve when pre-machine training is insufficient, leading to inaccurate dialogue and academic suggestions.
- **Dependence on the external database**
  - ChatBot developers should continuously check its linkage to the external database to ensure reliable integration for critical academic engagement.
- **Bias in recommendations**
  - The ChatBot generates responses based on how developers trained it, which may introduce potential bias stemming from its predefined algorithms.
- **Resistance to adoption**
  - The use of AI-driven tools remains a topic of debate in the academic world. Some students and faculty, particularly those who have undergone traditional training emphasizing critical thinking, may be resistant to adopting this new technological tool.

AVAILABLE RESOURCES

HUMAN RESOURCES

- Chat Masters' project manager and all team members
- Tech team - Joseph Umba, lead technologist

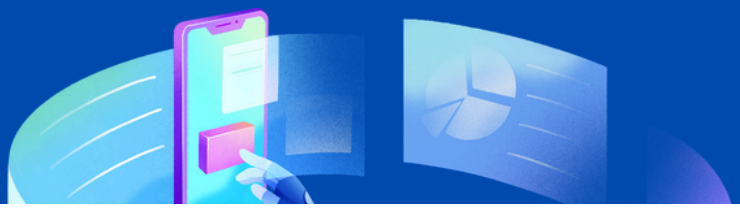
TECHNOLOGY

Regarding the current status, Chat Masters will use Articulate 360 to create a prototype that demonstrates the process of data input and its corresponding feedback.

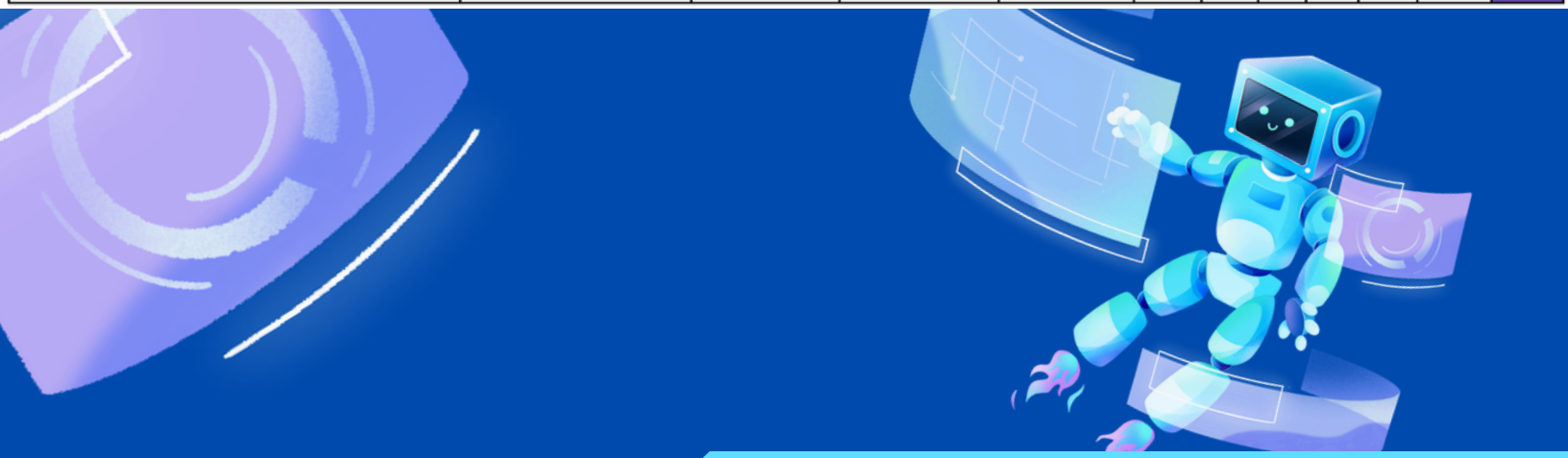
SPECIAL TOOLS

- Articulate 360
- Prompts created for the prototype and future machine learning
  - Cronjé, J. (2023). Exploring the Role of ChatGPT as a Peer Coach for Developing Research Proposals: Feedback Quality, Prompts, and Student Reflection. Electronic Journal of e-Learning, 22(2), 1-15.
- GROW method

WORK BREAKDOWN SCHEDULE



Project Chatbot					June (weeks)		July (weeks)				
Project task	**Assigned to**	**Duration**	**Start Date**	**End Date**	**17**	**24**	**1**	**8**	**15**	**22**	**29**
Confirm project scope	ChatMasters, Johannes Cronje	1 week	June 17	June 21							
Completion of Scope document	ChatMasters	2 weeks	June 24	July 3							
Production of sample scripts for the prototype	Shannon	2 weeks	July 4	July 18							
Production of the prototype	Anh	2 weeks	July 4	July 18							
Develop recommendations for the client and the tech team	Regina and Rylee	2 weeks	July 4	July 18							
Develop an evaluation plan to test the bot during development and completion	ChatMasters	2 weeks	July 4	July 18							
Compile product deliverables into final report and record presentation	ChatMasters	1 week	July 18	July 24							
Project Handoff	ChatMasters	1 day	July 24	July 24							
Tech team begins production and their own timeline	Tech team	> 3 months	July 25	October 1							



COMMUNICATION PROTOCOL

COMMUNICATION CHANNELS

- Primary Communication
  - Email: All forms of communication will be conducted through email unless a meeting is needed.
  - Meetings: When meetings occur, they will transpire through Zoom.
  - GroupMe: The project team will primarily communicate through the Group Me app unless a meeting is needed.

PREFERRED MEANS OF COMUNICATION

- Due to the time change, it is most convenient to communicate through email. However, the client and team are both available to meet via Zoom if needed.
- The team prefers to communicate via GroupMe.

DOCUMENT SHARING

- Platform
  - All project documents will be shared via Google Drive and Canva.
  - Access permissions will be granted to all relevant team members.

COMMUNICATION PROTOCOL

RESPONSE TIMES FOR ACTION ITEMS

- Email Response Time
  - Within Team: 24 hours
  - To/From Client: 36 hours (considering time zones and working hours)
- Follow-Up Procedure
  - If no response is received within the specific period, a follow-up email will be sent.
  - If still no response after 24 hours of the follow-up email, the team will make a decision based on existing project knowledge.

RISK MANAGEMENT

KNOWN RISKS AND MITIGATION STRATEGIES

- Technology Risk: Software challenges such as bugs and website integration could extend the timeline.
  - Mitigation: The technology team should consistently test the product in each stage of development. Additionally, back up work and data often.

- Software Risk: Continuous concern to keep up with latest updates to ensure usability between chatbox and website.
  - Mitigation: Plan to offer Chatbox updates as device and website software also updates over time.

- Timeline Risk: Scope creep or timeline delays caused by technology and software risks listed above.
  - Mitigation: Regulary testing the product during production will help minimize the technology and software risks. Be sure to frequently revisit the timeline to make adjustments as needed.

- Training Risk: The intended audience will not use the Chatbox due to lack of interest, training, or usability of the software.
  - Mitigation: Offer materials for instruction on the final product, such as a demo video, live meetings, or resource page. Involve students who will be users throughout the development process to acquire accurate and relevant feedback.

SPENDING PLAN

Chat Masters acknowledges that the work will be done pro bono in collaboration with UGA. However, they have created a spending plan to estimate the market value of a project of similar scale and scope.

Conversion from USD to Rand: 1 USD = 18.38 Rand

Project Development Spending Plan

Task	Rate per Hour per Person (USD/Rand)	Estimated Development Time (Total Hours for Whole Team)	Expected Expense (USD/Rand)
Scope Document	40/738.11	15	600/11,031
Project Plan	40/738.11	30	1,200/22,062
Evaluation Plan	40/738.11	15	600/11,031
Final Report	40/738.11	30	1,200/22,062
		Total	3,600/66,186
		Adjusted Total	0

There is a total of four members on the team.

SPENDING PLAN

Conversion from USD to Rand: 1 USD = 18.38 Rand

Resource Spending Plan

Resource	Cost (USD/Rand)
Software Engineer (Joseph Umba)	2,100/38,598 (30 hours of work)
Canva	0
Chat GPT	0
Articulate 360	645/11,858.33 (Fee at UGA)
Zoom	0
Microsoft Office Suite	0
Total	2,745/50,453.1
Adjusted Total	0

ENDORSEMENT PAGE

We, the undersigned, have reviewed and approved the scope document for the Chatbox Project. This document outlines the objectives, deliverables, boundaries, and key components of the project. By signing below, we confirm our commitment to the project's goals and our support for the outlined scope. The client provides consent to begin work on the project by signing this document. Any changes to the project plan must be presented in writing to the client by the project manager.

PROJECT MANAGER

Rylee Kramer

RYLEE KRAMER

DATE: 7/3/24

CLIENT

DR. JOHANNES CRONJE

DATE: Jul. 03. 2024