Capstone Project Proposal

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Business Goals

Project Overview and Goal What is the industry problem you are trying to solve? Why use ML/AI in solving this task? Be as specific as you can when describing how ML/AI can provide value. For example, if you're labeling images, how will this help the business?	Help student to with education and learning technique. With the ML and AI-based assessment process helps in many ways like : 1)It's help in faster grading 2) adaptive testing 3) performance monitoring of students quickly with more accurancy 4)Help Student that have issue to learn difficult words4 5) Help student that have issue with memory. 6) Possibility to do distance learning due the covid with an Tutor System
Business Case Why is this an important problem to solve? Make a case for building this product in terms of its impact on recurring revenue, market share, customer happiness and/or other drivers of business success.	Students may struggle with writing words. Student and teachers want to provide their perfomance Students want to learn more words Students want to learn technique to learn in a better way Students will be help with a Tutor System to learn on distance due the covid Students with bad memory can improve their memory
Application of ML/AI What precise task will you use ML/AI to accomplish? What business outcome or objective	I would create a software that translate every minute app to 100 words. I would as well analyzes the ansers and duration of time taken to complete lessong, thus giving teachers and students insight into their perofrmance A tutor system that helps student with their studying path. Ask question and get an answer , in case the bot

will you achieve?	can’t answer then an email and/or SMS will send to the teacher that will explain to the student what he need.

Success Metrics

Success Metrics What business metrics will you apply to determine the success of your product? Good metrics are clearly defined and easily measurable. Specify how you will establish a baseline value to provide a point of comparison.	The success meatrics will be the numnber of use of the software plus the feedback from studens and teachers We can use a an initial bussiness metrics of interest that includes : 1) at least 80% of the students learn new words 2) At least the 80% of the students have improve the performance on the quiz and on the interogation 3) At least 80 % of the teachers improve the performance making better lesson and more understanding lesson 4) At least 80% of student with difficult to learn improve their learning. 5) At Least 90% of the student will learn a techique to learn in a better way

Data

Data Acquisition Where will you source your data from? What is the cost to acquire these data? Are there any personally identifying information (PII) or data sensitivity issues you will need	Data will be acquired via direct verbal communication with a chatbot. The content of the audal data will be convert to the Text and stored in a log. Then the inital model will come product integration with Azure Cognivitive Service. The result of the model will be used for the future atchitectutes and data from each successfull story with students teachers. Pil is an intinsic issue in privacy as perfonal informtion will being sotred.

to overcome? Will data become available on an ongoing basis, or will you acquire a large batch of data that will need to be refreshed?	To overcome this no personal information regarding teachers and students will be supplied or shared with the log files. The content will be filted and documentented but not the name of the teachers and the studetents
Data Source Consider the size and source of your data; what biases are built into the data and how might the data be improved?	In Azure will be already set the maximum amount of performance for the speech recognition model. Proper responses from the chatbot are where issues can arive due to missunderstand questions In terms of objective question like : Can you Spell the word Tricon? or Can You spell the word Tenebrous? Another source of Bias will be the speech recognizer and the related pronunciation to understand the accent and the word used from the student
Choice of Data Labels What labels did you decide to add to your data? And why did you decide on these labels versus any other option?	1) Will be Clear Speech : is defined as questions that are simple and require just and Yes and No as answer. 2)Wil be Complex Speech, is defined as questions or statements that requires a clear. 3) Will be Subjective Speech: is defined an an optimal response that means that can exist more then one correct answer. All three will currently monitoring emotions and mood and events: the chatbot will attempts to ask questions to find which event led to the student's current emotional state. Futhermore the emotional state of the student will labeled by any artificial Agent.

Model

Model Building How will you resource building the model that you need? Will you outsource model training and/or hosting to an external platform, or will you build the model using an in-house team, and why?	The team will be done by a team that include a Project Manager, Product Ownen, a specialist in Human robot interaction, a Linguistic, a Psychologist , few teachers, Human-factors engineering Lead Architect, System Engineering and serveral Engineering and Designer

Evaluating Results Which model performance metrics are appropriate to measure the success of your model? What level of performance is required?	For the Labeling model the accurancy and recall will privude insight in how ghgood the model is at classification. the level of perfomance should be at least (0% to relieave developers of having to sort throught many misclassified labels when designing the future models For the NPL application the accurancy and conficende of the model is usually measuted. The accurancy of correctness in word matching will be mesured. the rquirement for Subjective and complex speech the requirment is 80% of accuracy.

Minimum Viable Product (MVP)

Design What does your minimum viable product look like? Include sketches of your product.	
Use Cases What persona are you designing for? Can you describe the major epic-level use cases your product addresses? How will users access this product?	A student need to improve to write complex word A Student want to improve the performance to quiz so the student will repeat the quiz until reach 80% of score A Students wants to learn memory technique A students want to learn 100 words every day A students want to be help from a mentor on the learning path to do a good High School exam. A students want to learn on distance due the Covid and have the correct tools to learn A students want to have the possibility to speak with a AI tutor and in case the AI tutor can't answer a teacher can reply to him A students want to see his score and try to improve the score to the write exam

Roll-out How will this be adopted? What does the go-to-market plan look like?	The first phase will incluse beta-testing with a small set of users to gain insight in the appropriate direction for the chatbot. The second phase will utlize the chatbot during analog questions the performance and accurancy of the artificial agent being analyze. The third phase will be adding in the chatbot quiz and score with accurancy and time. The last phase will be to add a Presentation Translator to all the students that will have difficult on learn words based on the result of the chatbot

Post-MVP-Deployment

Designing for Longevity How might you improve your product in the long-term? How might real-world data be different from the training data? How will your product learn from new data? How might you employ A/B testing to improve your product?	To design for long-term, the model needs to be adaptive in allowing for improvement based on previous results. The results of the previous models, including voice recognition. s. Furthermore, keyword spotting and automatic responses will be improved based on how the initial response were received by the student. A variety of quantitative and qualitative tests will report the results of the chatbot on the student's performance, mood, behavior, and attitudes. Performance here can be thought of as response time, task completion time, task completion accuracy, or correct prioritization. Mood/behavior/attitude factors include an overall reduction of stress and better emotional states for the student as a result of using the chatbot
Monitor Bias How do you plan to monitor or mitigate unwanted bias in your model?	To monitor bias in accent or usage (synonyms/homonyms), the accuracy (NLP, see above) could be monitored and keywords that cause issues can be isolated (regularly misunderstood words). Students could be asked to use different vocabulary in these cases. In terms of designing responses to subjective, emotionbased topics, the easier solution is to assign conversation results and trends directly to the user. However, this can be an issue with privacy (IIP) initially. Generally, studetens and teachers signed an NDA/waiver that provides the agency/scientists to full access to their personal data as long as it is not leaked to the public or third-party agencies. Therefore, it should not be too much effort to gain approval for assigning

	personal data to discrete instance (profile) of the chatbot. The log files will be monitored overtime to improve the results and behavior of the chatbot