CSC3003S Capstone Project — Stage One

Goals (Scope) [21 Marks]

Project Abbreviation and Name	Wgame Word Game
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Date	07/08/2021
Team Members	Student Number, First and Last Name, email
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Overall purpose and stakeholders [5]	Whilst learning a new language is fun and exciting, it is often difficult to memorize new terms and build a vocabulary that enables one to converse in the new language. Gamifying this "task" of learning a new language makes it easier to remember the new terms, as well as building a connection between terms and objects. This project's main purpose is to create a program that gamifies the experience of learning a language by using exercises that require simple inputs from users such as matching graphics to words, difficulty improving as the user's vocabulary expands. Our program will be geared towards usage rather than getting correct answers, we will not be trying to engage with the user's competitive side (i.e. no leaderboards) but focus on repetition and vocabulary expansion to enhance learning. The desired outcome after a user has completed all exercises is that the user will be able to communicate basic requests/statements in the newly learnt language, effectively and correctly. They should also be able to pronounce the words correctly. Our program will focus on delivering a proficient learning experience for one chosen language, however the ui will be offered in multiple languages so as to increase target audience. The project stakeholder(s) is the client (Prof Maria Keet, Professor at UCT) who requested a program that will enable users to learn a new language.
SMART Goals [5]	**Functions & Features:** ● Player Aids: to aid the learning experience, solutions will not be given but rather hinted at by deletion of 'wrong' answers, pointing out specific errors in spelling or revealing a censored version of the answer ● Customizable Reminders: Daily reminder to use the app ● XP Tracker: Users are rewarded by use of app rather than correct answers

	● Save State: Users can continue from last completed exercise
	● Option to choose the language of the UI
	● Picture-Word matching
	● Visual Progress Tracker: users can see how far along their learning path they are
	● Hearing the pronunciation of the words
	
	SMART Goals:
	● Team Goal:
	  Team should learn and be familiar with React by 20th August 2021 so they can use these skills to build the prototype they have designed by that date.
	● Project Goal:
	  Project should progress according to an agreed upon schedule and complete deliverable before deadlines.
	● Software Goal:
	  Software should be a functional web-app where learning a new language is gamified via matching/word select exercises and use of the app should result in beginner fluency (which we measure by a user completing first level difficulty).

Inputs, outputs and performance [5]	**What will the inputs from the user be?** Mouse-click (received from drag-match exercises or picture-word matching), text response(users can type answers via provided text boxes). User input will be minimised so as to provide a more guided learning path. **What will the outputs to the user be?** Status Message Prompts(telling the user the outcome of their inputs, ie Yay! or Nay!) as well as graphic depiction of status messages, probably at the end of a successfully completed exercise. **Are there response time requirements, etc.?** At higher levels, there will be a time constraint for users to provide inputs. There will be a program time-out after 1 hour as well as prompt the user with a time-out warning 5 minutes prior to closing. **Performance:** Navigating the user interface should not only be enjoyable but seamless, however if Team decides to make a web-app, program response may vary according to user internet speed.
Resources and Constraints [3]	**What resources apart from the project team are needed?** Access to internet, Recorded pronunciations of words, royalty free music to add to ui, visuals/graphics, pc workstations, remote storage. **In what ways will the software be limited?** ● Device accessibility/scalability (ie, what can run our program, how will different sized screens affect ui). ● Bandwidth constraints (if Team chooses web-app route, slower networks or unstable networks will result in poor performance). ● Software is limited by Hardware (limited by user hardware specs). ● Program will not be able to test pronunciation of users (integral to language learning). Language choice limited (Team has decided to offer 1 language to learn because of current skill limitations).

	What factors will present a challenge? Memory? Hardware? Other software? Environmental conditions? ● Devices without functional speakers will not make use of the audio feedback in the program. ● If used in a quiet area (ie libraries), can't make use of the audio feedback because noise is not permitted there. ● Difficult to offer ui in multiple languages ● Scaling will pose challenges as we are not strictly offering a pc or mobile game ● Creating an effective learning path will be challenging given that all Team Members are not experienced in teaching a language
Feasibility [3]	Scope seems realistic and feasible as there are already many language learning programs available, however we do not know how long it took to create those programs and how they were built therefore time is a concern, especially since team members all have other commitments during the project timeline. Project feasibility will largely depend on skills and time management of the Team. Economically it is feasible as we do not foresee any expenditure. Current project plan and agreed upon functionality should meet client needs. We possess all the hardware and software resources necessary to complete the project currently.