Windows Quiz Application Program
Vision Document
Ron Harper and Nathan Nickelson

1: **Introduction**

- 1.1 **Purpose**:
    - The purpose of this vision document is to provide a clear layout and specifications to facilitate the development of a quiz and flashcard supported study assistant Windows app
- 1.2 **Scope**:
    - This document will outline the purpose of creating a quiz app, the languages and software used to create it, the personnel involved in its development, and how the application could be used

2: **Positioning**

- 2.1 **Business opportunity**
    - If students utilize effective and creative study techniques, it has the potential to increase not only the future prospects of the student, but also with more successful students follows a more successful institution.
- 2.2 **Problem statement**:
    - The problem of creating an effective study tool affects college students, K-12 students, Ron Harper, and Nathan Nickelson. The impact of the problem is that the stakeholders will have a tool that will greatly facilitate their ability to learn new material as well as to retain it. A successful solution would include: Quizzes, flashcards with memorable pictures to strengthen memory of the new concept, the ability for users to create their own cards and add their own images, a visually appealing GUI, and integration of “The SEE Principle” when construction flashcards for maximum memory retention. The “SEE principle” is an acronym Composed of three steps. The first step is when you use your five senses to recreate the concept within our mind. The stronger the and more detailed the description, the stronger the memory link to the concept. The second step is applying exaggeration to the image from step one. Exaggerating an image can makes it far easier to recall that piece of information since it sticks out to you. The third step is to energize the image you constructed in your find by making it lifelike rather than static.

3: **Stakeholder and user descriptions**

- 3.2 **Stakeholder summary:**
    - Ron Harper: (developer)
        - Languages: C++, C#, Python 3, Java
        - Front and back-end development
    - Nathan Nickelson: (developer)
        - Languages: C++, C#, Python, Java, Fortran

        - Front and back-end development
    - Students:
        - The Users of the application and potential benefactors.
    - Instructors:
        - Potential Advocates of the application that will discover its benefits and promote its use.
- 3.3 **User summary:**
    - Students:
        - Creates questions from notes and textbooks for supplemental study purposes. They can also take a quiz and use their flashcards.
            - Stakeholder: Self-represented
    - Teachers and Professors:
        - Instructors can give students their own flashcards that they have created to use on the students software.
            - Stakeholder: Self-represented
- 3.4 **User environmen**t
    - Windows 10 desktop.

4: **Product overview**

- 4.1 **Product perspective**
    - This software is a stand-alone application intended to be run on the Windows operating system. In comparison with other 'flash-card' or quiz apps, this app is intended to be more intuitive and visually appealing to promote continuous use.
- 4.2 **Summary of capabilities**

Customer Benefit	**Supporting Features**
Studying flashcards becomes more interesting.	**Flashcards are no longer dull and visually unappealing. Students can add Gifs, PNGs, or JPEGs to their cards to facilitate their memory recall.**
Having study tools helps increase student achievement.	**The software provides a way for students to study at their own pace and set up their own style of Quizzes.**
Successful students increases perception of schools and lowers operation costs.	**Our software is a tool to help reinforce study practices and to simulate future tests and testing conditions that they may likely encounter in the future.**
Students are more likely to recall the information they study.	**Our software integrates "The SEE principle" to create stronger mental links between the study material and the students short and long term memory.**

- 4.3 **Assumptions and dependencies**
    - This product will be mostly written in C# to be used on Windows 10 OS.

5: **Product features**

- 5.1 **Quiz creator:**
    - The quiz creator allows the user to use their notes to make: multiple choice, true/false or fill in the blank questions. This feature does not allow a combination of more than one question type on one page. It does allow for each page in the quiz to have a different question type. For example, question one can be true or false while question two is multiple choice and question three is fill in the blank.
- 5.2 **Flashcard creator:**
    - The flashcard creator helps design 2-sided flash cards and stores them for study purposes with potential to add visual cues.
- 5.3 **Timed/Casual modes:**
    - In casual mode, the stored flashcards or questions can be reviewed at one's leisure.
    - In timed mode, a simulated timed test environment can be created to help prepare for timed tests.
- 5.4 **Category classification:**
    - Each Deck of cards can be given a unique name that allows them to be easily searched for and accessed.
- 5.5 **User feedback for quizzes:**
    - During the quiz, the user is shown the number of questions they have answered correctly as they progress through the quiz and at the end of the quiz, the user is given a letter grade based off of the ten point grading scale and a percentage.
- 5.6 **Adjustable question output:**
    - The number of questions that are presented in any session can be adjusted. For example, say a Quiz titled "Intro to CS" has 20 questions in it. The user at the start of the quiz will be told how many questions are in the quiz and they will have the option to modify the number of questions they want to take with a minimum of one question or a maximum of however many questions there are total for the quiz. If the user chooses a number that is less than the maximum questions for the quiz, then they can choose one of the following options for how quiz questions are selected: randomly, "Let me choose" (User chooses what they want to see), or default which is to leave the cards in the order they appear on the quiz.
- 5.7 **Shareable Flashcards:**
    - The user can export a selected deck of flashcards to their desktop as well as upload another user's deck of flashcards to their software as long as they have the correct text file that was exported from the software by the owner .

- 5.8 **Easily search for a specific deck of flashcards:**
    - The user can easily search for a specific deck of flash cards that they have created.

6: **Constraints**

1. **Project Constraints:**
    - The project must have a graphical user interface (GUI).
    - The main code base must be written in C#. If there is more than one GUI, the additional interfaces can use C# or other languages if you wish.
    - The main result must be a stand alone application (EXE).
    - The majority of the project must be developed in Visual Studio.
    - No databases
2. **Developer Constraints:**
    - Ron Harper
        - I have only two months of experience using C#.
        - I have never built a desktop application.
    - Nathan Nickelson
        - Minor experience working on large projects in teams.
        - First time using software engineering techniques to design a project from beginning to end.

9: **Other product requirements**

- **9.1 Applicable standards: not applicable .**
- **9.2 System requirements: Windows 10 OS.**
- **9.4 Environmental requirements: Windows 10 desktop.**