

**CS 251**  
**Project 5**  
**Key Shooter**  
**Due 05-05-22**  
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## Project Description

You are tasked with recreating a classic typing game! Can you type fast enough to keep the screen clear of words?? Well you are going to find out if you have what it takes! A video of the base game in action can be found with the starter code. This project diverges from previous projects in 2 major ways:

1. Uses JavaFX
2. You do **NOT** have to use the starter if you do not wish to. If you do use it however, you must bring it up to coding standards just like project 3.

If you want to go your own way and simply use my starter as inspiration that is perfectly acceptable.

This project emphasizes the following concepts:

- JavaFX
- Collections

## Project Specification

Your program must allow the user to enter letters in order to clear words that popup on the screen. The words on the screen should only appear for 10 seconds. If the user hits backspace it must erase the last character they entered. No other keys need to be supported. Words should appear on the screen every 3 seconds. They must randomly start somewhere on the edge of the screen. A keyboard must be displayed on the screen below the words area. When the user hits a valid letter key there must be visual feedback on the screen showing which key the user hit. This feedback should last no more than a minute. When the user enters a word that is on the screen then the word on the screen should disappear and the control showing the characters they typed should be cleared. They must have an exact match. I have provided a dictionary containing 5 letter words under the docs folder. When accessing this file to read in make sure to use relative paths. Basically don't change the path to the file shown in Main.start.

## Project Additions

In addition to the functionality given above and shown in the video you must add the following capabilities:

- Button to stop words from spawning and end the game
- When the stop button is pressed you must display to the user how many words per minute they typed
- Control to change how quickly words spawn
- Control to change how long words last on the screen

## Extra Credit

Up to 25 extra credit points can be earned in the following categories:

- Better visual for removing correct word (15 pts)
- More paths for words to take across the screen other than a straight line (10 pts)

If you attempt the extra credit please make it clear which you tried and where it is implemented in the code.

## Project Starter

I have uploaded a project starter alongside this PDF on canvas. You can choose to your it but you do **NOT** have to use it. If you choose to use then you must bring it up to coding standards. Which means commenting the top of each file and any function/variable without comments. There is a video alongside this PDF in addition to the dictionary of 5 letter words.

## Submitting Your Project

You must submit a zip file containing only your java files. There must be no subfolders and no packages. If any other files are included you will be docked points.