Learn typing in a fun way

Problem solution (solving)/Justification

When we first heard of the topic, we contemplated making a simple typing app in which random sentences would be displayed and the user would be tasked with typing them, however after some time it would be a chore, especially so for kids and so we decided to adopt the method of **gamification**.

We have created an app in which you are required to type the letters as they are displayed on the screen and you get a higher score if you type them within a certain time frame and the challenge is to get the highest score within 45 seconds.

We have implemented a high score system, this provides an incentive for the user to beat their current high score and makes the process of typing more fun and competitive, the user is encouraged to share their scores and compete with their peers, bettering themselves in the process.

Proper form is encouraged and **essential** for achieving the highest score, this is why we have added a handy diagram instructing you on how to hold your fingers above your keyboard in the menu.

Technical Details:

I have used a framework called windows presentation foundation (WPF) to create the app. It uses XAML to create its graphical system and C# to handle its logic.

WPF features a system of windows and pages, the main app window has an XAML frame which can display pages. The *ButtonClick* events which lie on the page and are linked to the buttons use C#'s *NavigationService* Class to navigate between the different pages.

Since C# doesn't have a native time based timer function, I used a *DispatcherTimer* from *System.Windows.Threading* to decrement a

number by 0.1 every 100 milliseconds, this is then printed as the time left on top.

There is also a hidden stop watch timer which measures how long you take to enter each letter.

The Keys pressed on the keyboard are actually recorded by the Window instead of the page (due to limitations) and are passed down to the page through a static function on the page *(CalledKeyDown)*.

The high score system is a list of integers which are sorted in the descending order. They are trimmed to 5 elements every time a new score is added.

PS: Bulk of the code is present in *Lettergame.xaml.cs*

Flowchart: