

Term Project: Only Connect

Interactive Appl'n Development

PROG10065

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New report attached to bottom

Term Project: Only Connect

Project Overview

Our application aims to recreate the popular British game show “Only Connect”. This app will allow people to test their knowledge and be competitive. We will use Visual Studio to build the application using C# and XAML technologies. There will be three rounds and 20 connections spread throughout. A connection is 4 items that are somehow related. There are 4 rounds of only connect but we will be focusing on the first three. Ryan Barkman found this game show when he saw an informational Youtuber that he follows, Tom Scott appear on old episodes of the show.

Format of Questions

Item 1	Item 2	Item 3	Item 4
Description	Description	Description	Description

Connection

Only Connect Description

Only Connect is a British game show tournament on channel BBC two. It is hosted by Victoria Coren Mitchell and the goal is to find a connection between four items. There are four rounds. Round one is trying to find what four things have in common. Round two is trying to find what comes last in a related sequence. Round three is the connecting wall where 16 items need to be arranged into related four groups of 4. The last round is the missing vowels round where the players need to uncover a statement that was given without vowels.

The team with the most points wins.

User Interface Wireframes

Grid Format:

Bold = item, normal = description.

Main Layout/Main page

All: RowDefinitions="*, 2*, *"

Orange: RowDefinitions="*, *" ColumnDefinitions="*, *, *"

<p>"The format will be 3 separate grids inside one grid that is 3x1."</p>		
<p>This green part will be a separate grid that will change depending on the round. The orange part will stay relatively the same.</p> <p style="text-align: center;">Start (board will have a start button to begin the game.)</p>		
<p style="text-align: center;">Show all (Button that will show up on some of the rounds.)</p>	<p style="text-align: center;">Reveal (Button that will show up on some of the rounds)</p>	<p style="text-align: center;">Next (Button that will show up on some of the rounds.)</p>
<p style="text-align: center;">Team 1: Score (numeric up down)</p>		<p style="text-align: center;">Team 2: Score (numeric up down)</p>

Round 1 & 2 board picker**Green:** RowDefinitions="*,*" ColumnDefinitions="*,*,*"

Each symbol is a button that will take you to a specific question. Once finished the button will be disabled.

Symbol (Button)	Symbol (Button)	Symbol (Button)
Symbol (Button)	Symbol (Button)	Symbol (Button)
		Next (Once all symbols have been picked then it will allow the user to go to the next board)
Team 1: Score (numeric up down)		Team 2: Score (numeric up down)

Round 1 & 2 questions

Round 1 description:

- Goal is to find what all the 4 items have in common.
- All items will be blank and when clicked will show the item.
- The users can guess **Verbally** (the computer doesn't take any input) what they think the connection is.
- The users can guess from only 1 item and get the points associated with it.
- Add points to the numeric up-down.
- If the user gets it wrong then the enemy team can steal for one point. They will hit the show all button to see all the items.
- The reveal button will show the answer as well as a description for each item.
- Players will decide if the answer is close enough (or host if one).

Example question:

Perfect bowling game	Partridge	Chinese zodiac signs	eggs
12 strikes	Partridge in a pear tree - 12 days of Christmas	12 Chinese zodiac signs	a dozen eggs

All four have 12

Round 2 description:

- Goal is to find what the 4th item is, it is a sequence.
- All items will be blank and when clicked will show the item except for the 4th item.
- The users can guess **Verbally** (the computer doesn't take any input) what they think the 4th item is.
- The users can guess from only 1 item and get the points associated with it.
- Add points to the numeric up-down.
- If the user gets it wrong then the enemy team can steal for one point. They will hit the show all button to see all the items except for the last one.
- The reveal button will show item # 4 and the answer as well as the description for each item.
- Players will decide if the answer is close enough (or host if one)

Example Question:

Eleven	One Hundred	One hundred and One	<u>One Hundred ten</u> <u>(6 is also acceptable)</u>
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11 - 3	100 - 4	101 - 5	110 - 6
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Binary adding one

Green: RowDefinitions="*,2*,*" ColumnDefinitions="*,*,*,*"

5 points (Label)	3 points (Label)	2 points (Label)	1 point (Label)
Item 1 (Button)	Item 2 (Button)	Item 3 (Button)	Item 4 (Button)
Answer (Label)			
Show all (Button that reveals all items.)	Reveal (Button that will reveal Answer)	Next (Button that will return to the round picker)	
Team 1: Score (numeric up-down)		Team 2: Score (numeric up-down)	

Connection Wall picker

Just like the round 1 and 2 picker but with only 2 choices.

<table border="1"><tr><td>Symbol (Button)</td><td>Symbol (Button)</td></tr></table>			Symbol (Button)	Symbol (Button)
Symbol (Button)	Symbol (Button)			
		Next (Once all symbols have been picked then it will allow the user to go to the next board)		
Team 1: Score (numeric up down)		Team 2: Score (numeric up down)		

Connection wall

Goal:

- Players will try to find 4 connections between 16 items in a 4x4 grid.
- Players will have to click 4 items and then hit check if they think it is right.
- Each find will be 1 point and if all are found an extra point is added.
- Items shown below will be the format of our board.

Item 1 - Item 1	Item 2 - Item 2	Item 4 - Item 4	Item 1 - Item 2
Item - Item 3	Item 2 - Item 1	Item 3 - Item 4	Item 4 - Item 4
Item 1 - Item 3	Item 2 - Item 3	Item 4 - Item 1	Item 3 - Item 4
Item 3 - Item 2	Item 4 - Item 3	Item 1 - Item 2	Item 2 - Item 1
Check (user will pick 4 and hit this, all items turn green if they match)		Next	
Team 1: Score (numeric up down)		Team 2: Score (numeric up down)	

Connection wall solutions

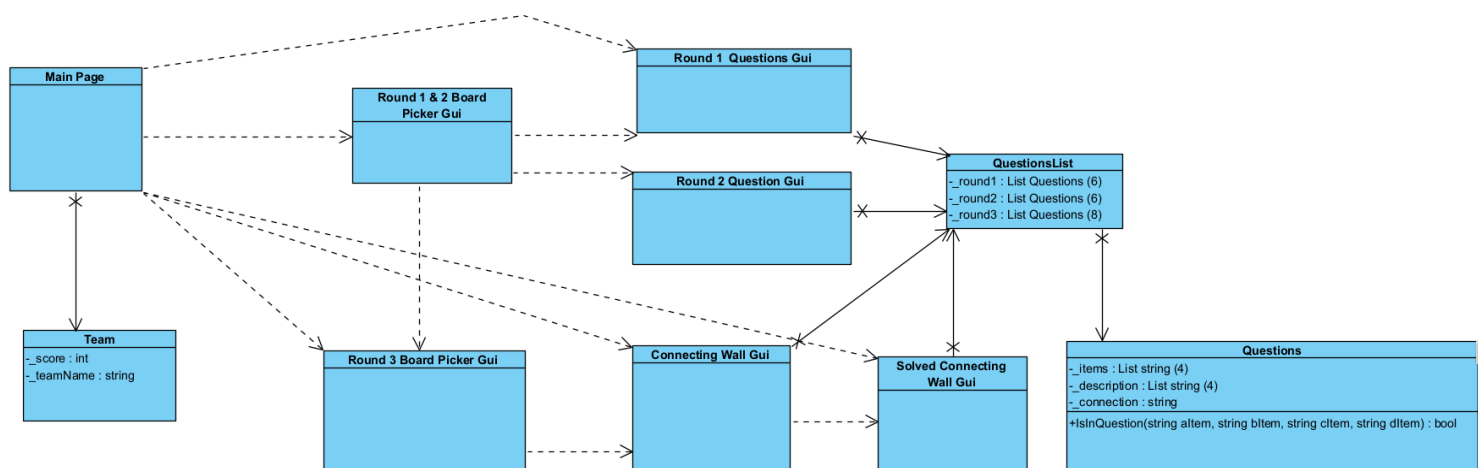
Continuation of the connection wall:

- Players will get 1 point for each connection found and an extra for finding all of them.
- User does not need to get them correct in the previous round to get these right.
- Connection is a button.

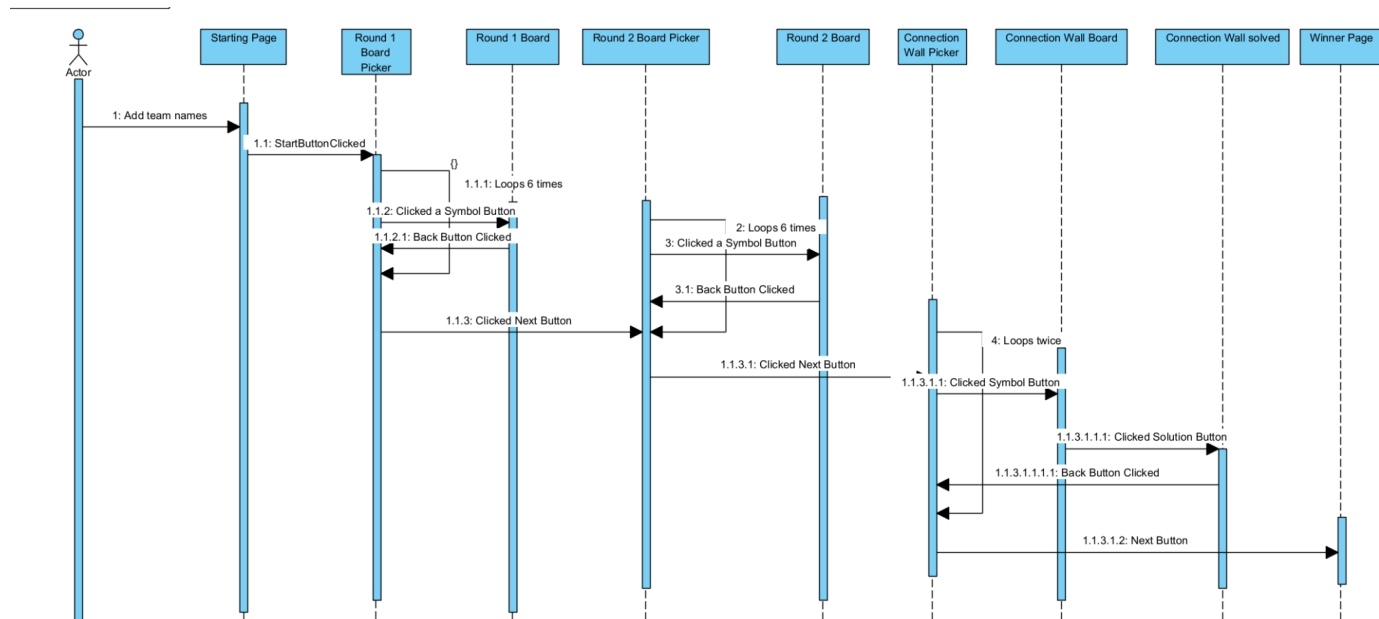
Item 1	Item 1	Item 1	Item 1	Connection
Item 2	Item 2	Item 2	Item 2	Connection
Item 3	Item 3	Item 3	Item 3	Connection
Item 4	Item 4	Item 4	Item 4	Connection
		Next		
Team 1: Score (numeric up down)		Team 2: Score (numeric up down)		

Project Design:

Class Diagram



Sequence Diagram



Data Design

The only values that are saved from the user's input will be the team name and score for each team. The other user interactions will be through buttons that don't take any values. The user will not enter answers through the GUI because it will be hard to track all the possibilities that could be considered correct; like a long answer question on a test. Instead, the users must decide if they are close enough and manually add the score to the appropriate numeric up-down; this data is stored. The way we will be storing our questions will be through 3 lists; each correlating to the specific round of the game. The way questions are formatted is with a list of 4 items, a list of 4 descriptions, and one connection. There will be 20 pre-written questions for the game.

Work Assignment

Contribution	Presentation Layer	Business Layer	Data Layer	Report	Question Making
Ryan Barkman	Connecting wall	Questions class	QuestionList class	Same	Same
Anthony De Belen	Rounds 1 and 2	Team class	QuestionList class	Same	Same

Bibliography

BBC. "BBC TWO". *Only Connect*. <https://www.bbc.co.uk/programmes/b00lskhg>

TomScottGo. *Tom Scott*. [YouTube Channel] YouTube

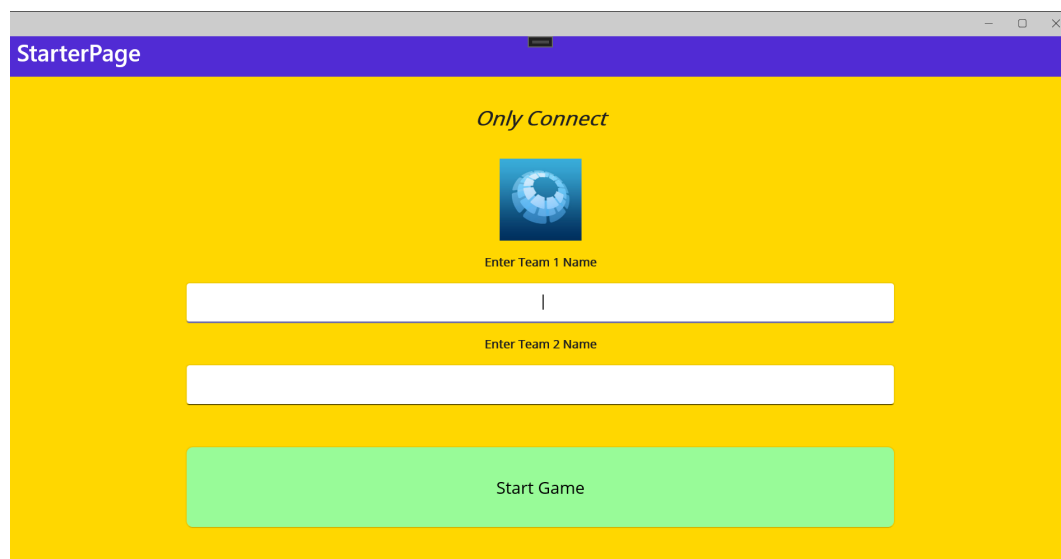
<https://www.youtube.com/channel/UCBa659QWEk1AI4Tg--mrJ2A>

After proposal

In order to run this application the plugin “plugin.maui.audio” must be installed on visual studio 2022.

User Interface Design

Starter Page



The screenshot shows a web application window titled "StarterPage". The background is yellow. At the top, there is a blue header bar with the text "StarterPage". Below the header, the text "Only Connect" is displayed in a serif font. Underneath, there is a blue circular logo with a white gear-like pattern. Below the logo, there are two text input fields. The first field is labeled "Enter Team 1 Name" and contains a single vertical bar character "|". The second field is labeled "Enter Team 2 Name" and is empty. Below these fields is a large green button with the text "Start Game".

Round One Picker

RoundOnePicker

Pick a symbol...

!

@

#

\$

%

^

Team 1s Score: 0

Team 2s Score: 0

+

-

+

-

Next

Round One Board

RoundOneBoard

Round 1

5 Point

3 Point

2 Point

1 Point

?

?

?

?

Connection:

Team 1s Score: 0

Team 2s Score: 0

+

-

+

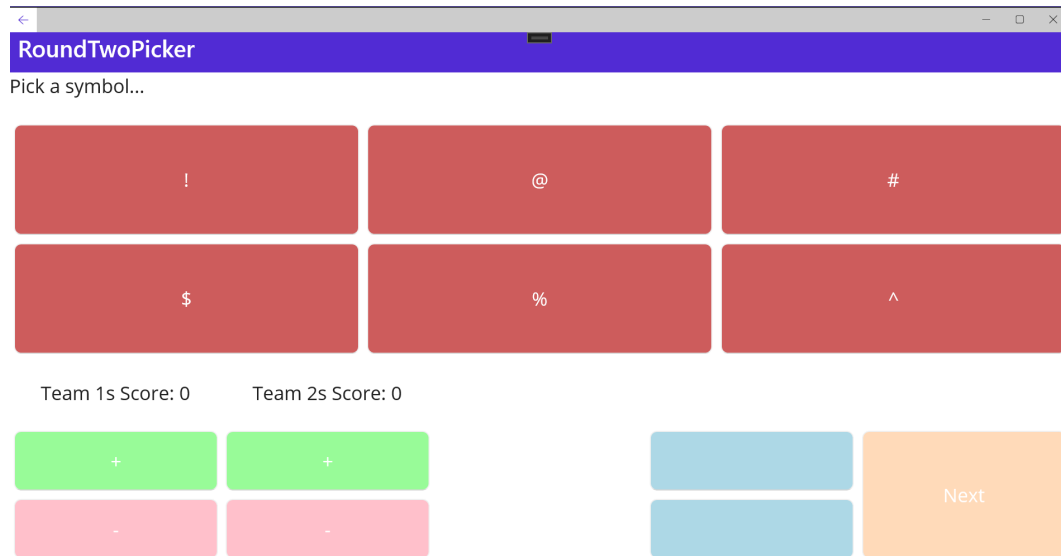
-

Reveal

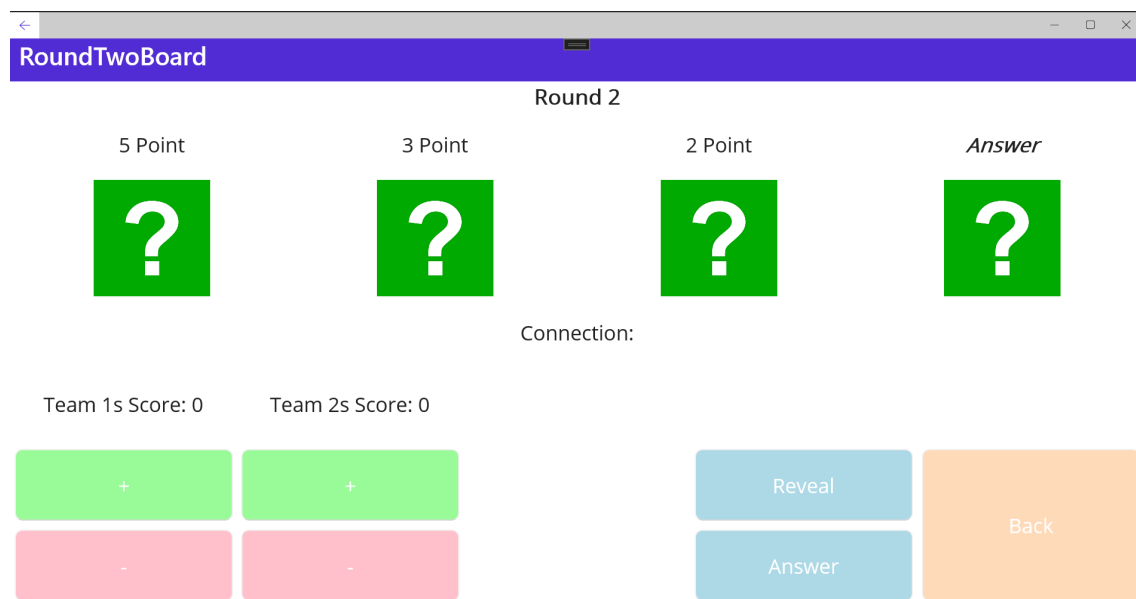
Answer

Back

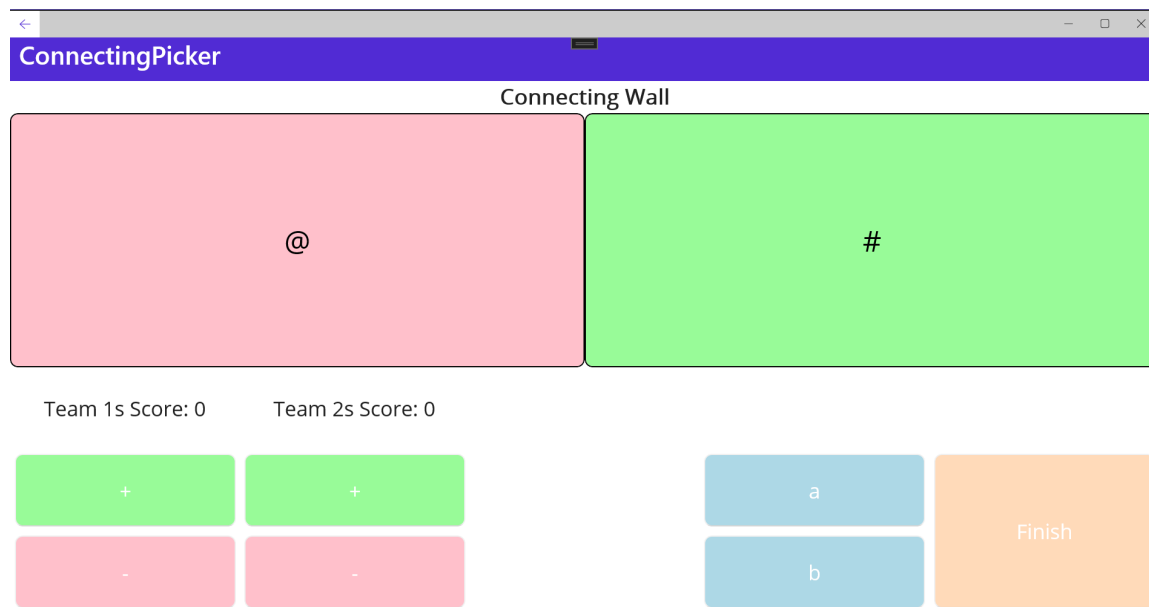
Round Two Picker



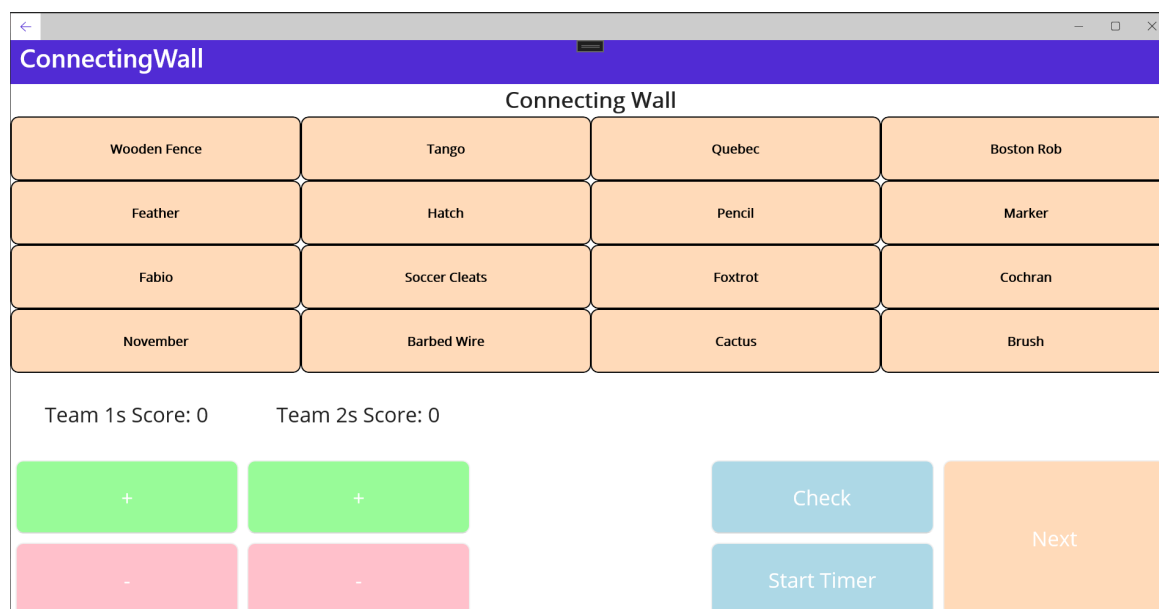
Round Two Board



Connecting Picker



Connecting Wall



Connecting Answers

ConnectingAnwsers

Connecting Wall Anwsers

Hatch	Fabio	Cochran	Boston Rob	Reveal
Wooden Fence	Barbed Wire	Soccer Cleats	Cactus	Reveal
Quebec	November	Tango	Foxtrot	Reveal
Feather	Marker	Brush	Pencil	Reveal

Team 1s Score: 0

Team 2s Score: 0

+

+

-

-

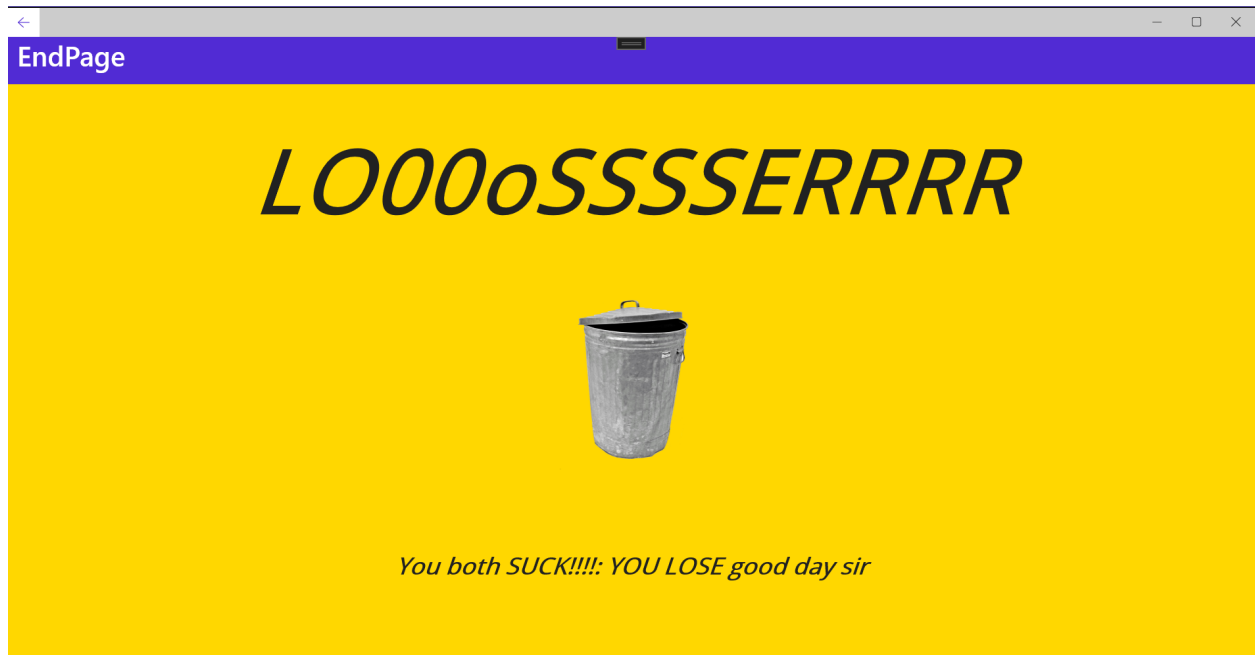
a

b

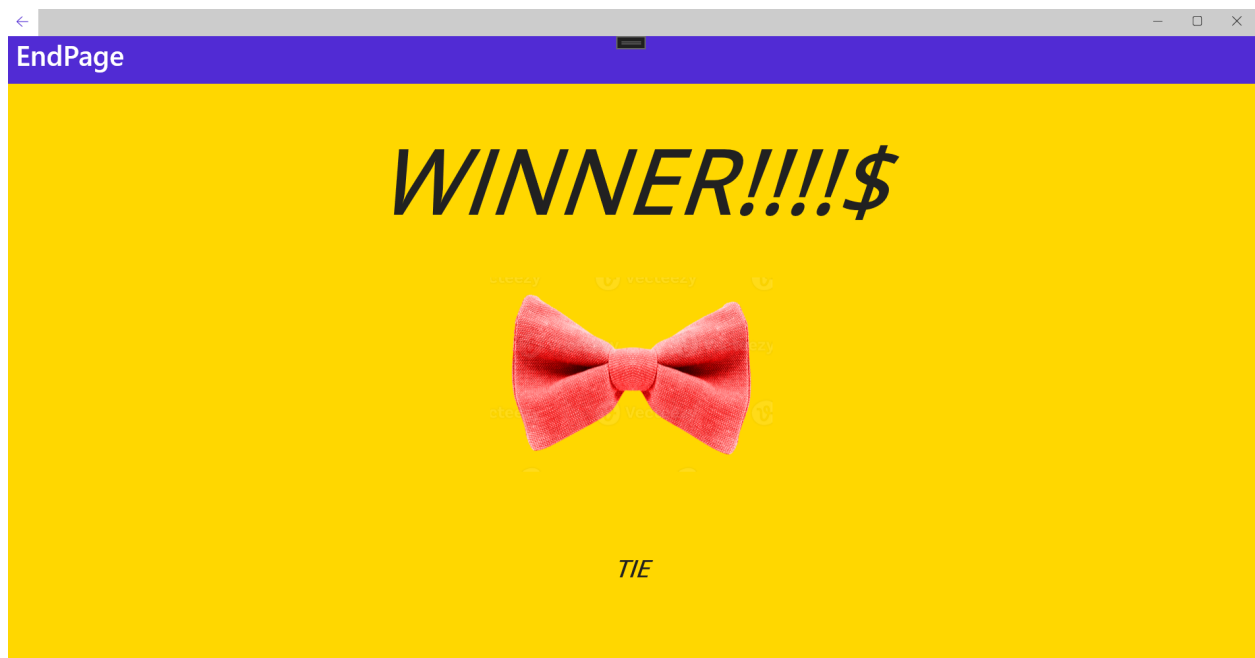
Back

End Pages

Losers End Page



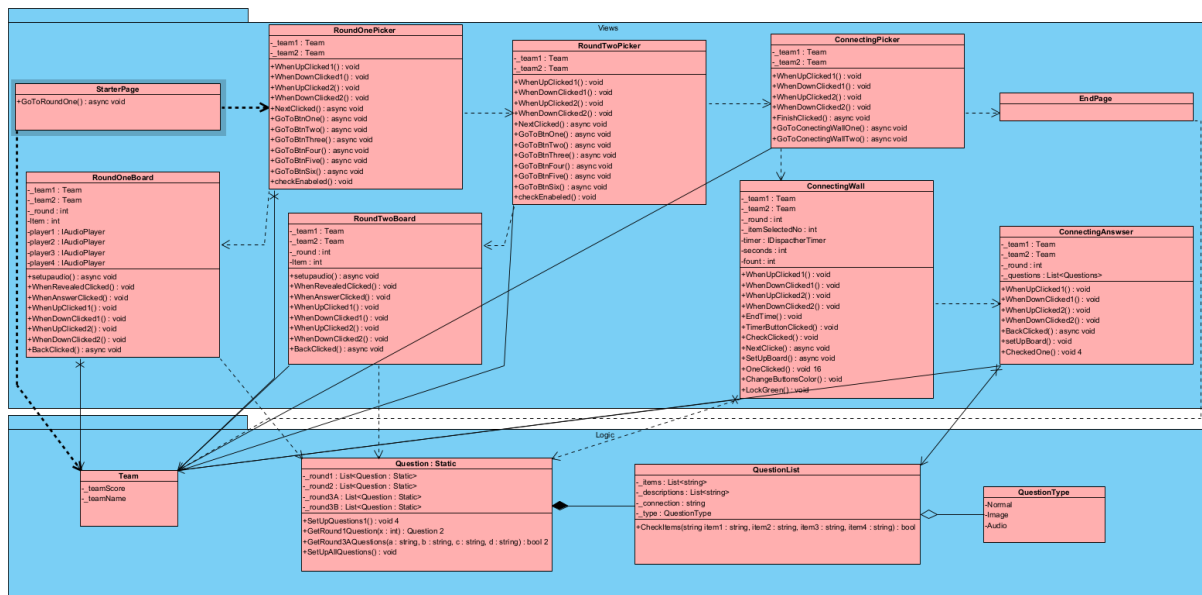
Tied End Page



Winner End Page



Class Diagram

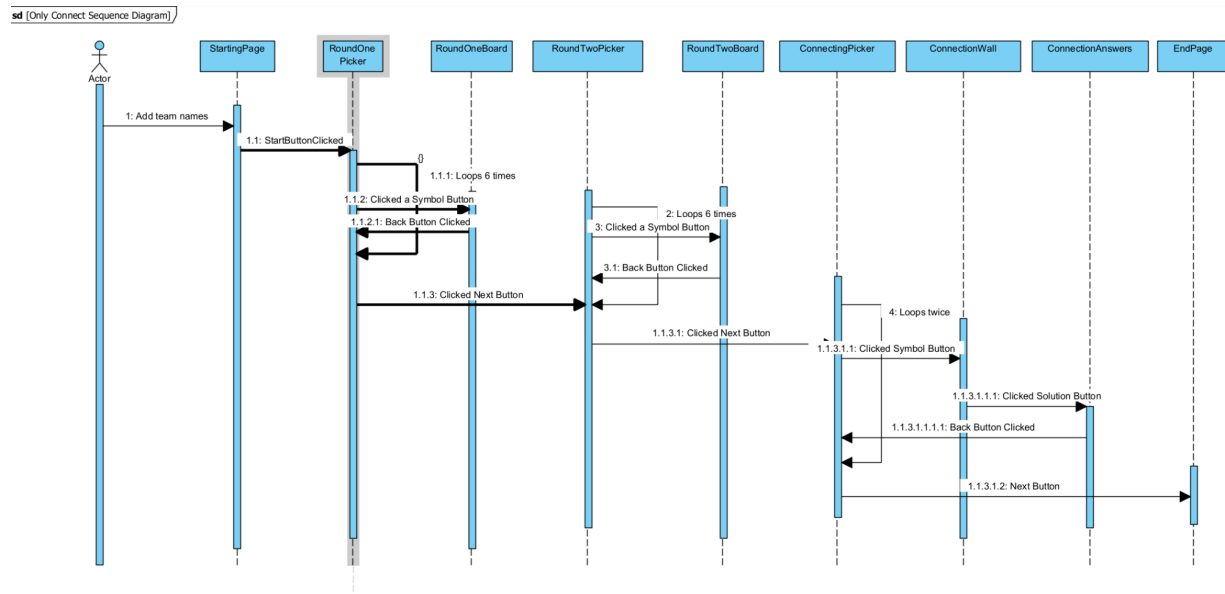


All view pages have teams except starter and end page who just use it

Since QuestionList is static, all views use it instead of Having it.

Number next to void means it has duplicates with the number part changing

Sequence Diagram



The sequence diagram remained almost the exact same apart from the names of the pages.

Project Reflection

Anthony De Belen

- A. The UI for the boards/pickers had the top grid removed to maximize the space available. The buttons were rearranged and renamed for example the show all button was brought to the right and renamed to answer button, and the team score buttons were both brought to the left. The grids went from the initial 3x1 to being 3x2 and 5x3.
- B. More variety in types of questions would have improved the user experience by giving them more unique experiences instead of the same one that only involves labels. The UI could have been more engaging with animations and sound effects. Some code could be reused instead of repeated between round 1 and round 2.

- C. The difficulties faced were when having to transition between questions with labels, images, and audio. Dealing with labels I had trouble with the organization of the numeric up and down score eventually it was organized with careful analysis. Dealing with images I had issues hiding frames that would overlap with the images, which was solved using `IsVisible`. Dealing with audio, I had to install a plugin which later led to having issues being able to reference the local variable in which the player (responsible for playing audio) in the method that changes the music which was fixed by creating 4 individual players inside of a function that would set up audio if audio files was the type being used for the round.
- D. The most only notable new learning made was the audio since we had never learned anything about audio in `c#` for the course.
- E. Responsibilities: Team class, RoundOnePicker, RoundOneBoard, RoundTwoPicker, RoundTwoBoard Sequence Diagram.

Ryan Barkman:

- A) I Thought there was an item for a `NumericUpDown` but it did not, instead it has two buttons that add score and binding does the rest.
- B) I wanted to implement JSON so we could have different questions each time the game is loaded. I also wanted style libraries so I did not have to write the same code 16 times. Wanted to remove the navigation arrow in the top left corner but `NavigationPage.HasBackButton = "False"` did nothing.

- C) Timers were difficult because of how many there were but asking the teacher to help out finding the right one was. Also going back to pages was hard because I found what you needed to do but not how to do it. So many websites talk about removepage but none of them explain how to implement them. I did eventually find one that worked.
- D) I learned IDisplayTimer, to have a time limit. I was also able to learn removepage in the navigation stack so I can go back two pages. Lastly, i learned frames so I can have both max lines and a boarder
- E) Responsibilities: ConnectingPicker, ConnectingWall, ConnectingAnswers, StarterPage, Endpage, Team binding, Question, QuestionList, QuestionType, Class Diagram

Bibliography

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 Stackoverflow.
<https://stackoverflow.com/questions/24856116/how-to-popasync-more-than-1-page-in-xamarin-forms-navigation>

Gerald Versius, @jfvversluis. *Play Sound in .NET MAUI with Plugin.Maui.Audio*. Youtube
<https://www.youtube.com/watch?v=olYnEuZ9oew>

photos

Dwane Jhonson:

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fvariety.com%2Fexec%2Fdwayne-johnson%2F&psig=AOvVaw21nlihM2jGEdhdtEesh4Mq&ust=1681614053702000&source=images&cd=vfe&ved=0CBEQjRxqFwoTCJiYtNTyqv4CFQAAAAAdAAAAABAJ>

Edward Scissor Hands:

https://static.wikia.nocookie.net/monster/images/c/c1/Edward_Scissorhands.webp/revision/latest?cb=20201124073710

Paper mario:

https://images-wixmp-ed30a86b8c4ca887773594c2.wixmp.com/f/77546e83-4a68-4264-99f7-6bdfc8f0eaf8/descegk-2fa7e491-f6b2-45af-8a7d-4342dc502f0c.png/v1/fill/w_1280,h_2118/mario_super_paper_mario_render_by_fawfulthegreat64_descegk-fullview.png?token=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJzdWUiOiJ1cm46YXBwOjdlMGQxODg5ODIyNjQzNzNhNWYwZDQxNWVhMGQyNmUwIiwiaXNzIjoidXJuOmFwcDo3ZTBkMTg4OTgyMjY0MzczYTVmMGQ0MTVIYTBkMjZIMCIsIm9iail6W1t7ImhlaWdodCI6Ijw9MjExOCIsInBhdGgiOiJcL2ZcLzc3NTQ2ZTgzLTRhNjgtNDI2NC05OWY3LTZiZGZjOGYwZWFMOFwvZGVzY2Vnay0yZmE3ZTQ5MS1mNmlyLTQ1YWYtOGE3ZC00MzQyZGM1MDJmMGMuG5nliwid2lkdGgiOiI8PTEyODAiV1dLCJhdWQiOiI0sidXJuOnNlcnZpY2U6aW1hZ2Uub3BlcmF0aW9ucyJdfQ.RwU9Ht81A4_Xi0hSqKWdofagTZMKUffOv5pH1TK5f-Y

Shoot:

https://www.nicepng.com/png/detail/9-92247_gun-shoot-bullet-cartoon-gun-shooting-bullet.png

Magnitude:

<https://media.tenor.com/images/22b7c89de382a5bbe47e5891e6d4dcea/tenor.png>

Trophy:

<https://i.pinimg.com/originals/e2/6b/50/e26b508d39455aa12deb37bd7520760f.png>

Trash can:

<https://www.pngall.com/wp-content/uploads/2016/06/Trash-Can-Free-Download-PNG.png>

Tie:

https://static.vecteezy.com/system/resources/previews/017/189/209/non_2x/red-bow-tie-png.png

Only Connect:

<https://b.thumbs.redditmedia.com/OwJi5nQR9JtUETlvYOxzCs9TRMzz3GJfCeBJ7aXA9tQ.png>

Audio Clips

ACDC. (1992). *Thunderstruck*. Live. <https://www.youtube.com/watch?v=v2AC41dgInM>

Disney. (1997). *Gospel Truth*. Hercules.

<https://www.youtube.com/watch?v=FPpn6Nt3veo>.

John Travolta. (1978). *Greased Lightnin'*. Grease.

<https://www.youtube.com/watch?v=wK63eUyk-iM>

Imagine Dragons. (2017). *Thunder*. Evolve.

<https://www.youtube.com/watch?v=fKopy74weus>