

The Cupcakes

GIF of your App in Action

Designers: Samriddhi, Aarya

PLTW | Computer Science

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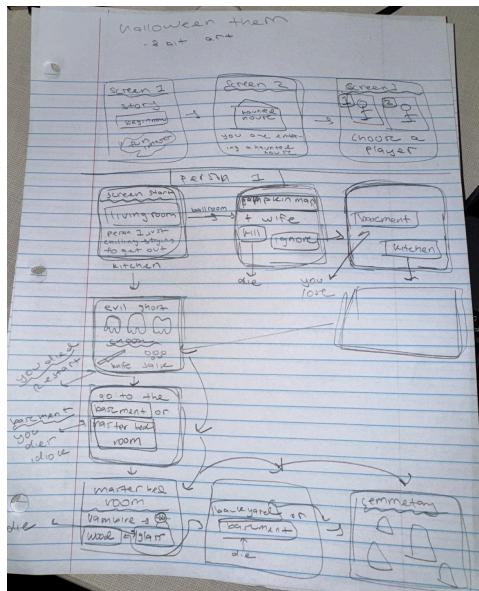
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Plan & Design Your Solution: SCRUM

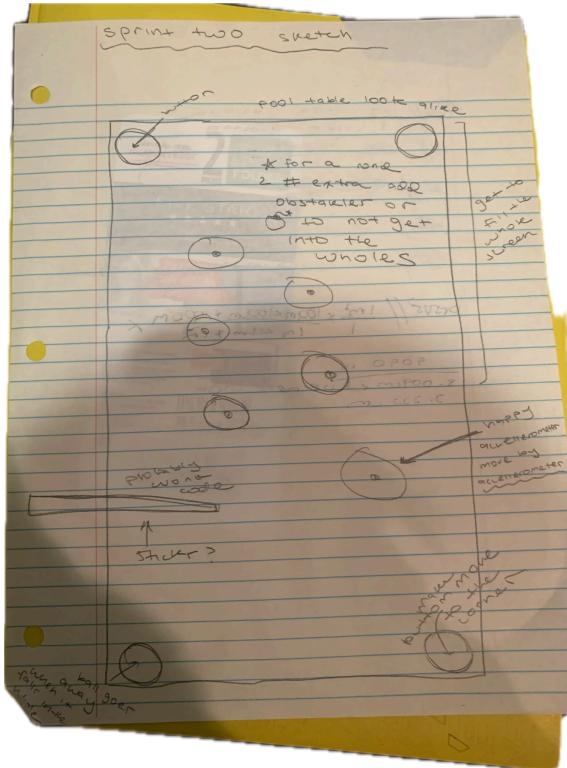
Product Backlog / User Story

What big picture product features need to be completed in order to have a successful product. Note, in this section you might need to include sketches to better aid in a stranger's understanding of the goal of this product.

The goal of this project is to create an entertaining story a user could follow. Sketch:



The goal of sprint number 2 was to create an entertaining game based off of the iconic ball game: pool.



Sketch:

User story: As a user I need an entertaining game so that I can be entertained.

As an old person I need something that could remind me of the things I used to do so I can feel young again without having to get up.

Sprint Planning & Sprint Backlog

What are all the smaller tasks that need to be completed in order to complete your project, and how long do you think each task will take to complete (breakdown using hours or minutes, also use strikethrough text styling once a task has been completed...if it took more time add a + _____ units and if it took less time add - _____ units you must use the highlight color).

Note: Make sure you add all the task required for the entire project in the table below.

Insert rows as needed in the table below.

Table 1: Main Table: Contain all the tasks

Tasks	Estimated Time	+/- Time	Completed By Date and Person name	Sprint #
Create/brainstorm a blueprint of the story	5 min	+15	10/22: Samriddhi	0
Write down today's reflections, take picture of	10 min	-1	10/22:	1

storyboard and upload			Samriddhi	
Make and finished sprint 1	Four days	-1 day	10/25: Aarya	1

Sprint 1

Sprint 1 Tasks

Copy and paste tasks, with time details from the sprint backlog and place them here.

Note: This will include the task you plan to complete in the first week from the above table.

[Insert rows as needed in the table below.](#)

Tasks	Estimated Time	+/- Time	Completed By
Create screen one of the story	<3 min	+22sec	Aarya
Create screen two	<5 min	-1min	Aarya
Finish sprint 1	40 min	+20 min	Aarya
Create storyboard screen 1 & 2	15 min	+1	Samriddhi

Sprint Retrospective (Individual): Student1

What challenges as a team did you face that are NOT code related? Were you able to overcome those challenges? What is one goal you have to work better as a team (that is not code related)?

Some challenges that our team faced that were not code related was that we had some trouble coming up with a storyline for our story/game, because we couldn't think of a very creative or out of the box idea that was going to help us create an in-depth story. One goal that we have to work better as a team is probably getting better at coding, since we are both pretty new to coding, we had some trouble actually coding functions for our game/story, even though eventually we had a good storyline. We were able to overcome these challenges eventually by creating a storyboard on paper, and thinking about a halloween themed storyline, so brainstorming really helped.

Sprint Review (Individual):Student 1

What challenges as a team did you face that are code related? Were you able to overcome those challenges? Do we need to make any modifications to our sprint backlog (add more tasks, put back tasks we did not finish, edit original tasks based on feedback, etc.)?

Some challenges that our team faced that were code related were that it got very complicated to code the game, because our story had different screens.

Sprint Retrospective (Individual): Student 2

What challenges as a team did you face that are NOT code related? Were you able to overcome those challenges? What is one goal you have to work better as a team (that is not code related)?

Something not code related is that we did not fully understand the concept of scrum/what we are supposed to do. Also the design is very basic and not that good looking.

Sprint Review (Individual): Student 2

What challenges as a team did you face that are code related? Were you able to overcome those challenges? Do we need to make any modifications to our sprint backlog (add more tasks, put back tasks we did not finish, edit original tasks based on feedback, etc.)?

I think we NEED to redesign the game to have more code. There is literally only one line of code repeated over and over again. I think we should change it over to a game where we would be able to add more code

Code File Links: [Samriddhi & Aarya - CSE 1.1.6](#)

Move onto the next sprint and repeat the previous steps to develop and test each feature until you have completed your project.

Sprint 2

Sprint 2 Tasks

Copy and paste tasks, with time details from the sprint backlog and place them here.

Note: This will include the task you plan to complete in the first week from the above table.

[Insert rows as needed in the table below](#)

Tasks	Estimated Time	+/- Time	Completed By
deciding how to improve on sprint 1/ planning what to do for sprint 2	<10 min	-5 min	Aarya
Started sprint two	30 min	+5 min	Aarya
Continued sprint two/ solving the cannibalism problem	35 mins	+8 min	Samriddhi

Solve the buttons/holes for the goals	25 mins	-3 mins	Samriddhi
Make it so that the balls disappear when touched with the whole	30 mins	-15 min	Aarya
Add finishing touches+combine the two screens	<10 min	+3min	Aarya

Sprint Retrospective (Individual): Student1

What challenges as a team did you face that are NOT code related? Were you able to overcome those challenges? What is one goal you have to work better as a team (that is not code related)?

Some challenges that our team faced that were not code related were that we had a lot of miscommunication. Since I was absent for two days, I had to code a bit more than my partner to make up for the days I missed, but the other person wanted to keep working on more challenges, code, and problems, even though I needed to fix them to make up for my missed days.

Sprint Review (Individual):Student 1

What challenges as a team did you face that are code related? Were you able to overcome those challenges? Do we need to make any modifications to our sprint backlog (add more tasks, put back tasks we did not finish, edit original tasks based on feedback, etc.)?

We faced a few errors and challenges in our code for the game, and one was that the pool table balls in the game kept cannibalizing everytime we tried to play the game and get the balls into the two holes. Another problem we faced was that the two goals, or the holes were not working as buttons, and didn't consume the balls when trying to score them into the goals when playing the game. So, those two were the biggest tasks that I tried to fix, and it was pretty difficult and frustrating to figure out.

Sprint Retrospective (Individual): Student 2

What challenges as a team did you face that are NOT code related? Were you able to overcome those challenges? What is one goal you have to work better as a team (that is not code related)?

MIT app inventor does not allow two people to work on a project at the same time so we both had to download it and do it separately. We also had several miscommunication errors of miscommunication.

Sprint Review (Individual): Student 2

What challenges as a team did you face that are code related? Were you able to overcome those challenges? Do we need to make any modifications to our sprint backlog (add more tasks, put back tasks we did not finish, edit original tasks based on feedback, etc.)?

One challenge we faced that was code related was that even though most of the balls were going away, there was one ball that would stay. We had no idea which ball it was and why it was not disappearing.

Code File Links [!\[\]\(2b9000c261447981d88674ebdb52dc1e_img.jpg\) Samriddhi & Aarya - CSE 1.1.6](#)

Move onto the next sprint and repeat the previous steps to develop and test each feature until you have completed your project.

Sprint 3

Sprint 3 Tasks

Copy and paste tasks, with time details from the sprint backlog and place them here.

Note: This will include the task you plan to complete in the first week from the above table.

[Insert rows as needed in the table below](#)

Tasks	Estimated Time	+/- Time	Completed By
Fixing the pool table holes from eating the pool balls	45 mins	-0 mins	Samriddhi
Making the pool table balls look different from each other	20 mins	-10 mins	Samriddhi
Fixing the “ balls Left “ counter to be correct	20 mins	-5 mins	Samriddhi
Fixing the balls to disappear when touched with the holes, because they are still not doing that	20 min	-20 min	Aarya
Adding something that differentiates this game from the inspo	20 min	+10min	Aarya

Sprint Retrospective (Individual): Student1

What challenges as a team did you face that are NOT code related? Were you able to overcome those challenges? What is one goal you have to work better as a team (that is not code related)?

Sprint Review (Individual):Student 1

What challenges as a team did you face that are code related? Were you able to overcome those challenges? Do we need to make any modifications to our sprint backlog (add more tasks, put back tasks we did not finish, edit original tasks based on feedback, etc.)?

Sprint Retrospective (Individual): Student 2

What challenges as a team did you face that are NOT code related? Were you able to overcome those challenges? What is one goal you have to work better as a team (that is not code related)? Again, we faced the problem of not being able to work on the project at the same time. This weekend was also quite packed for the both of us as I'm sure Samriddhi was busy with Diwali, and I was not only busy with Diwali and Halloween but also caught a cold which put me out of commission for a while. We also need to work more on our communication, as though we were great at compromise, some of us were not able to do the things we say, like when we offer to answer questions on a document but never end up doing them, even if they are personal.

Sprint Review (Individual): Student 2

What challenges as a team did you face that are code related? Were you able to overcome those challenges? Do we need to make any modifications to our sprint backlog (add more tasks, put back tasks we did not finish, edit original tasks based on feedback, etc.)? At the start the balls were not disappearing when they touched the holes so I added the task on the log and waited for 20 minutes and the problem magically fixed itself.

Code File Links: [!\[\]\(e462f608b89f421f9d905728e26f6429_img.jpg\) Samriddhi & Aarya - CSE 1.1.6](#)

Note: Add more sprints if needed until you complete the project, or the project is due!

Final Sprint Review & Retrospective (Individual): Student 1

Type Here...**Organize and Format Nicely!!!**

What went well through this process, what did not go well. Make note of any features you did not have time to develop and any milestones you did not reach. Also reflect on what you would have done differently if you got to repeat this entire project/process all over again

Final Sprint Review & Retrospective (Individual): Student 2

Type Here...**Organize and Format Nicely!!!**

What went well through this process, what did not go well. Make note of any features you did not have time to develop and any milestones you did not reach. Also reflect on what you would have done differently if you got to repeat this entire project/process all over again

One thing that went well is that we were able to finish the game without any bugs. One thing that was not well was our time management as most of this project and log were completed over the weekend.

One thing that we did not have is the prettiest looking user interface. Though there is nothing repulsive about it, it could definitely look better. I think we could have also added a restart button, or a you win screen, or a timer. If there was a timer there could also have been a lost screen.

If we were to do this project again I would have planned out sprint one better. Sprint one was completely different from Sprint 2 and 3 because we changed the idea due to lack of everything. I would have also better time managed, doing more work on this log during class, so that less would have to have been done over the weekend.

Final Product & Justifications

Insert a Video of your final app in action here

Final .aia file link:

Final .apk file link: [RPReplay_Final1730696729.MP4](#)

Self Evaluation & Final Project Code

Interpretive Performance Guide

To help prepare you for the next Computer Science Course (AP CSP) I want you to look at and evaluate what score you would get based on the following [Interpretive Performance Guide \(Click Here\)](#). Note: if you do not satisfy and show proof in this documentation of all items in the Low category give yourself a “0” for that row.

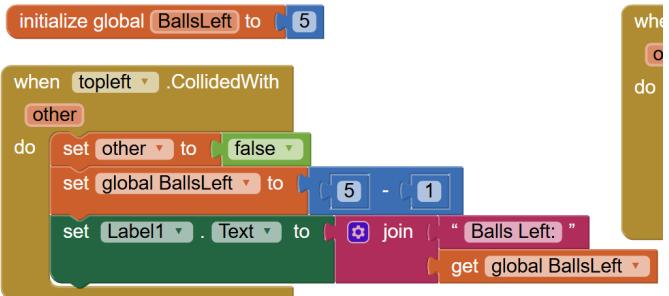
Based on the Guide My partner and I would get: 78%

Justification for that score, go into detail on what rows you think you would get and why!

Row 1	½ : neither of us really understood how scrum works and our sprint 1 is completely different from sprint 2 and 3. It was quite difficult to do pair programming with mit app inventor because only one of us could code at a time.
Row 2	½: Our game really does not solve any problem other than it entertains people, and it is not really a creative expression.
Row 3	3/3: I like to think that we both know the code in the project and what it does.
Row 4	3/3: I think we can both explain the complex parts of the game.
Row 5	3/3: We both were able to debug and work on this app's problems. We also both understood the user interface and the purpose of the game.
Row 6	3/3: We both understand the process of how the app was made and could write something or make a video on it.

Program Code

Insert as many screen captures as needed of your program code with readable comments for the major features and functional aspects of your App (Note: I suggest you use a table to help organize your images and comments (comments can use app inventor comments or text in this document)):

 <pre>initialize global [BallsLeft] to [5] when topleft .CollidedWith other do set other to [false v] set global BallsLeft to [5 - 1] set Label1 .Text to [join ["Balls Left: " get global BallsLeft]]</pre>	<p>There are four copies of this code for each black square/whole and it makes it so that if an object collides with any of the holes it disappears. The variable is five because there are five balls and every time a ball disappears, the label that tells you how many balls are left goes down by one.</p>
 <pre>when blue .CollidedWith other do if [get other = topleft or get other = topright or get other = bottomleft or get other = bottomright] then set blue to [false v]</pre>	<p>This was made by Samriddhi. There are five copies of this code for each ball. It says that if a ball collides with one of the squares it disappears.</p>
 <pre>initialize global [speed] to [10] when Blue_button .Click do set blue .Enabled to [true v] set yellow .Enabled to [false v] set black .Enabled to [false v] set green .Enabled to [false v] set red .Enabled to [false v] when YellowButton .Click do set blue .Enabled to [false v] set yellow .Enabled to [true v] set black .Enabled to [false v] set green .Enabled to [false v] set red .Enabled to [false v] when Screen1 .Initialize do set blue .Enabled to [true v] set yellow .Enabled to [true v] set black .Enabled to [true v] set green .Enabled to [true v] set red .Enabled to [true v] when black_button .Click do set blue .Enabled to [false v] set yellow .Enabled to [false v] set black .Enabled to [true v] set green .Enabled to [false v] set red .Enabled to [false v] User tapped and released the button. when greenButton .Click do set blue .Enabled to [false v] set yellow .Enabled to [false v] set black .Enabled to [false v] set green .Enabled to [true v] set red .Enabled to [false v] when redbutton .Click do set blue .Enabled to [false v] set yellow .Enabled to [false v] set black .Enabled to [false v] set green .Enabled to [false v] set red .Enabled to [true v]</pre>	<p>This controls the buttons on the user interface with colors on them (assigned to each ball). If a button is clicked the color assigned with that button will be able to move while all other balls don't move. When the screen starts, ball blue is enabled because it has a number 2 on it, and that is the smallest number of all the balls.</p>



This controls the four buttons on the bottom. When the up button is clicked the ball selected (above) will move up and so on. In the picture above the variable for speed is 10 which is how far the sprite will move in that direction when the button is clicked. This also says that if the ball is not enabled it will return to the middle of the canvas.

Conclusion

Samriddhi's Reflection:

Answer the 1.1.6 conclusion question here...be DETAILED!

Blas this is my great example of collaboration

Aarya's Reflection:

Answer the 1.1.6 conclusion question here...be DETAILED!

To this collaboration I contributed the time and effort I put into this document. In the final draft I put in the feature of the buttons moving the objects, the buttons that decide which object is going to be moved. To the overall project I offered my creativity on what the project should be like, and what the additional features were going to be on this game.

- 1) The purpose of our program is to entertain people. It can also be seen as a way for old people to connect to their youth, or still partake in the activities they enjoy despite their declining health. Old people like to play pool but a lot of them are able to stand up or use their arms properly, so this app gives them the ability to do the things they love despite their physical limitations.
- 2) Math is used on the label for the amount of balls left. Every time a ball goes away the number decreases by one. Math is also used in the up, down, left and right buttons. Every time one of those buttons is pressed the sprite will move 10 spaces in that direction.

- 3) A series of steps that the program uses is the one where the balls touch the holes. When something collides with the holes, that something will go away. The global variable for the number of things there are will decrease by one. And the label on the screen is connected to the variable, so the label will also go down by one.
- 4) An abstraction is getting rid of any code that is useless to the program. An abstraction could manage complexity by allowing the app to have many unique and distinctive features without being too complicated. Our app is very abstract and only contains the code it needs to function.

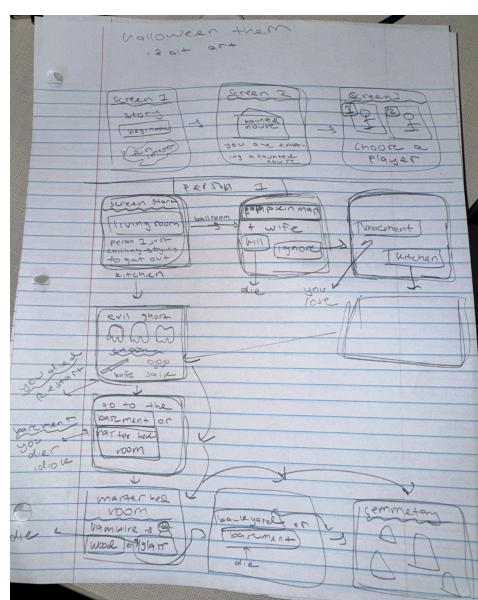
Project Log & Brainstorming

This table MUST be detailed! It will be how I grade a minimum of 10% of your score for this project. You must record an entry for every day of this project, even if we do not meet for class.

Brainstorming: Steps 1 through 7: Type Here...Organize and Format Nicely!!! You should also include brainstorming & developmental sketches here. They can be google drawings, photos of your hand sketches, etc. No matter what though, Organize and Format Nicely!!!

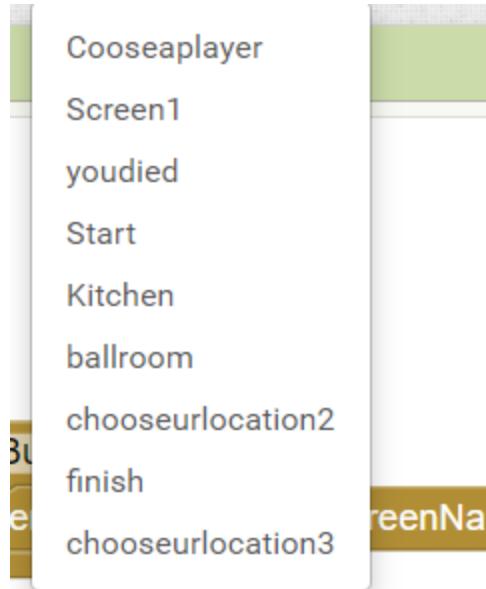
Reminder, your App must meet ALL requirements given in 1.1.6 PLTW instructions

Samriddhi Joshi	Aarya Chawathe
<i>Delete this text and put a daily reflection here. What did you do in class? What did you do at home? How well did you work with your partner today? Etc.</i>	<i>Delete this text and put a daily reflection here. What did you do in class? What did you do at home? How well did you work with your partner today? Etc.</i>
<i>Insert images here on a DAILY basis of your code and App output (aka Emulator)...I need to see how it changes and evolves over time...again delete this text before submitting your work!</i>	
10/21: we did the sketching and planed out the basics of the project	10/21: we did the sketching and planed out the basics of the project
none	
10/22: Me and my partner created a draft of our game/story's storyboard. We created around 12 boxes to show what happens in each scene of our story, and decided to create a story based on a haunted house survival, where you can choose from 2 players to play as, and decided on what happens in each level. We will have a total of 5 or 8 levels, depending on what person you have chosen. The theme of the story will be 8 - bit kawaii, with a creepy cute halloween theme.	10/22: I did screen 1, 2, 3 on mit app inventor. I helped in storyboarding the story and did the drawings. At home I will finish the storyboard for person 2 and try to make it shorter or easier to scum.



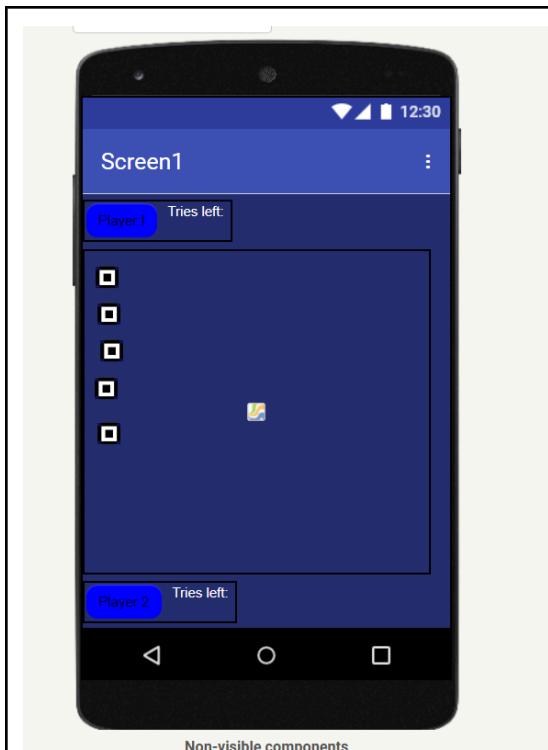
10/24: absent

10/24: I finished the entire sprint 1 and the app is complete. I do think our app needs more coding because it's mostly just time consuming to make, we have literally no coding.



10/25: absent

10/25: completely finished sprint one. Started planning/deciding how to improve and create sprint two.
Planned what to do for sprint 2. Started building, but nothing was working correctly.

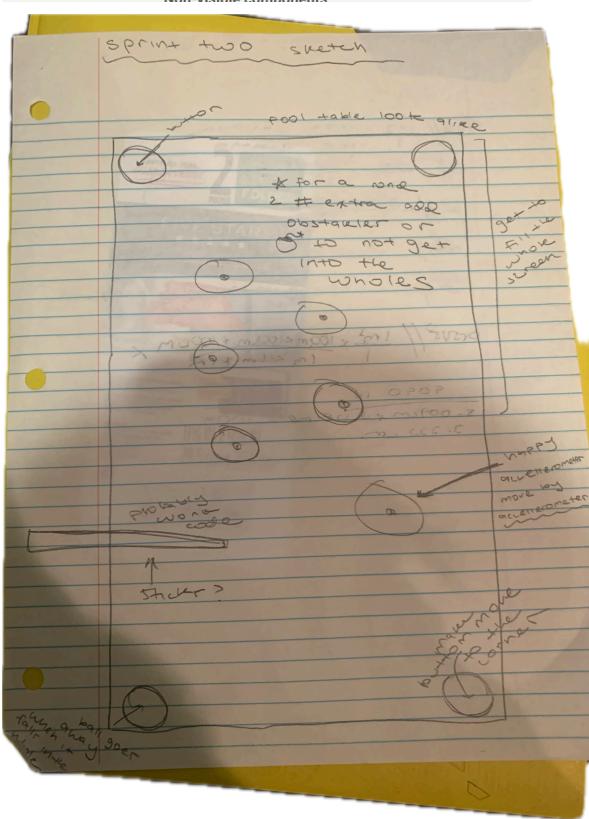


```

when AccelerometerSensor1 .AccelerationChanged
  xAccel yAccel zAccel
do call ImageSprite1 .MoveTo
  x y
    
```

```

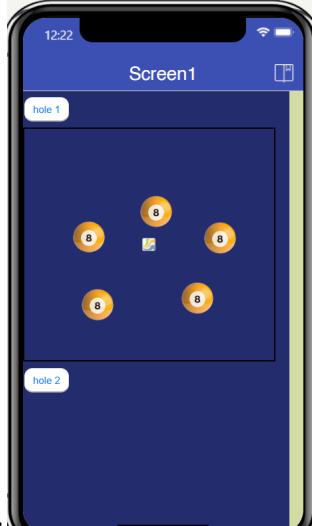
initialize global number_of_tries to 10
when Button1 .Click
do set Label1 .Text to get global number_of_tries - 1
  set Label1 .Text to join " Tries left: " get global number_of_tries
when Button2 .Click
do set Label2 .Text to get global number_of_tries - 1
  set Label1 .Text to join " Tries left: " get global number_of_tries
    
```



10/28: Managed to finish sprint 2 student retrospective 1 and 2. I had to write down our challenges and how we overcame them for our code for our haunted house. We had to eventually scrap our idea of the haunted house. Also added a design for the balls to look more

10\28: finished game plan: some kind of pool table (wheel work on it)

Started to improve on the coding/deleted at the things that were not working. For some reason all the sprites were cannibalizing and despite watching 2 videos on how to prevent it they won't stop cannibalizing. Also did not end up coding anything



like a pool table.

for the buttons.

10/29:

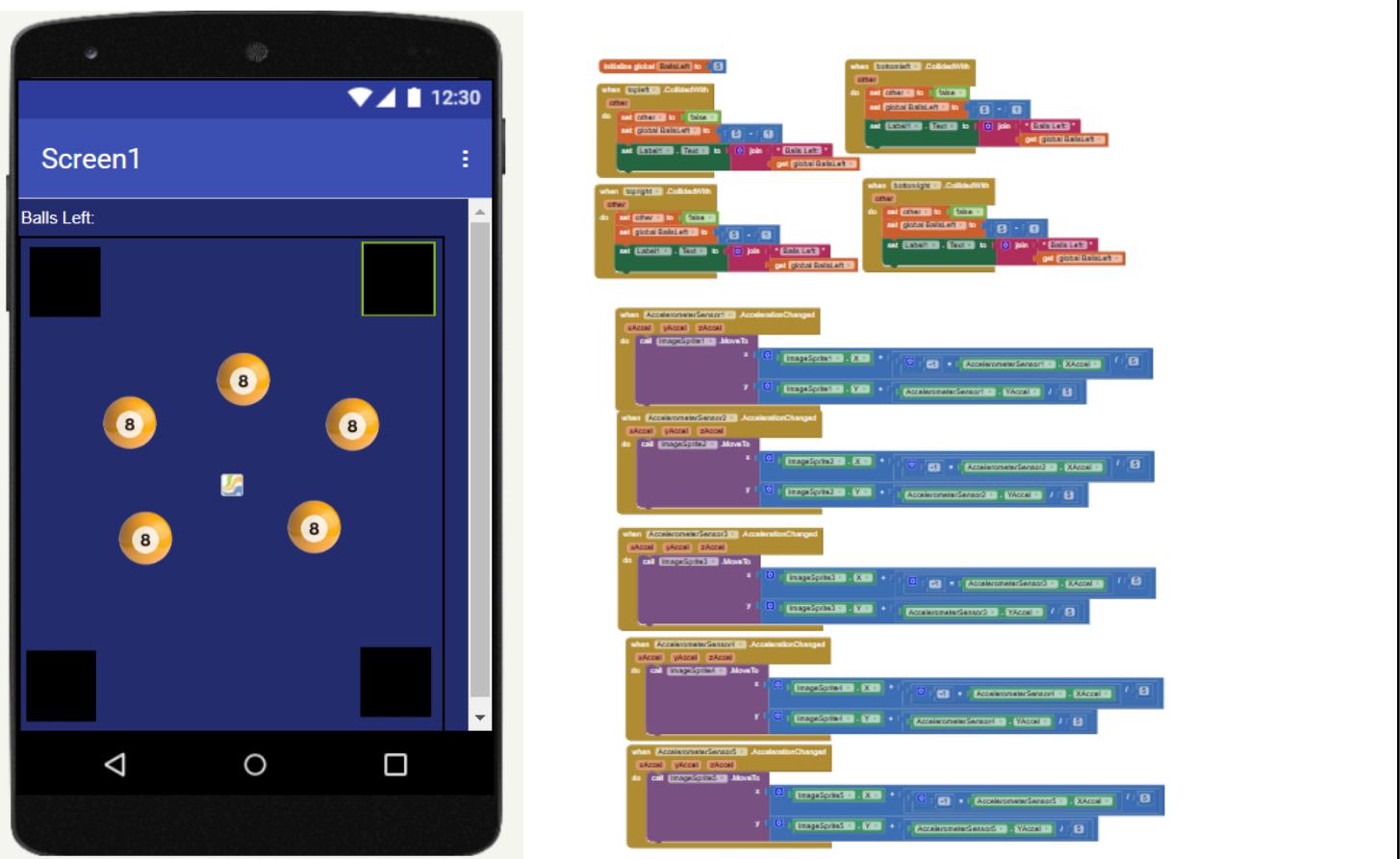
Started to improve and try to solve all the errors happening in the code for the game, such as cannibalism when you move the balls around in the game. I also tried to add some creative touches to the game such as more modern fonts to the buttons, and making the buttons blend into the “pool table”.

10/30: I tried messing around with the code because I literally had no idea how to fully solve the cannibalizing problem, I eventually found out that the problem was with the integers all being the same numbers, so I finally changed the numbers, which got rid of the cannibalizing.



10/29: I made a sketch of sprint two. Samriddi emailed the game to me for us to work on at home. I will make it so that when the sprite touches the button the sprite goes away (point of the game), and she will make the sprite stop cannibalizing (main error).

10/30: I replaced the buttons with sprites because it was not working, and have achieved the main point of the goal. I know you worked very hard on making the buttons look aesthetic during class so I'm sorry, but I literally could not figure out how to do it. I have added a score to the amount of balls when they get eaten.



10/31: I found out that when the other person coded the pool table holes to eat up the pool table balls, all of them would disappear except one, so I decided to try and fix the one ball that would not go away. I'm just going to work on sprint three tonight and tomorrow night, and see if the same errors are popping up from sprint 2, like the cannibalism and holes aren't working again, and fix it in sprint 3.

I also Made the pool table balls look different from each other, by downloading different pool table ball pictures online, going to a background erasing website online to make the images have a transparent background, and added a different picture to each one of the image sprites of the pool balls, to give it a more creative touch.

10/31: One of the balls would not go away for some reason. We decided to leave it as a bug and either one of us would work on it at home, or it would just be an error. Science we are behind, I told her to work on sprint three in class and then send it to me tomorrow night, so I can perfect/add something different to it (because you said that if you take inspo from another game there must be something there to separate it) and turn it in sunday night.

11/1: I fixed the “ balls Left “ counter to be correct, since it kept showing the number of balls left to be “ 4 “ for some reason, even though there weren't four balls left.

I also coded the part where the pool table holes should eat the pool balls when they collide. For this I had to research how events, properties, and conditionals work together, and then how to implement it to the code.



11/2: The requirements said that if you take inspiration from another game, there has to be something different about it. So I made it so that instead of the balls moving as the screen tilts there are buttons, and by pressing them the ball will go up, down, left, and right. You can choose which ball to move based off of the other buttons which let you select the ball to move based on color. On the sprint 3 catalog, I mention fixing the fact that none of the balls were disappearing. For some reason they would not disappear, but then when I tried again 20 minutes later they did disappear, so I did nothing to make them, I think there was just something going wrong with MIT app inventor.

