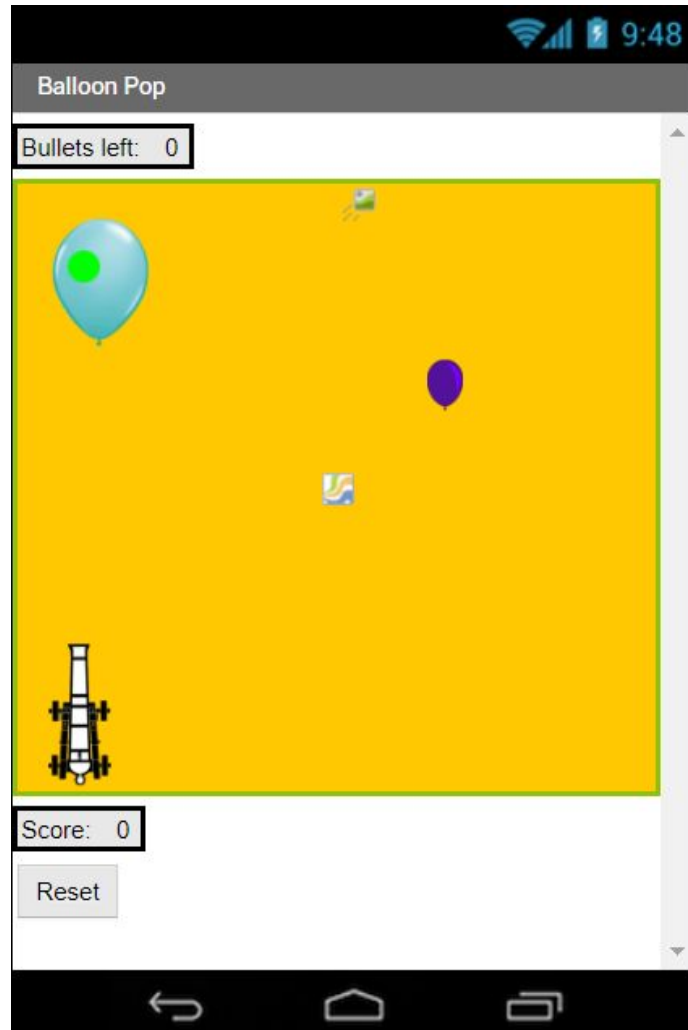


# Balloon Pop

By: Brandon Lau and Apoorva Subramanian



	Beta Version	Final Version
.aia Files (Source Code)	<a href="#">CSE#4_Subramanian_Lau_Balloon_Pop_Beta.aia</a>	<a href="#">CSE#4_Subramanian_Lau_V2.aia</a>
.apk Files (Packaged App)	<a href="#">CSE#4_Lau_Subramanian_Balloon_Pop_Beta.apk</a>	<a href="#">CSE#4_Subramanian_Lau_V2.apk</a>

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## **Brainstorm:**

Features:

- Reset button that resets the entire game
- Level progression
- Increased difficulty ( adding more objects to shoot, or adding obstacles)
- Allow the sprite to shoot multiple bullets (one after another)
- Pause button

Themes:

### **Idea #1: Star Wars themed game**

- Purpose: The purpose of the game is to shoot Imperial Tie Fighters as a commander of a X-wing for the Rebels.
- Level Advancement every 3 Tie Fighters shot down
- Tie Fighters gain speed and will start firing more bolts as you progress further
  - [X-Wing](#) , [Laser Bolt](#) , [Tie Fighter](#)

### **Idea #2: Carnival Balloon Game**

- Purpose: The purpose of the game is to shoot the balloons using the bullets from the dart gun
- You need to shoot 3 balloon to move up to a new level
- As levels progresses, balloons will begin to disappear, so shooting a balloon will become harder
  - [Carnival Gun](#) , [Balloon](#)

### **Idea #3: Cats are Invading!**

- Purpose: Cats are invading...The legendary cat shoots the mice to destroy them.
- You need to shoot three mice to move up a level

### **[Cat with Lasers](#)**

### **Idea #4: Space Game**

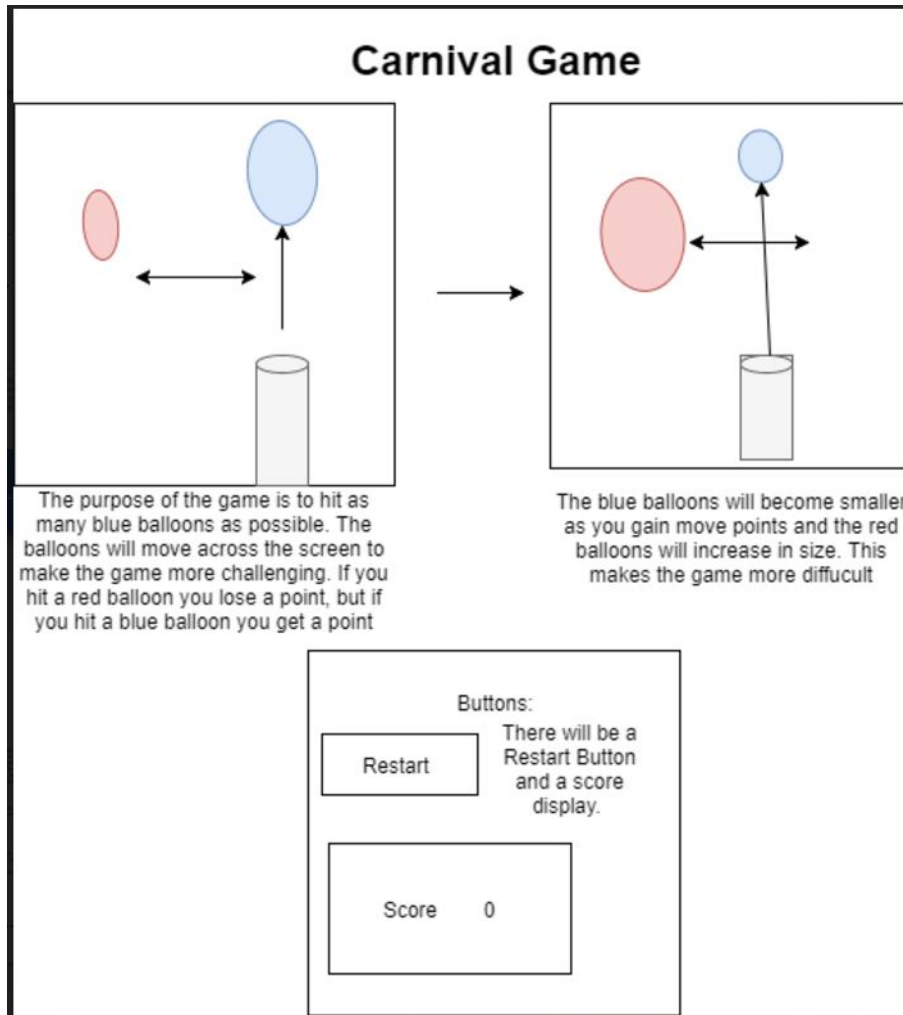
- Enemy ship shoots back
- Highest score
  - Unlocks different classes of ships and/or weapons
- Level Progression
  - Additional ships as level progress
  - Obstacles are added
    - Meteoroids
    - Space Junk

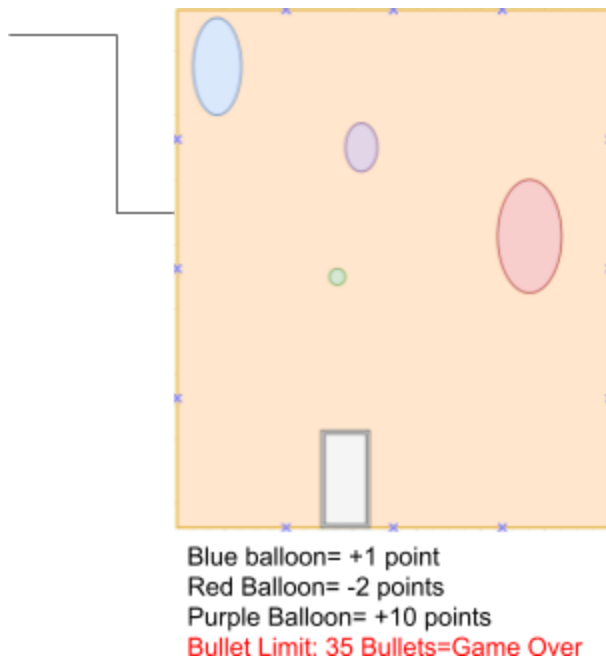
**Top Two Ideas:** We selected the Star Wars themed game and the Carnival Balloon game as our top two ideas because we enjoy playing playing games similar to these.

### Final Idea:

Our final idea is the Carnival Balloon game, because we decided that the Star Wars game was too similar to the original game acquired from the tutorial.

### Flowchart:





### **Feedback:**

- Create a separate button for firing.
- Make the space invaders (saucers) move side to side.
- Create a timed system
- Make the targets move closer to you as time goes, and once it hits you, you lose.
- Try for 3 levels in the game.

### **Tiers:**

#### **Tier 1:**

- Create reset button that resets everything (not just the score)
- Create multiple bullets that are shot out (instead of just using one bullet)
- Bullets no longer reset when rocket is pressed for a second time
- More effective point system

#### **Tier 2:**

- Make the target move to increase difficulty
- Add a balloon that decreases the amount of points when hit
- Add a bullet limit
- Add a Game Over feature you used up all the bullets

#### **Tier 3:**

- Different classes of ships and/or weapons to choose or unlock
- Sound effects
- Pause Button

### **Gallery Walk Feedback:**

Beta Walk:

#### Instructions:

The objective of this game is to get as many points as possible by hitting the balloons using only 35 bullets.

#### How to Play the Game:

- Drag the cannon to move it horizontally across the screen. Tap the gun to shoot a cannonball. The cannonballs are shot out in an upward direction. Use the cannon to shoot cannonballs at the balloons.
- The game ends when you have used 15 bullets

#### Point System:

- Blue Balloons: if shot add one point to the score
- Red Balloon: if shot, subtract two points from the score
  - Red balloons only appear when the score is greater than or equal to 5
- Purple Balloon: If shot add 10 points to the score
  - Purple balloons only appear when the score is greater than or equal to 10

Pro: Features Liked	Con: Aspects that were confusing, buggy, or etc.
<ul style="list-style-type: none"><li>● The sprites are very detailed and colorful</li><li>● The cannon moves smoothly without any glitches</li><li>● I like the increasing difficulty</li><li>● Good use of images, the project has good eye candy.</li><li>● It is a fun game</li><li>● You have a nice concept</li><li>● It was a good idea to add more balloons as it goes.</li></ul>	<ul style="list-style-type: none"><li>● The game is way too easy.</li><li>● The balloons don't pop and are too easy to hit with the cannon.</li><li>● The difficulty never increases.</li><li>● Try to make the balloons pop.</li><li>● Set a certain amount of ammos in the game to increase difficulty.</li><li>● Have a goal or objective you are trying to reach.</li><li>● When you tap and hold to move the cannon, and you lift your finger up it fires.</li><li>● The balloon does not explode once it is hit.</li><li>● The difficulty doesn't increase, and there should be a limit to the amount of balls you get. Also, the balloons don't pop</li><li>● There is no clear level progression and there is unlimited ammo making the game too easy and a bit pointless.</li><li>● You should probably make the balloons move faster.</li></ul>

#### Gallery Walk:

#### Instructions:

The objective of this game is to get as many points as possible by hitting the balloons using only 35 bullets.

#### How to Play the Game:

- Drag the cannon to move it horizontally across the screen. Once you release the cannon, a bullet will shoot. You can also tap the cannon to shoot bullets. The bullets are shot out in an upward direction. Use the cannon to shoot bullets at the balloons.
- The game ends when you have used 35 bullets

#### Point System:

- Blue Balloons: if shot add one point to the score
- Purple Balloon: If shot add 10 points to the score
  - Purple balloons only appear when the score is greater than or equal to 10
- Once you reach 50 points, one point will be deducted each time you use a bullet and miss the balloons.

Pro: Features Liked	Con: Aspects that were confusing, buggy, or etc.
<ul style="list-style-type: none"><li>● I like how you can move the cannon</li><li>● It is a really cool game idea; level progression of another faster balloon was pretty cool.</li><li>● The game's features are really nice.</li><li>● It is really creative and well-done with a little bit of errors here and there.</li><li>● It is easy for the users to operate the game with the cannon. The cannon was a really nice addition.</li><li>● The cannon is cool.</li><li>● The movement of everything and the progression is really smooth.</li><li>● It's fun.</li></ul>	<ul style="list-style-type: none"><li>● If the balloons could be animated to pop, the game would look a lot smoother.</li><li>● Could be more visually pretty, and animations could've helped improve.</li><li>● It would have been better if we had more bullets.</li><li>● If you hit the balloon then sometimes it doesn't count.</li><li>● It is very hard to move and shoot and the same time.</li><li>● Don't make it shoot when you stop moving the cannon.</li><li>● It would be cool if It showed you your score in the Game over screen.</li><li>● The game would be better if the balloons were able to pop, and the cannon fires by itself sometimes, which wastes the bullets.</li><li>● The cannon does not move very smoothly.</li><li>● You should be able to shoot diagonally and turn the cannon.</li></ul>

### **Conclusion:**

#### Apoorva Subramanian

Throughout the duration of this project, my partner and I were able to stay on top of our project and be organized. Once assigned the project, we were quick to begin brainstorming, sharing our ideas, and writing up brief outlines of our code and ideas. We were also able to combine our ideas and make compromises when we ran into conflicts, and worked towards our shared interests and goals. We divided the work up evenly and worked well together. We utilized the time given during class and were able to get large amounts of work done in school. In addition, we would assign each other bits of code to complete, so that the next day, we could compile them into one account. Unfortunately, we only had only discovered that app inventor allows you to download the project to your computer and send it to others later in the project, so we were unable to make use of this feature. In addition, we continued to work over the weekends and improve our project. We made sure communicate outside of school, which helped work flow smoothly. The beta walk was very useful, and helped us gain input from consumers on what they think of the app. I feel that the beta walk was very important to our project because we learned of bugs in the game, features that need to be added, and general opinions of others on our app. For example, the peer input encourages us to create a limit

of bullets allowed in the game to increase the difficulty and make it more entertaining and appealing to others. The only setback we had was that one of our features broke last minute and we were forced to delete it. This was a learning experience and reminded us that we must save multiple copies of our code to ensure that instances like that do not occur again, as they can be easily avoided. Overall, I think our project went pretty well, we were very diligent in our work and were able to accomplish most of our goals.

Brandon Lau

This project definitely had its ups and downs, and required careful planning in the beginning and time to be spent wisely in the duration of the project. Brainstorming and planning in the beginning of the project was extremely helpful in order to make sure we were achieving different milestones and meeting project requirements. Being unable to work on the app concurrently demanded that we were coordinated and managed our time carefully so that we were able to achieve our goals for the game. Planning everything out did not guarantee that our project would not have any setbacks. To address specific events, we had trouble with the hitbox and score system. Our red balloon did not register the bullet colliding with it and thus, did not respond with changing the points as we had hoped it would. A lot of time was wasted trying to fix this, and in the end we agreed to scrap it in order to focus on more important things, such as debugging and making sure the app didn't break when we compiled it for the gallery walk. With that addressed, we learned that debugging was an essential part of our project. Constant testing and trial and error helped us succeed in this project, if something did not work, we tried different ways and method, sometimes searching on google to see if any answered arose. As partners, Apoorva and I were always on task and we accomplished almost everything we wanted to (red balloon didn't work), which was awesome toward the success of our project. Both gallery walks were also very helpful in this project, we used many suggestions we didn't think of before to add onto our game, and no bugs were found by our peers, to our delight. A few other things that also gave us difficulty was features that didn't exist in App Inventor, such as "wait" and "forever". If these commands were added into app inventor, it would have allowed us to add more into the game, such as visual popping animations and open doors to other score keeping method, saving us a lot of time to do other things. This project gave us an even greater understanding of how apps are made and the process is essential if you want the app to be successful and goals to be met.

### **Daily Log:**

Date	In Class	At home	Reflection	Partner
9/19/17	We selected a game tutorial to base our game off of. In addition, we set up our Project Log	We did the tutorial for Space Invaders to get a better understanding of how our game will work.	We were pretty productive and were able to get a basic understanding of the game we are going to be creating and the requirements.	Brandon, Apoorva
9/20/17	We brainstormed ideas	We brainstormed different	We were very	Brandon,



	on how to modify and improve the game. We then picked our top two ideas. In addition, we found sprites for the different game ideas. We also updated our Project Log.	features to be implemented into our game and researched on how to create code for the features.	productive in class and completed the majority of our brainstorming. We are almost ready for the pair share so we can determine what our final project idea will be.	Apoorva
9/21/17	We selected the idea that we were leaning towards the most out of the top two ideas. We then began to write up some code to fix the bugs we found in the tutorial. In addition, we started our flowchart and updated our project log.	We completed a flowchart for our final project idea.	Today we completed all of the work required before starting to create the actual game. We used the time given in class very efficiently.	Brandon, Apoorva
9/22/17	During class, we worked together to draw a map of how we would try to implement our features into the game, and began working on our code.	We updated our project log.	We utilized the time given in class and were able to get a clear picture of our game and code.	Brandon, Apoorva
9/23-9/24	Weekend	We selected a feature to code so that during class on Monday, we would be able to compile our code. In addition, we updated the project log.	By using our weekend wisely, we are prepared to add onto our code on Monday.	Brandon, Apoorva
9/25/17	We managed to make the balloon continuously move across the screen, making the game harder.	We created score and direction variables. In addition, we created a new and more effective score system.	We managed to complete a large amount of code today.	Apoorva, Brandon
9/26/17	We revised our code and looked for any bugs. We also tried to implement features from tier 2 into the game.	We added comments to the code, changed the look of the game, and updated our project log.	We managed to debug and test any possible problems in the code. We were very productive today.	Brandon, Apoorva

9/27/17	We added a third balloon to the game, and made the balloons move faster to increase the difficulty of the game.	We revise the code, added comments, and updated our project log.	We were extremely productive in class, and were able to efficiently revise and add code as needed.	Apoorva, Brandon
9/28/17	We had our beta walk today.	We tried to figure out how to fix the bugs found during the beta walk.	We made good use of the comments our classmates made and were very productive.	Brandon, Apoorva
9/29/17	We continued to improve our game by trying to add additional features such as a penalty when missing.	We attempted to fix any bugs in our code.	We made use of our weekend, and were very efficient.	Brandon, Apoorva
9/30-10/1/17	-	We attempted to fix any bugs in our code and added new features.	We made use of our weekend, and were very efficient.	Brandon, Apoorva
10/2/17	We identified there was a problem with our red balloon in the game and we tried to fix it.	We read through the code to see why the red balloon did not work and attempted to fix it.	We were very thorough and careful when reading our code, and gave our best efforts to try and fix our program.	Brandon, Apoorva
10/3/17	We worked with Mr. Brown to try and fix our red balloon and make it deduct points. In addition, we fixed the code for point deduction when missing balloons.	We rewrote the code to try and fix the red balloon	We worked very hard to perfect our project and make it ready for the gallery walk.	Brandon, Apoorva
10/4/17	We worked diligently to find any additional bugs and tested our app by downloading for the gallery walk tomorrow.	We modified one of our features and updated our design notebook.	We kept good communication and divided the remaining work. We tried put forth our best efforts to accomplish our goals for the project by the deadline.	Brandon, Apoorva
10/5/17	We had our gallery walk today.	We finished up our conclusion and finished up what was required for the design notebook.	Today went pretty well considering the setbacks we had with our code not working.	Brandon, Apoorva

