

# Portfolio

-- Xiao Jiang

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# VR Lab Tutor

01/2019—06/2019

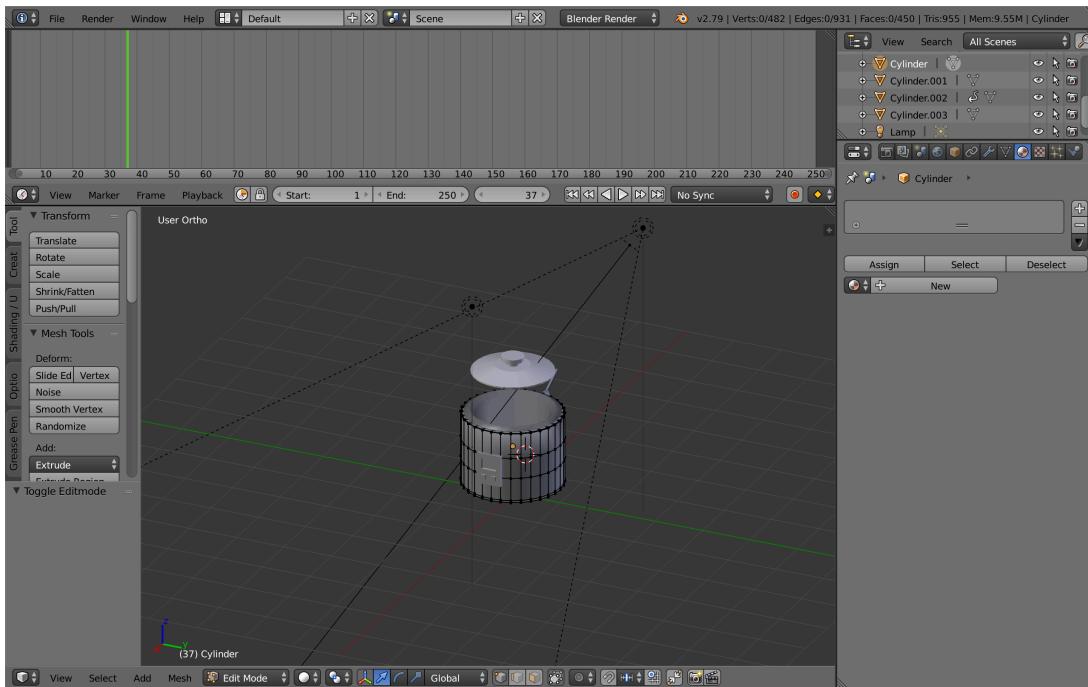
## Purpose

Design an interactive VR tutorial for INFR lab equipments, specifically, the MA6 Mask Aligner. This tutorial should lead new users go through the basic operation process as well as give them hints and suggestions during the tutorial based on their current manipulation. The VR tutorial should run on Oculus Rift.

## Approach

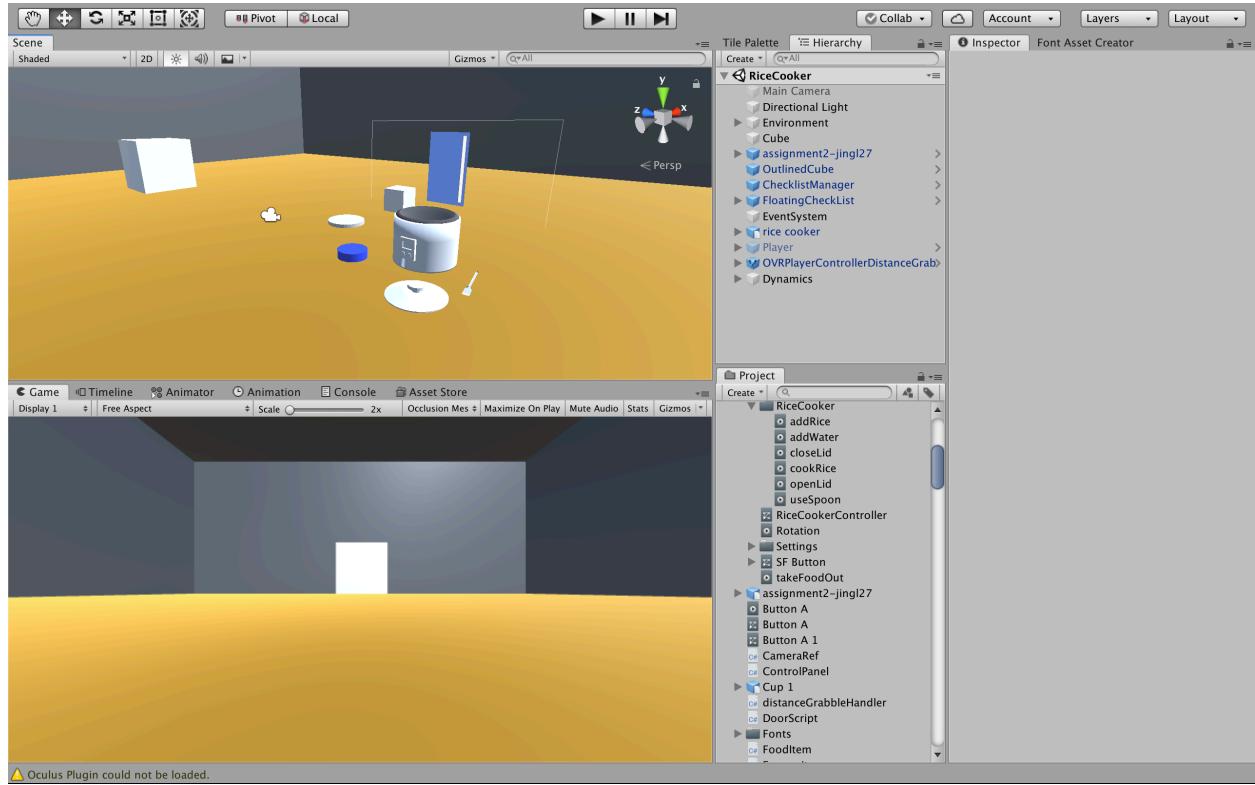
We use Blender for modeling and Unity game engine to build the scene that will run on Oculus Rift. We first built some simple models(such as pot and microwave) and integrate with VR to test the whole development process. Then we summary the problems we encountered and figure out the proper solutions.

After we finish testing, the first thing we did is write the design document and let our mentors review it to make sure we have a solid and consistent goal. Then we followed the same process as we did in test project. We did found the modeling and building instruction flow is more difficult, but our experience helped us a lot.



## Result

In the end, we have a demo scene that shows the first 10 step that will set up the Mask Aligner. Users can progress through interactivity and there are instructions correspond to each step. We gave it to our mentor and lab manager and received a pretty good feedback. There are many features that can be improved though, such as the accuracy of model and the clarity of instructions.



# Fablix Web Application

01/2019—–03/2019

## Purpose

Design and develop a full-stack web application where user can login, browse and buy movies. User login information, movie data and user payment information will be stored in the database and the password will be encrypted. The website should have a clear and functional UI as well as store user login session.

## Approach

Our backend used Tomcat to manage session and MySQL database to store data. We used Java to write backend and JDBC to communicate with database. For frontend, we used Bootstrap for better layout and javascript and jQuery to create responsive web page. Besides these, we have used the xml parser and LOAD FILE command in SQL to quickly dump data into database.

## Result

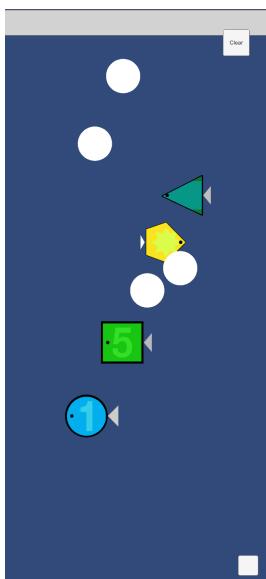
The web application project demo can be accessed here: <http://fablix.xyz> and here's the code: <https://github.com/Brian-Jiang/Fablix>. The login feature has disabled for conveniency. We used the JMeter to measure the performance of our website under different settings(whether using pooling or not).

Fablix							My Cart
	Title	Year	Director	Genres	Stars	Rating	
	High			Romance	Price, Nicolas Wright, Myles Hainsworth, Brandon Milbradt, Oliver Sasse		
4	Hidden	2005	Tim McLachlan	Thriller	Mike Edward, Luke Alexander, Dana Bernard, Wayne England, Yolande Joe, Michael McLachlan, Hayley Halliday, Tim McLachlan, Ellie Cragg, Daniel Betty	4.2	
5	High Crimes	2002	Carl Franklin	Crime, Drama, Mystery	Morgan Freeman, Jim Caviezel, Jesse Beaton, Grace Cary Bickley, Yuri Zeltser, Joseph Finder, Carl Franklin, Adam Scott, Ashley Judd, Arnon Milchan	6.3	
6	High Hopes	2006	Joe Eckardt	Comedy, Crime	Jason Marsden, Brian Bernstein, Joe Eckardt, Didier Rachou, Cecily Gambrill, Danny Trejo, Corin Nemec, David Faustino, Colby Kane, Jason Mewes	4.5	
7	High Life	2005	Lila Yomoob	Drama	Douce, Bryan Newman, Sharon Eisman, Lila Yomoob, Jeff Ferruzzo, Brit Till, Max Faugno, Sunah Bilsted, Gisburg Smialek, James Ford	6.4	
8	High Speed	2002	Jeff Jensen	Action, Drama	Marco Tocchi, Patrizia Pisagnesi, Andrew Lee Potts, Michael Brennan, Paul Nicholls, Massimo Ghini, Silvio Muraglia, Jeff Jensen, Sienna Miller, Mathew Stonehouse	6	
9	Higher Still	2002	Nicolas Brevière	Drama	Camille Japy, Nicolas Brevière, Lucia Sanchez, Margot Abascal, Hervé Timsit, Sylvia Calle, Cécile Vacheret, Véronique Assens, Pascale Arbillot, Dominique Petrot	5	
10	Highway	2002	James Cox	Crime, Drama	Craig Wood, Michel Amathieu, Guy Riedel, Jake Gyllenhaal, Jared Leto, James Cox, Scott Rosenberg, Selma Blair, Mauro Fiore, Kimberley Kates	6.3	
11	Highway 203	2007	Shadaab Khan	Thriller	Perizaad Zorabian, Gaurav Ali, Ryadah Khan, Alam, Prince Dandona, Arif Zakaria, Kay Kay Menon, Pooja Asthana	6.8	

# Geometry Fish

05/2019 -- Now

## Summary



Geometry Fish is a mobile casual game developed with Unity where players can raise fish, change their outlook and put them into different tank. There are different item can be used that give fish more color and unlock new fish tank. Players can mate two fish and they will have offspring whose bubble could be special depends on their parents' favorite color. In the future, it is planed that social system will be added so that players can visit each other's tank.

This is a game project I worked with 4 people where I'm the only programmer. The game is now half-finish but still need more refinement and polish.

## Highlights

- My role is designer and the only programmer.
- Fish are completely customized where the shape, background color, pattern and pattern color can all be different.
- All datas are serialized and saved in local storage. The game will track state of data.
- Inventory system consists of shop and backpack.
- Dynamic generated UI elements for various uses such as shop, backpack and fish editor. Data are either saved in local or stored in asset resources.
- Time tracking on the growth of fish even when the game is closed.
- Integrate with DoozyUI to provide smoother UI animation.
- Now in test phase using TestFlight on IOS.

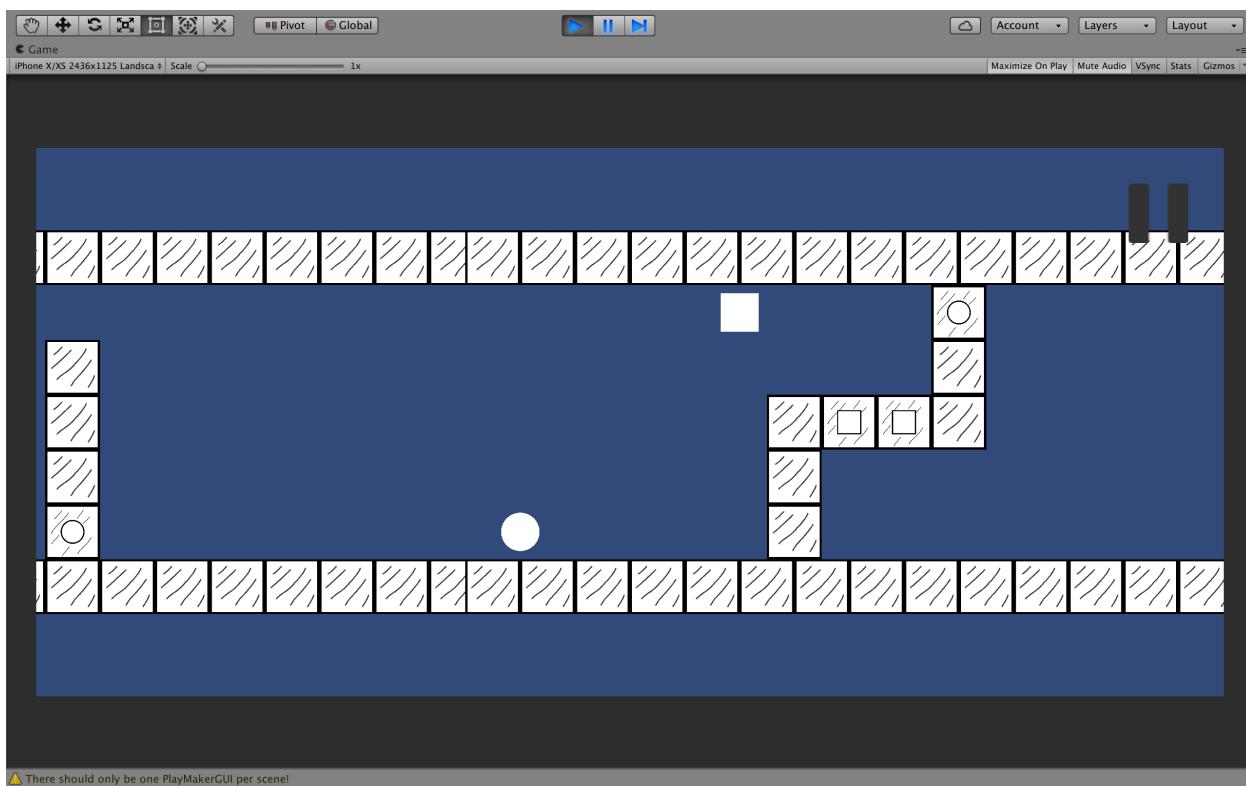


# Circle and Square

09/2019 -- Now

## Summary

Circle and Square is a small casual mobile game inspired by Duet and Flappy Bird. Players will control two shapes—circle and square, by rotating them and avoid the blocks. There are special blocks where only circle or square can pass. Players will move to the right continuously and the longer they hold, the higher score they would get.



## Highlights

- Completely designed and developed by my own.
- I use the PlayMaker to write game logic and DoozyUI to manage UI system, so not a single line of code is included in this project!
- Actually, my goal is to build a game without write any code.
- I designed the game logic architecture so that it's very easy to add new obstacles.
- Easy to start, but difficult to master.
- I made all basic art assets so that the game is more intuitive.

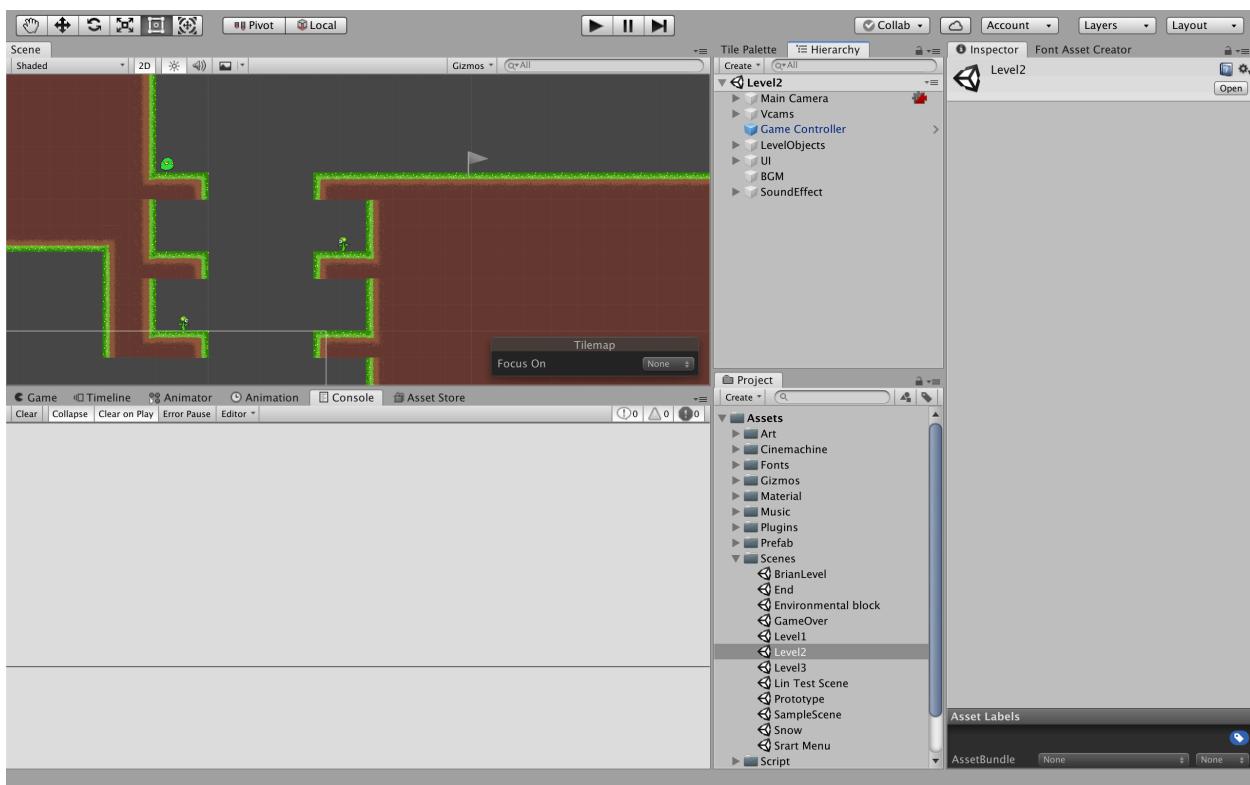
# Deep in the Season

02/2019—03/2019

## Summary

This is a 2D platform game I developed in a team of 6. The protagonist needs to use his power to go through all levels and retrieve four seasons. My role is level designing and programming in Unity. The tools we used includes Tilemap and Cinemachine. We had several play-testers and we made plenty of improvements based on their game experience, especially the level designing. The project files is here: <https://github.com/Brian-Jiang/ProjectSeason/tree/backup>. Mac build is here:

[https://drive.google.com/open?id=1CvpjpMwGFL\\_wuTIAJRnnR8d3aE1WTgjK](https://drive.google.com/open?id=1CvpjpMwGFL_wuTIAJRnnR8d3aE1WTgjK)



## Highlights

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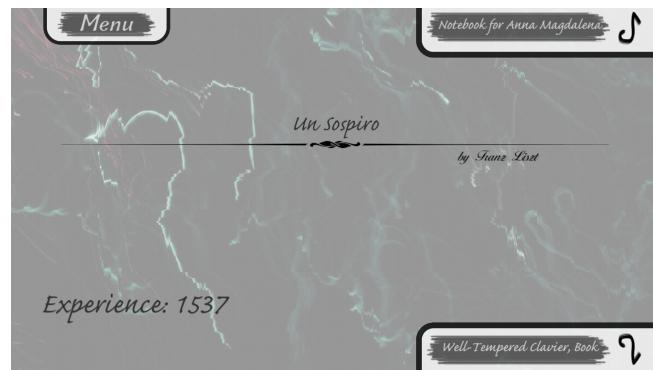
- The game was finished in four weeks but contains different mechanics and all necessary arts.
- Four levels each one with different theme(Spring, Summer, Fall, Winter) and featuring various traps and powers.
- Level goes from easy to hard to lead players learn new tactics to pass more difficult level.
- Team management plays an important role since we have six people, but we have evenly distributed the works.

# Alio

05/2017 -- 10/2017

## Summary

Alio is a mobile rhythm game inspired by Lanota and Cytus series. Players need to hit the music node based on the beats of the music. Music nodes will appear on a circular plate and the rotating line indicate the timing of each node. The accuracy will count toward the final score of a song. Each song has several difficulties and there is five songs in total. Project code is here: <https://github.com/Brian-Jiang/Alio>.



## Highlights

- Completely designed and developed by my own in the summer(expect for the music and some art assets).
- Game Center integration that has achievements and leaderboard.

A screenshot of the Alio game's Achievements screen. At the top center is the word 'Alio'. To the right is a 'Done' button. Below it is a navigation bar with three tabs: 'Achievements' (which is selected and highlighted in blue), 'Leaderboards', and 'Challenges'. Underneath the tabs, the text '4 Achievements' is displayed. The screen lists four achievements with their descriptions, icons, points, and requirements:

Achievement	Description	Points	Requirement
Performance Start	You have started your performance	10 PTS	Icon: Head silhouette
Perfect	Achieve one Perfect Performance	100 PTS	Icon: Head silhouette
Amazing	Achieve one Amazing Performance	50 PTS	Icon: Head silhouette
???	Achieve one No Performance?	5 PTS	Icon: Head silhouette

- Three different kinds of nodes and accurate node timing that correspond to the beats of music.
- Uses iTween Path to create smooth and nonlinear animation.
- Local data storage and state tracking.

