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# **Ice-Cream Shooter**

## **2D Arcade Shooting-Survival Game**

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A project of the subject Introduction to Computers and Programming

by

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## Proposal Description / Features / Requirements

Ice-cream shooter is a shooting survival 2D game with top-down camera perspective. Its game play was inspired by the classic game Asteroid which major objective is to control a spaceship to avoid collision with meteorites and destroy as many meteorites as possible along the way to gain highest score. The difference between Asteroid and this game is details in graphics, spaceship movement , control and shooting which are simpler and more enjoyable.

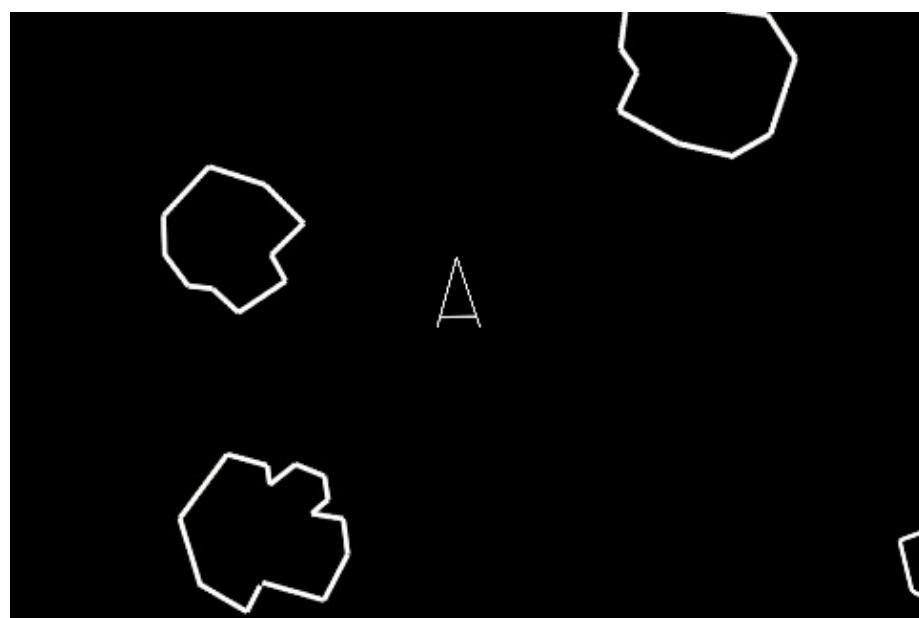
The development will be processed on PyGame library with Object Oriented Programming ( OOP ). Because the combination of the library and the programming concept is powerful, they are suitable for the game project and worthy for practice.

### Library / Tools used in the project

**Programming languages** - Python 3.5

**Library packages** - Py Game 1.9.2

**Integrated Development Environment** - IDLE



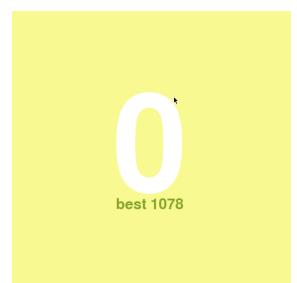
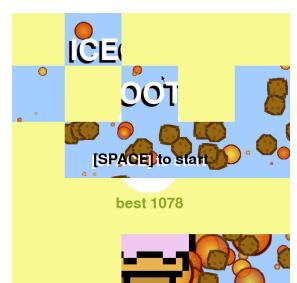
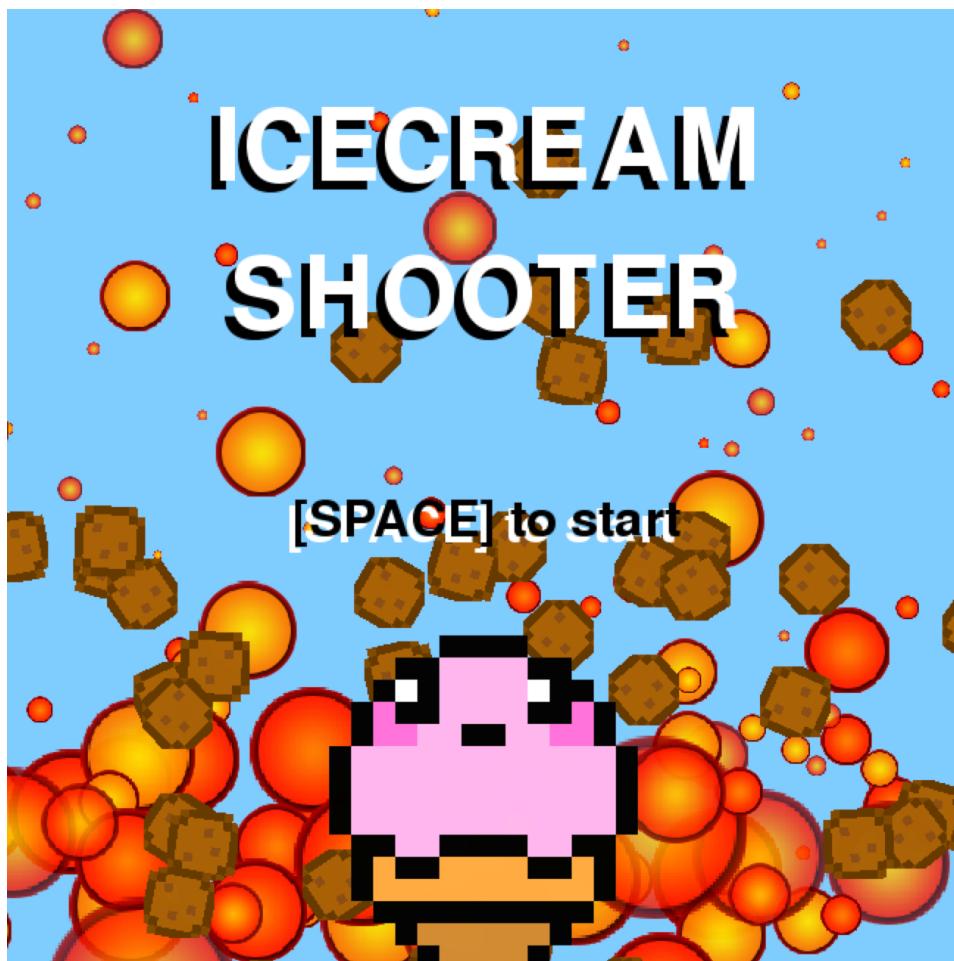
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## Game Flow - Features - Screenshots

### [ Title Scene ]

this scene is an entry of this game presenting realistic animations of throwing cookies and floating flames the character in the middle of this screen is an ice-cream mascot which will always look at the cursor.

Control : spacebar -> show transition -> go to game scene



## [ Game Scene ]

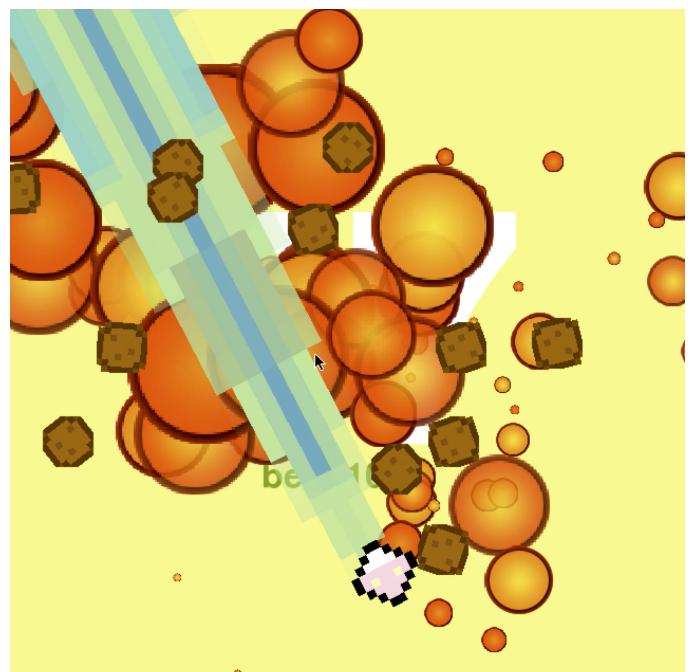
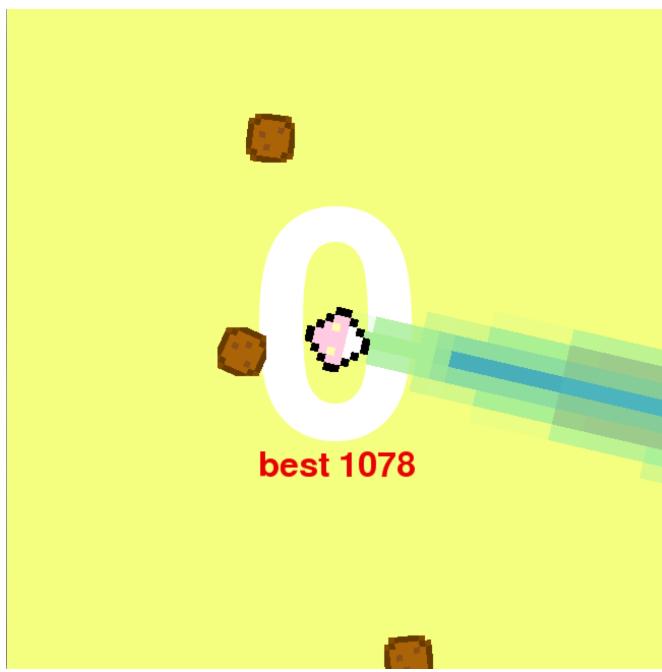
game scenes process the gameplay of the game by generating cookies(rocks), create explosion effect, character control, and show score / high score of the game

### control :

arrow keys      -> move character

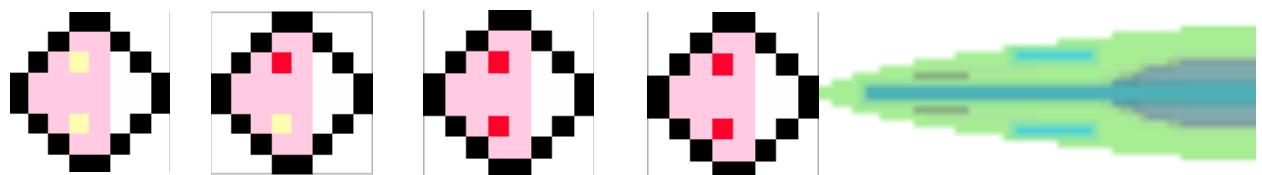
cursor            -> aim for shooting

( shooting process automatically periodically )



### details to the scene

character will always look at cursor so player can use his cursor to aim cookies(rocks) and the character will shoot those cookies automatically every some seconds ( shoot faster overtime ) the red / yellow dots on character helps player to estimate time of shots. In addition, the shots are angular shots of 50 degrees



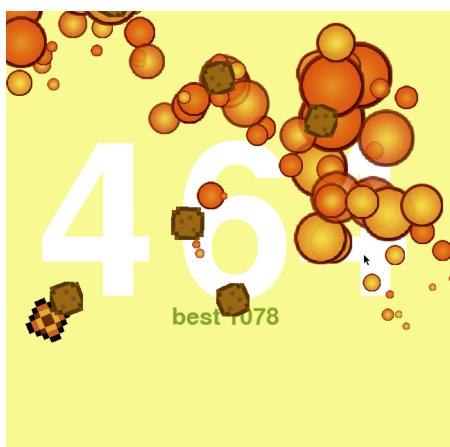
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by the time generator will create cookies shooting at character. These cookies can be shot by the character and explosion effect will be rendered. The rate of spawn gets faster by the time so the game gets harder on longer game.

if the character were hit by a cookie the game suddenly end with slow motion effect and transition will bring on and then go to [ Result Scene ]



**on character hit -> show transition -> goto [Result Scene]**

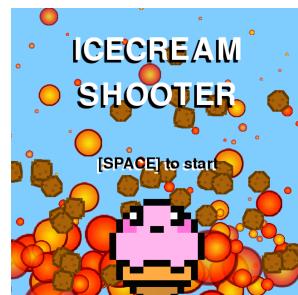
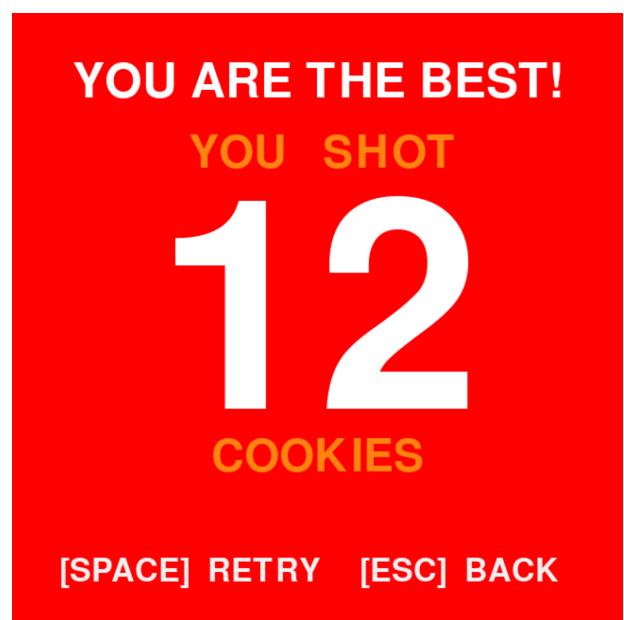
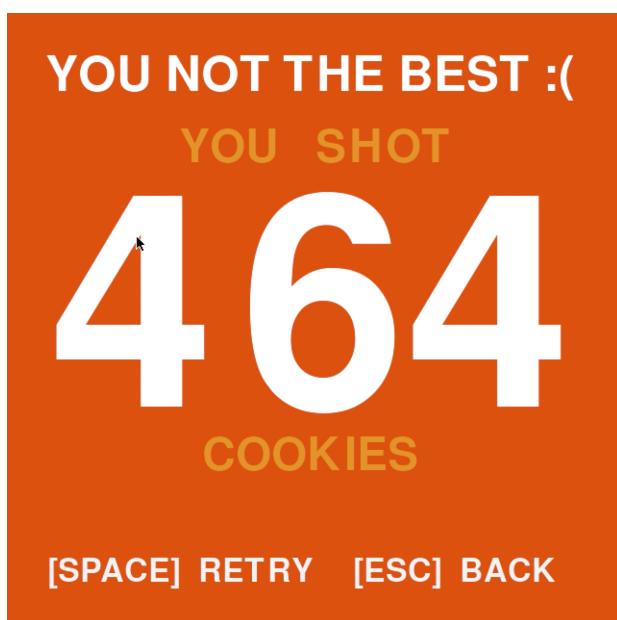


## [ Result Scene ]

this scene is shown after any game ends it shows how much score the player earned and show whether if the player beat the high score or not by showing the text 'you are the best' or 'you not the best :('. Moreover, this scene waits for user input option to retry on [ Game Scene ] or goto [ Title Scene ].

### Control :

- space      -> reload [ Game Scene ] with transition
- esc          -> go to [ Title Scene ] with transition



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## Source Code

**core** -> top level classes for uses and inheritance

**base.py**

**components.py**

**game\_math.py**

**main.py** -> main program -> loading scenes

**setting.py** -> setting of the game

**source.py** -> source management module

**scenes** -> scene objects

**game.py**

**menu.py**

**objects** -> game / graphics objects

**background.py**

**camera.py**

**flame.py**

**icecream.py**

**player.py**

**rock.py**

**text.py**

**transition.py**