Proposal of Final Project

- Summary

    o   what will the user/player experience be? The name of this game is "Taken". This
        is a first person shooting game. The user will experience as a life saver hiding on
        the roof of 150-meter-high building. The player has a few missions. The missions
        are shooting terrorists who moving on the street have bomb on their backpack as
        soon as possible in order to save the innocent civilians. The levels of mission will
        be beginner, intermedia and advanced. Each level of mission has different number
        of terrorists and civilians in the scene. If civilians got killed more than specific
        amount, the mission fails. If the terrorists got all killed within a specific time, and
        the amount of got killed civilians is under a specific amount, the mission is
        fulfilled.

    o   What will it look like? The player will have city view and street view through the
        sniper scope. The view outside of the sniper scope will be blocked (or blurred).
        The snipper himself will not show in this game.

    o   What will happen? The player has different number of terrorists to shoot, but the
        location of the terrorists will be randomly placed. The player can switch the
        weapon. There will be three kinds of sniper offering: AWM, SVD and XM109.
        Each of them has different view according to the sniper scope.

    o   How do you interact with it? The targets and civilians are moving around. The
        sniper is able to aim a target by moving the mouse. The scope view will follow
        the mouse. When aim is done, the sniper can shoot a target by clicking the left
        button of mouse or by press "K" on the keyboard. The target would die if the

location of mouse is overlap with the target image. Every mission has a timer, which is counting down to 60 seconds. The first mission will have 10 targets to shoot within the countdown. The second mission will have 20 targets, next mission will have 30. When time is over, all targets are all down, the mission is success.

- Media.
  - Include images of your design process, including sketches, mockups in Photoshop, screenshots of prototypes.
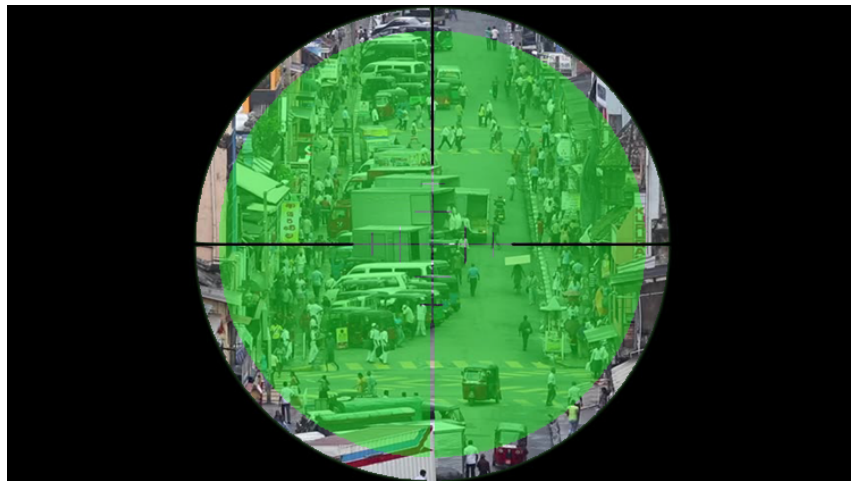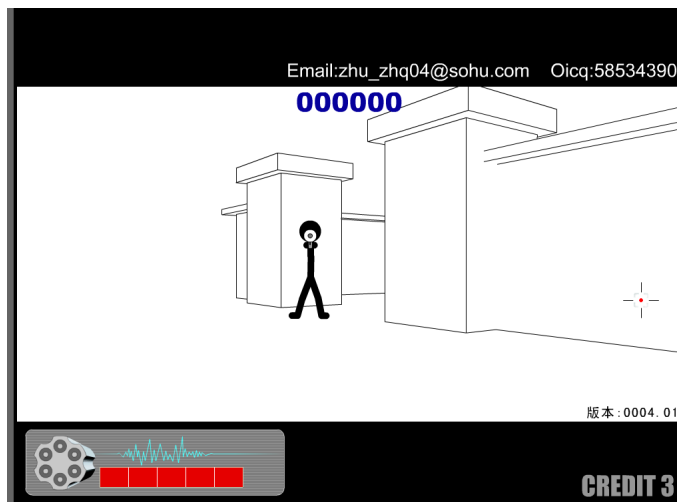

screen shot of game 'Taken' [pic 1]

terrorist[pic2]   civilian [pic 3]

- Inspirations.

  A first person shooting game "xiao xiao series" made by a Chinese guy 20+ years ago is

  my favorite. This movie-like game is quite playable. The simplified scene and very

  narrative angle of view make the player easy to get into the storyline.

  The reference link is http://www.stickpage.com/xiao4play.shtml

- Technical approach.

	Class name	Description	Concepts/techniques	
1	Scope	draw sniper scope following mouse; zoom in/out scene;	Loading image of sniper scope	
2	Person	Mange common properties and methods of a person which class Terrorist and Civilian have in common: location, movement, action. Moving method, location method, loading image method, action method	gifAnimation library; object-oriented design;	
3	Terrorist	Mange specific properties and methods of a terrorist: appearance (), amount alive, amount-killed	Sub class; Global variable	
4	Civilian	appearance (), amount alive, amount-killed	Sub class; Global variable	
5	Timer	Count down 1 min or specific time	Global variable	
6	Scene	Manage the number and location of terrorists and civilians; Create a random position for every terrorist and civilian; set a noise function to make the person move in a range of -1 and 1	Using Minim audio library to create sound of shooting, sound of sound of loading bullets, sound of switching riffles, background noise sound, and mission nicely done sound.	
7	Mission	Manage the setting of this game: Define how many level and each level has how many targets and civilians in the scene; Define how much time the player has to finish the mission;		

8	Menu	Create a main menu to let player choose his scene, setup music and read help of this game		
9	Taken	Act like a main program 'Taken', the starting point of this game.		

Create a scope class to record the location of the scope to redraw it on screen and deal with any movement of the scope and switch sniper scope.

Create a scene class to deal with generating the levels of scene with terrorists and civilians. Need a scene generating function(self-defined) to create a street view.

Create a timer class to deal with the specific time that the mission requires.

Using noise function for moving the terrorists and civilians around a location which is generated by random function.

Collisions are needed for decide if player has done a good shot to the terrorists.

Using a tint function to make a transparency scope.

Using mouse pressed function trigger the shoot.

Using arrays to manage the objects of terrorists and objects of civilians.

- Technical research.

  Library:

  gifAnimation version 3.1

  Minim audio library

  website:

  https://processing.org/reference/

  https://forum.processing.org/

  http://youtube.com