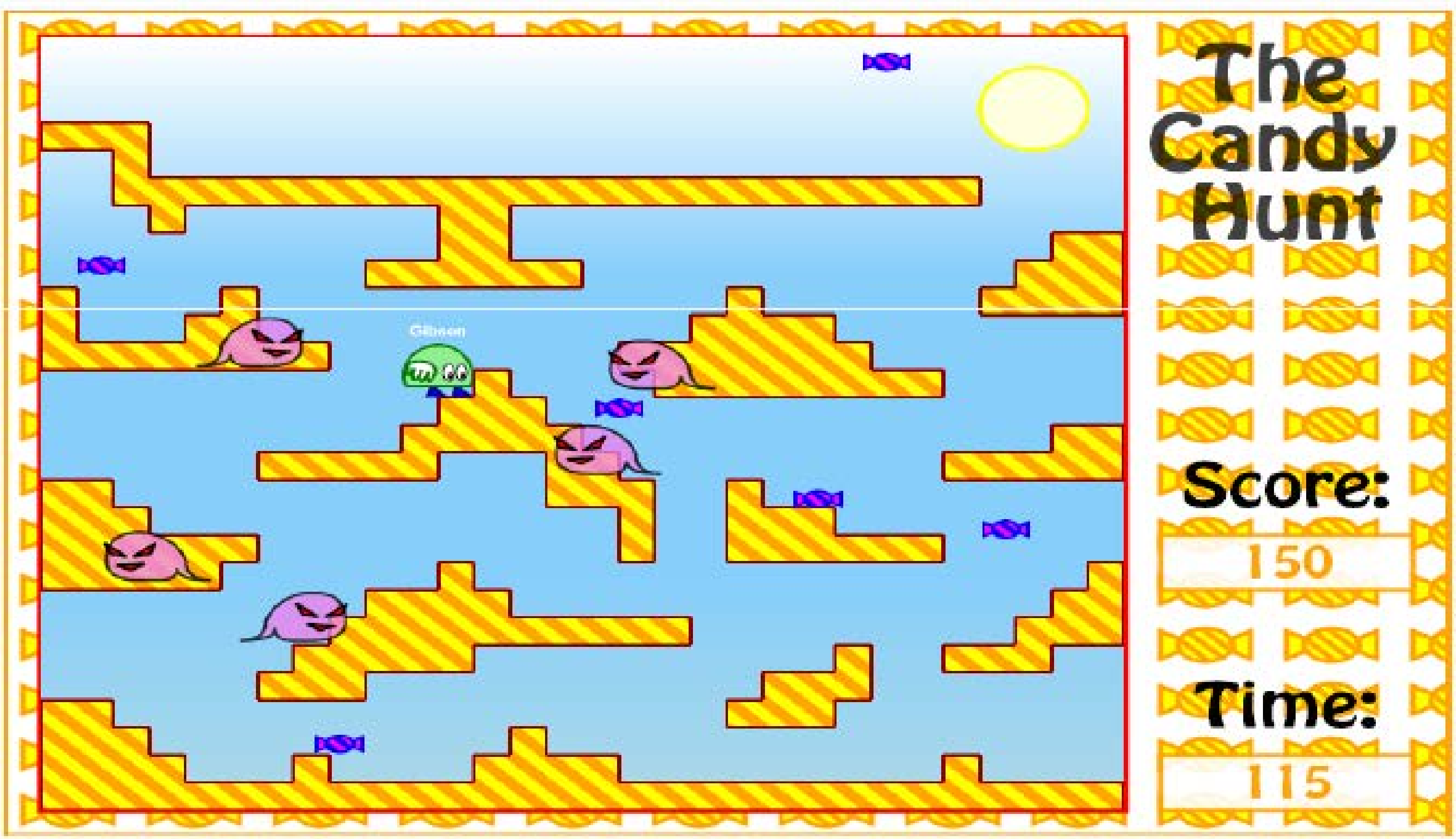
COMP4021
Internet Computing

Assignment 2
Dynamic SVG Game

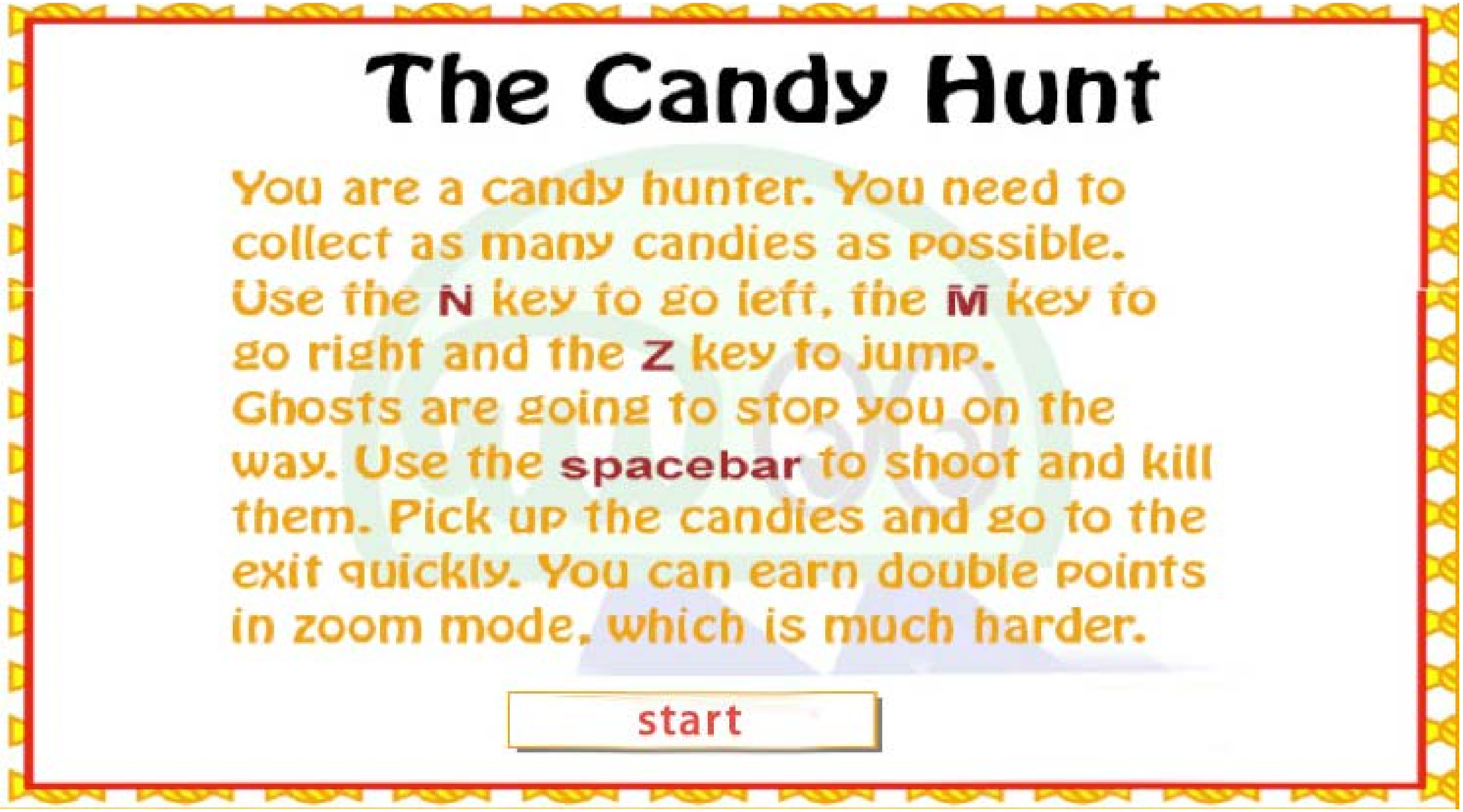
Example Screen Shot



Score: 150

Time: 115

Example Start-up Screen

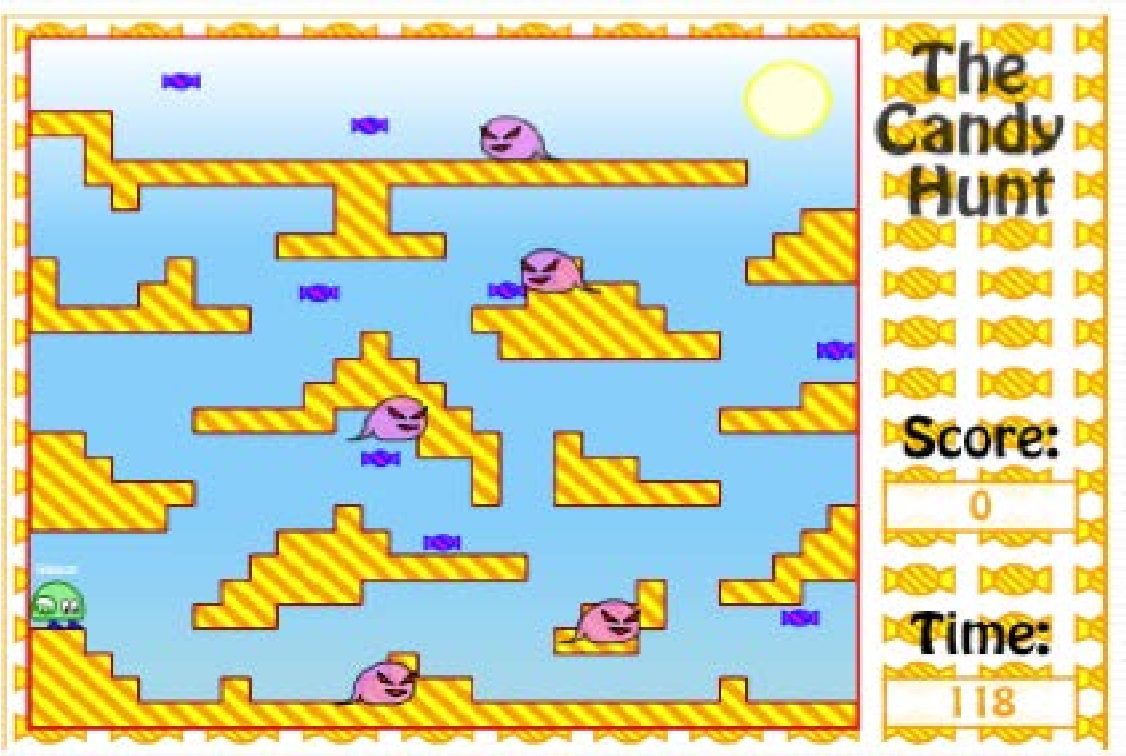


The Candy Hunt

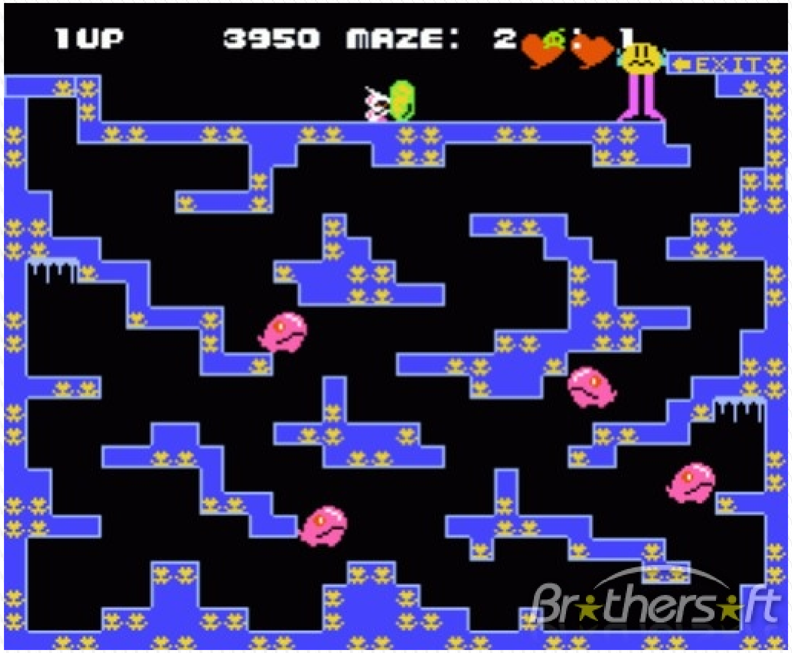
You are a candy hunter. You need to collect as many candies as possible. Use the N key to go left, the M key to go right and the Z key to jump. Ghosts are going to stop you on the way. Use the spacebar to shoot and kill them. Pick up the candies and go to the exit quickly. You can earn double points in zoom mode, which is much harder.

Include your Name and last four digits of your student (e.g. xxxx1234) when in the start-up screen

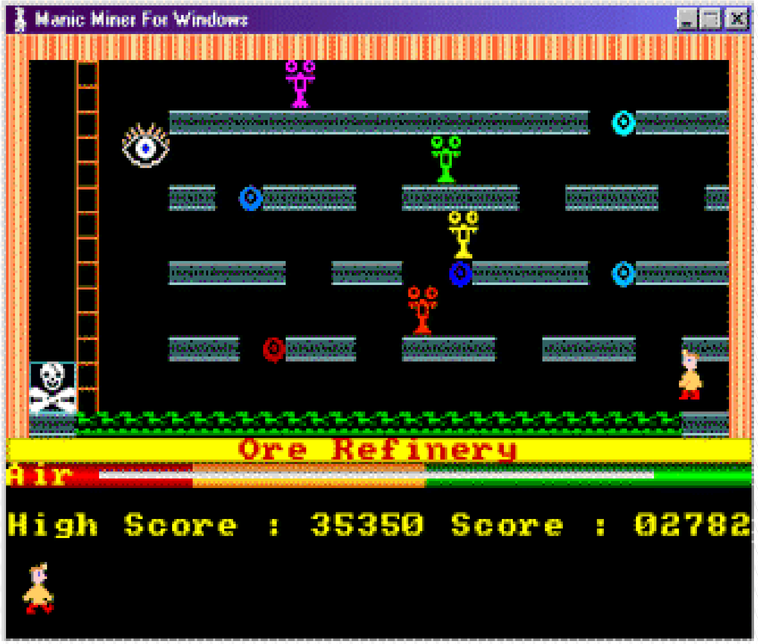
- After user clicks the start button



Example of Commercial Games



Chack’n Pop, from 1983



Manic miner, from the 1980’s

- You can get ideas for your platform game arrangement by looking at other platform games available on the Internet

Basic Idea of the Game 1/2

- After the game starts, the ‘time left’ will start from an appropriate number, such as 100 seconds
- The ‘time left’ will be reduced by 1 every second
- The player needs to reach a particular exit point (i.e. an exit) before the time becomes zero
- If the time runs out before the player reaches the exit point, the player dies
- If the player reaches the exit before the time runs out, the remaining time is added to the player’s score

Basic Idea of the Game 2/2

- Platforms

  – To get to the exit point, the player has to walk/jump on several platforms

- Good things

  – There are good things near the platforms; when the player gets one he/she increases the score

  – The player has to collect all the good things before he/she can finish the level i.e. get them before going to the exit

- Monsters

  – Monsters appear in random places; the player dies if it touches one

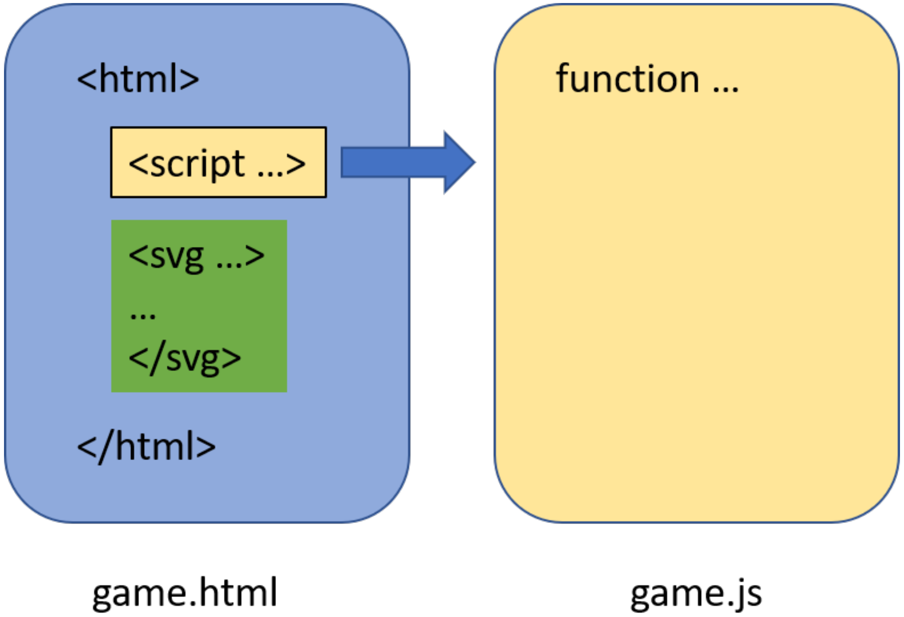
  – The player can shoot the monsters to get more score

Summary of Keys

- Please use these keys in your game (different from the settings used in the labs):
  - w – jump
  - a – left
  - d – right
  - h – shoot
  - c – cheat mode on/off

File Arrangement

- Use the same file arrangement as in the labs
- Use SVG to implement all the interfaces (you can use prompt() for name input)
- No need to use a separated file for the SVG code since it is not well supported by new versions of browsers.



Run the game

- Use a web server to host the game web page, so that cookies can be well supported.
- You can choose to use a web server you like while developing the game.
  - E.g. Python has a simple HTTP server:

```
python -m http.server 8000
```

Overview (1/2)

Starting Screen	4%
Handling of Player	10%
Handling of Monsters	12%
Handling of Good Things	6%
Platforms	9%
Transmission Portal	4%
Shooting	6%
Sound	5%

Overview (2/2)

Time Remaining	4%
Level Handling	6%
Game Quality	8%
Score Update and Display	4%
Cheat Mode	6%
End of Game	8%
Handling High Score Table	8%

- Bonus marks(at most 5%) according to the whole performance of the game.
  - i.e the fluency of game, good design, etc.

Total Mark(without bonus) = 100%

Game Engine/ Basic Requirements

- Game engine/ basic requirements

  No logical/ procedural errors

  Appropriate collision detection

  Correct jumping/walking behavior

  Deductions for any use of bitmap images in the game

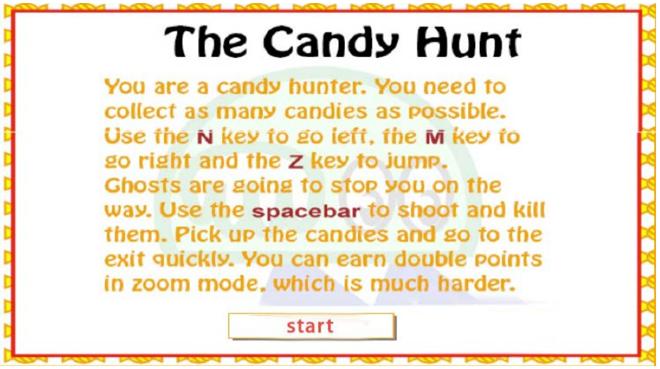
  Everything stored in the DOM (except cookie information)

  …and so on
- Marks will be deducted for any problems encountered

Size of the Game

- The game area (where the game is taking place) has a size of 800 pixels by 600 pixels at least
- This is the same as the game we have in the lab
- If you want to change the size from the lab code (optional) you need to:
  - Adjust the size in the svg element at the top of the svg file
  - Adjust the size of the game area group in the svg file
  - Adjust the value stored in the constant SCREEN_WIDTH and SCREEN_HEIGHT in the JavaScript file

Starting Screen 4%

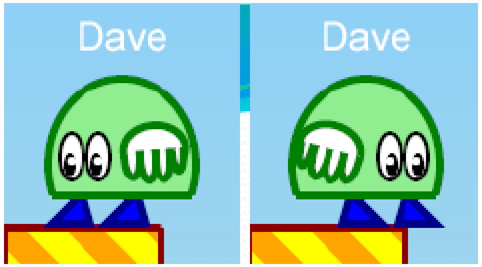


The Candy Hunt

You are a candy hunter. You need to collect as many candies as possible. Use the **N** key to go left, the **M** key to go right and the **Z** key to jump. Ghosts are going to stop you on the way. Use the **spacebar** to shoot and kill them. Pick up the candies and go to the exit quickly. You can earn double points in zoom mode, which is much harder.

- When the SVG starts you need to give the player some information
  - +1 Include the title of the game and your name. Give a general introduction to the game and tell the player what he/she needs to do
  - +1 Say what keys the user needs to press to play the game (left/right/jump/shoot)
  - +2 Display the start button and game only starts after clicking the **start** button
  - You can add anything else appropriate

Handling of Player 10%

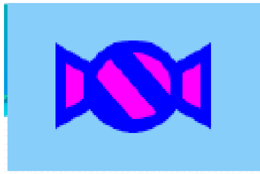


- +2 marks – ‘Flip’ player when move left/ right
- +2 marks – The player can jump/ move left/ move right/ shoot on any platform
- +2 marks – Appropriate appearance for the player (the player looks like a player)
- +2 marks – The player name is appropriately shown at the top of the player (as shown above) , with ‘Anonymous’ used as the name if the user enters an empty string
- +2 marks – The player dies if it touches any monster or is shot by a bullet.

Handling of Monsters 12%

- There must be at least 6 monsters
- The monsters can all look the same, if you want
  - +2 marks – Appropriate appearance (they look like monsters)
  - +2 marks – Some appropriate animation of monsters (using any SVG animation command(s) except animateColor)
  - +2 marks – The monsters appear at random places at the start of the game but must not be very close to the player
  - +2 marks – The monsters move smoothly from one random location to another random location during the game
  - +2 marks – ‘Flip’ monster when move left/ right
  - +2 marks – There has exactly one special monster which can shoot bullet. There has at most one bullet in game window from the monster at a time.

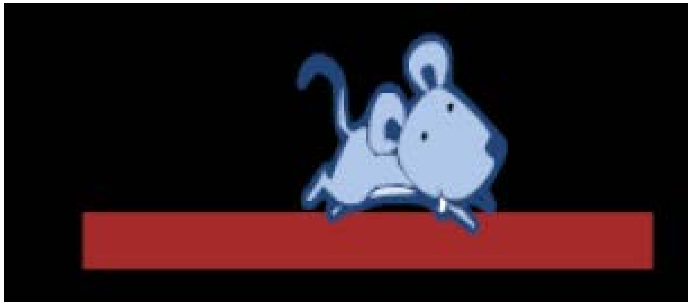
Handling of Good Things 6%



- There must be at least 8 good things in the game
  - +1 marks – Appropriate appearance (they look like something good)
  - +1 marks – The good things are generated at random places at the start of the game
  - +1 marks – The good things cannot appear within a platform, i.e. they should not overlap with any platforms
  - +1 marks – The player collects the good things by touching them. The collected good things are deleted from the DOM
  - +2 marks – The player needs to collect all good things before he/she can go to the next level

Vertical Platforms 4%

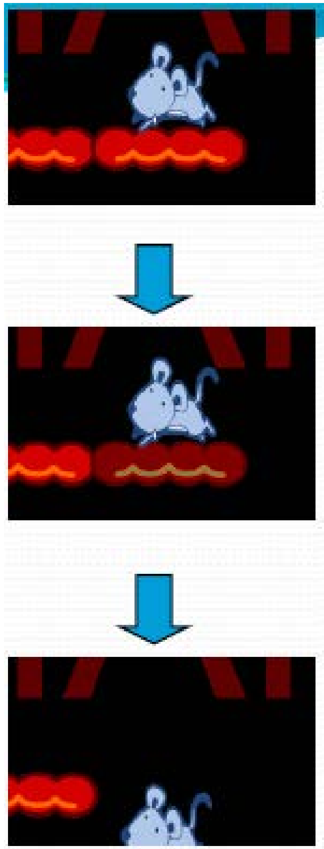
- +4 marks – There are one ‘vertical’ platform (platforms that move up and down in the y axis)



Disappearing Platforms 5%

- +3 marks – There are three disappearing platforms. If the player stays on the disappearing platform after a certain period of time (i.e. 0.5 second), the disappearing platform will disappear and the player will fall down
- +2 marks – Good visual effect showing the disappearing platform is going to disappear (i.e. changing the opacity or the color)

After the platform has disappeared, it does not come back again.



When standing on a sliding platform, the platform gradually disappears, then the player falls down.

Transmission Portal 4%

- +2 marks – There should have two portals appeared on the screen (shape and location is freely defined).
- +2 marks – When player enters into one portal, it will appear at the position of another portal.

Shooting 6%

- +2 marks – A player gets 8 bullets at the start of the game for each level and the number of remaining bullets is appropriately shown and updated in the GUI
- +2 marks –When facing left, the player shoots to the left (bullet is removed from DOM appropriately when it is off the screen on the left)
- +2 marks – When facing right, the player shoots to the right (bullet is removed from DOM appropriately when it is off the screen on the right)

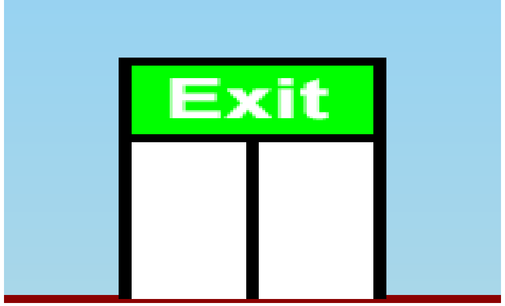
Sound 5%

- Use of sound
  - +1 mark – Appropriate sound when the player shoots
  - +1 mark – Appropriate sound when the player reaches the exit point
  - +1 mark – Appropriate sound when the player dies (touches monster or runs out of time)
  - +1 mark – Appropriate sound when a monster dies (is shot by the player)
  - +1 mark – Appropriate continuous music during the game

Time Remaining 4%

- The player needs to reach the exit point within a certain period of time i.e. 60 seconds
- The player will die if the player cannot reach the exit point within that time
- +4 marks - Time count down is updated and displayed appropriately every second (perhaps using a setInterval())

Level Handling 6%



- When the game first begins, it is level 1.
- When the player reaches the exit point, the score from the remaining time is added and the game moves to the next level, which is harder (see other slides)
- Don’t forget you have to collect all good things before you can finish the current level
  - +1 mark – Appropriate appearance of the exit (looks like an exit)
  - +2 marks – The current level is shown in the GUI, and is updated appropriately. It is incremented by one each time the player finishes a level and moves to the next level.
  - +3 marks – The game is correctly re-started when the next level is started (i.e. score continues and is not reset to zero, etc.)

Game Quality 8%

- How playable the game is
  - +2 marks – The game gets harder in next level. This is achieved by adding four monsters per subsequent level. I.e. If level 1 starts with 6 monsters, then level 2 will start with 10 monsters, and level 3 will start with 14 monsters, and so on (the player always starts with 8 bullets, whatever the level is)
  - +0/4/6 marks – generally poor/ok/good game

    - To get any marks in this section, your game must use a different theme/images compared to the theme/images given in the labs

    - You will get no marks for this part if you use the same theme/images provided in the labs

Score Update and Display 4%

- +1 Score is updated at the end of each level. Add L * 100 points for passing level L.
- +1 And also add X points for each second of remaining time, where you choose an appropriate value of X.
- +1 Score is updated when a monster is shot – add Y points when this happens, you choose an appropriate value of Y
- +1 Score is updated when a good thing is touched – add Z points when this happens, you choose the value of Z

Cheat Mode 6%

- +2 mark – In cheat mode, everything is the same as usual, but player will not die when colliding with a monster or shot by a bullet. And also the player will have infinite bullets in cheat mode (everything else works the same as usual)
- +2 mark – user can press ‘c’ to enter cheat mode, which works appropriately. If user presses ‘c’ in the cheat mode, it will still keep the player in the cheat mode
- +2 mark – user can press ‘v’ to leave cheat mode, which works appropriately. If user presses ‘v’ outside the cheat mode, then nothing happens
- The player can turn on and off cheat mode whenever he/she wants to (i.e. this feature is useful for debugging your game while you build it)

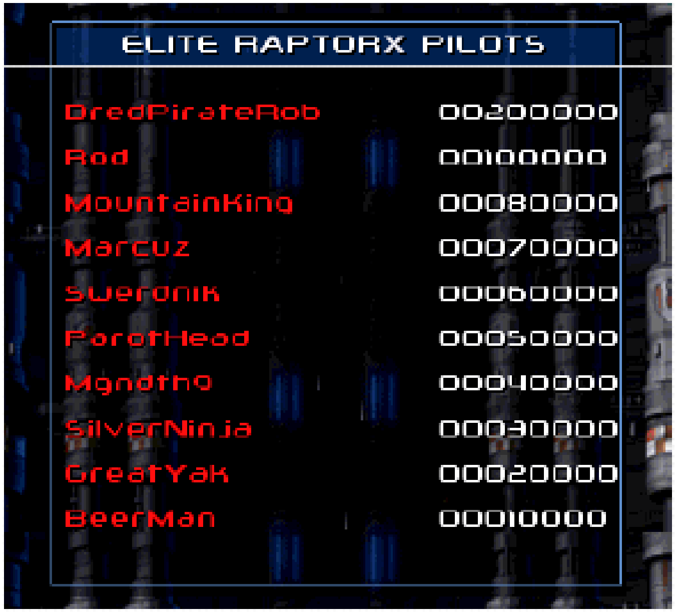
End of Game 8%

- If the player cannot reach the exit point during the required period of time, or touches a monster, or touches the bullets shot by the special monster, the player will die
  - +2 marks – Score & name are inserted into a top 5 high score table at correct place, if score is high enough
  - +2 marks – High scores saved/ updated appropriately in the cookie(s)
  - +2 marks – Show players score and high score, see next slide.
  - +2 mark – Show a ‘Start again?’ button, if the player clicks on it the game begins again, and the user is asked for his/her name as usual, with the previously entered name used as the default text in the window (i.e. using prompt())

Handling High Score Display 8%

- +1 mark – Appropriate title is shown above the high score table i.e. ‘High Score Table’
- +4 mark – Top 5 scores are shown in descending order, with highest at the top, lowest at the bottom, this will include the player’s score if it was high enough. If the current player is within the top 5 scores, mark him/her with a different color
- +3 marks – cookies are used appropriately to store everything

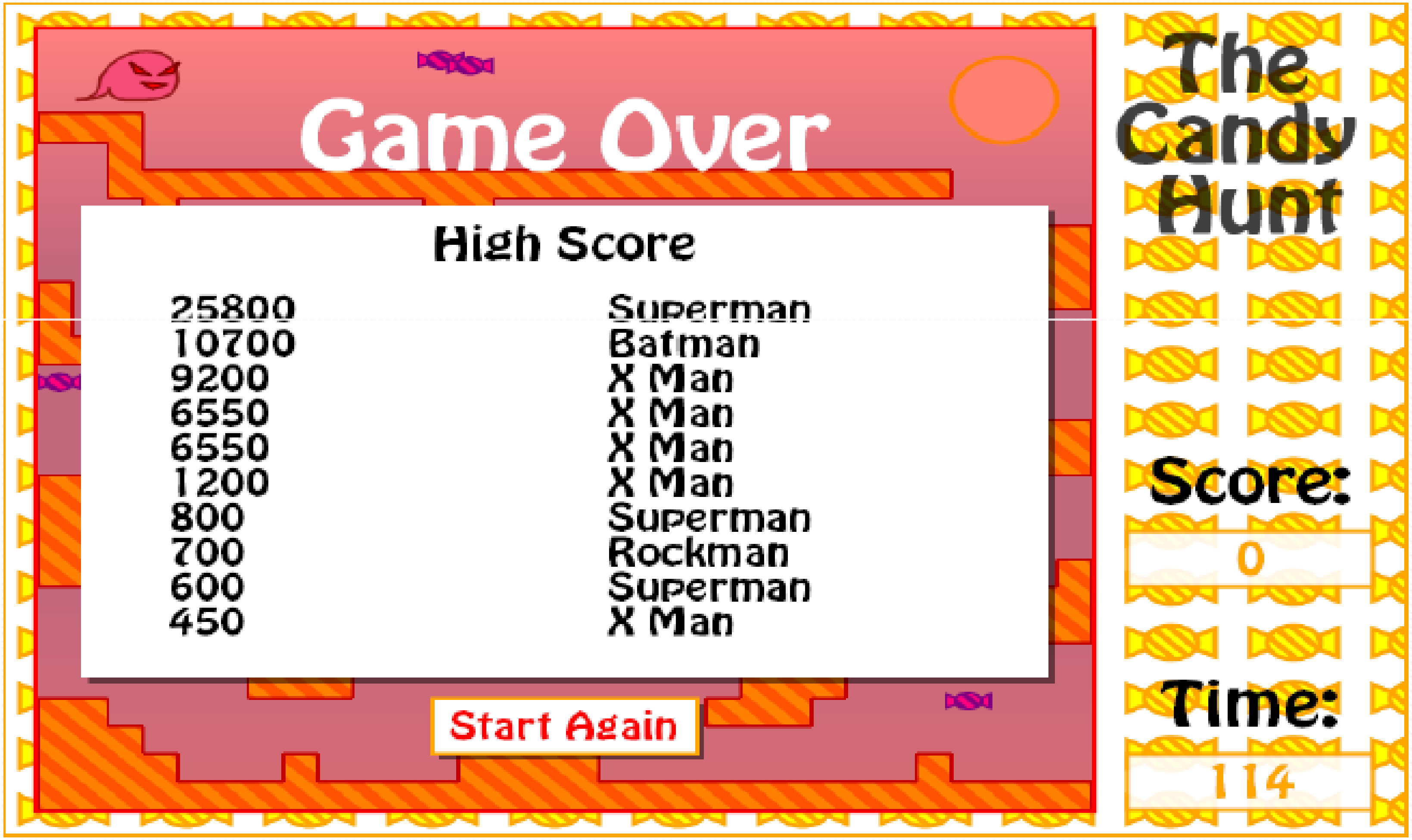
Example high score display from a commercial game



ELITE RAPTORX PILOTS

DredPirateRob	00200000
Rod	00100000
MountainKing	00080000
Marcuz	00070000
Sweronik	00060000
ParotHead	00050000
Mgndthg	00040000
SilverNinja	00030000
GreatYak	00020000
BeerMan	00010000

Example High Score Table



High Score

25800	Superman
10700	Batman
9200	X Man
6550	X Man
6550	X Man
1200	X Man
800	Superman
700	Rockman
600	Superman
450	X Man

Submission(1/2)

- You must denote which browser (Chrome or Firefox is good, IE is not recommended.) to view the SVG content in a readme.txt
- You need to submit all the used files and sounds
- If you want to write any message to the marker, write them in a file called " readme.txt "

Submission(2/2)

- Deadline: ~~23:59 Nov 7th, 2018~~ Refer to comp 4021 course website
  - If you submit after the due date, your score will be penalized by 20% for each day after the due date.
  - Submissions are rejected 2 days after the due date.
- Submit your project through ~~CASS system~~ CANVAS
- Format of submissions
  - Put all the files into a single zip file.
  - Filename: StudentID_Name_proj2_comp4021.zip