Web Tech Report

- A for HTML
- A for CSS
- A+ for JS
- A for PNG
- A for SVG
- A for Server
- A for Database
- A+ for Dynamic pages
- ? for Depth

HTML: XHTML delivery, have gained a high level of confidence with structuring my pages. No frameworks used.

CSS: Have gained a lot of experience using it and making my pages look modern. No frameworks used.

JS: Can confidently implement any feature possible with it, featuring the dodgegame.
The aim of the game is to not get hit by incoming bullets while destroying enemy blocks. There are 3 modes implemented, two use separate maps that are stored in files server-side and the third one is the endless mode, spawning enemies until the player loses. Performance is measured and submitted to the database. Level information on dynamic page section.
Also used some javascript for the leaderboards page to query the database and update the html table.
Initially used p5.js, but adapted all features to be pure javascript with no frameworks used.

PNG: Edited an image's selected region by changing its color hue in a separate transparent-filled layer. Located on the About webpage. Used GIMP (Check next pages)

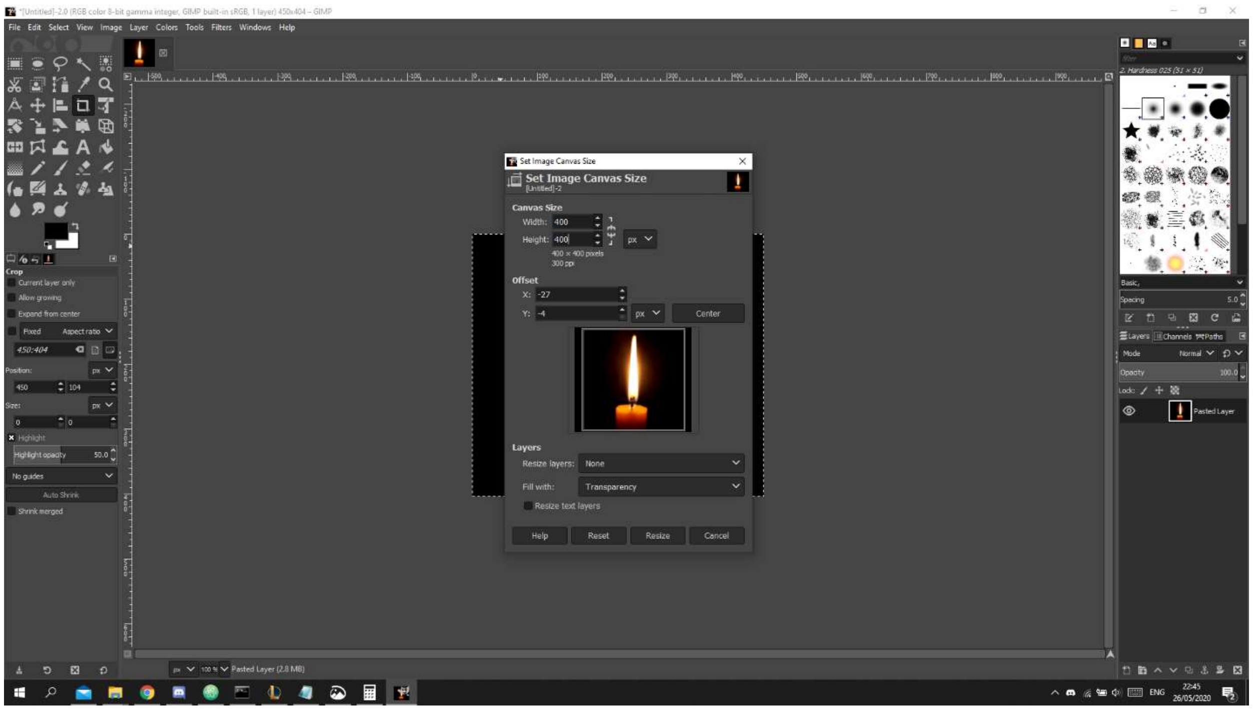
SVG: Path editing of objects, grouping them, transforming them to create the website's vector logo. Used Inkscape (Check next pages)

Server: Configured URL validation and content negotiation amongst using https and an openssl certificate for a secure connection. Using port 8443 for development.

Database: Already familiar with SQL, created two tables in an sqlite embedded database holding information of each submitted game result, and the highest score of every unique user respectively. These values are updated with an HTML form on the index page using HTML POST and fetched with javascript on the leaderboards page.

Dynamic pages: The javascript game uses json files that load information about when and where to spawn an enemy, and what its power is (life, damage, firerate, reloadspeed, magazine size etc.) These are stored server side, the server automatically handles distinct URLs and sends the JSON file to be processed by the client. The leaderboards page works in a similar fashion, delivering database queries instead of a file's contents.
For failsafe, if a file does not exist server side, the default game mode of Endless applies.
Level 1 is stored as gamedata1.json, Level 2 is gamedata2.json, and Level 3 demonstrates the failsafe with a garbage name ("gamedataasdf.json") which doesn't exist on the server and delivers Endless mode, a single line JSON specifying type Endless. The mode then operates client side to save bandwidth. Gamedata1 is loaded as default if the user doesn't select a level and starts the game.

PNG(annotated procedure):



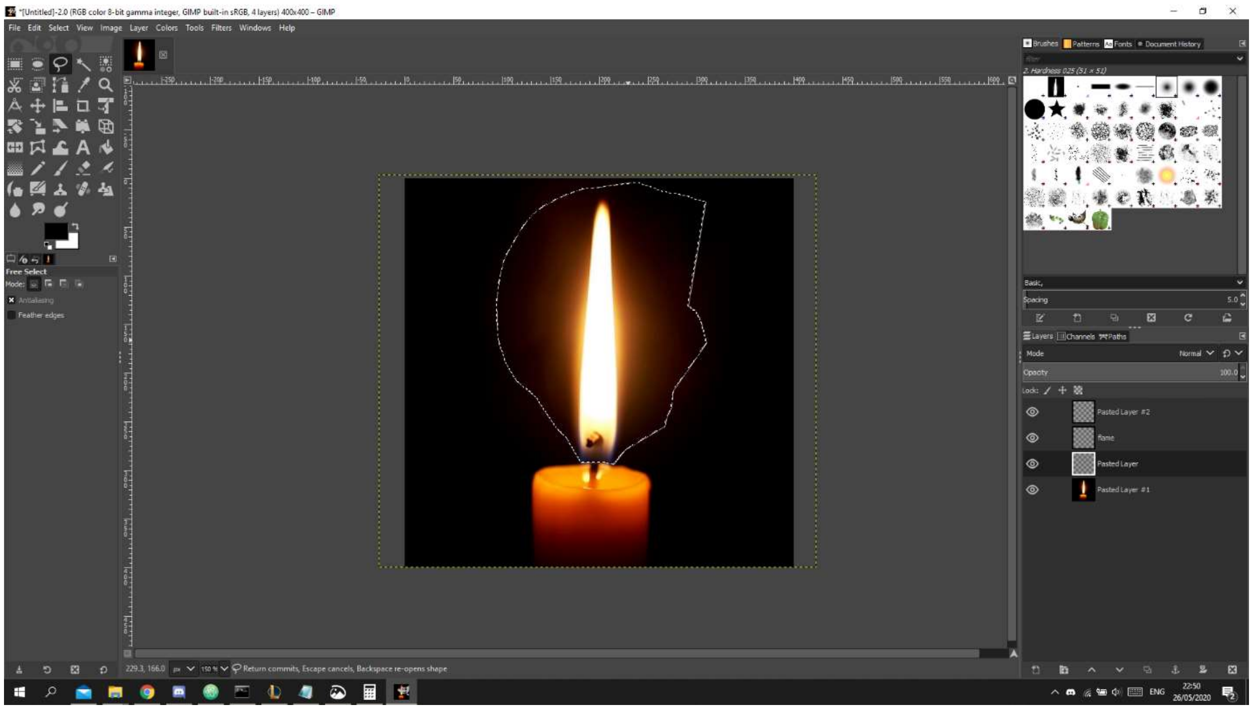
Set Image Canvas Size
[Untitled]-2

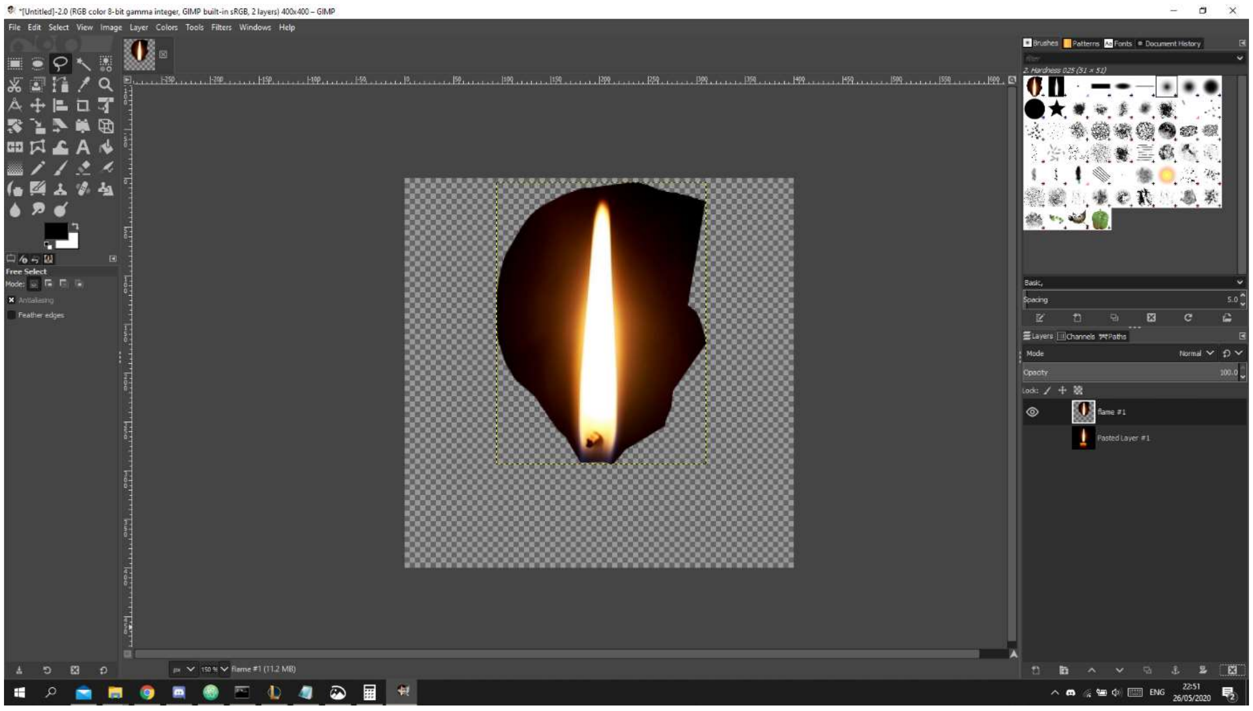
Canvas Size
Width: 400
Height: 400 px
400 × 400 pixels
300 ppi

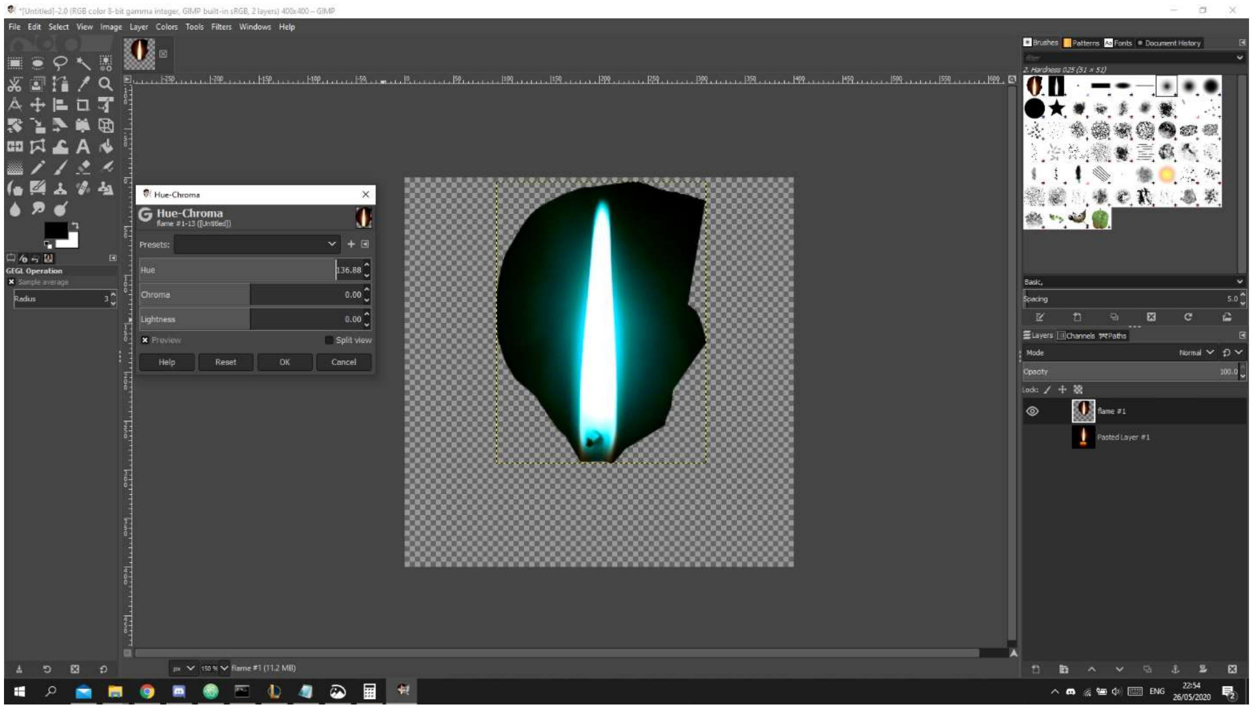
Offset
X: -27
Y: -4 px
Center

Layers
Resize layers: None
Fill with: Transparency
Resize text layers

Crop the original photo to a neat size of 400x400px


Using the free-hand tool, select the flame alone

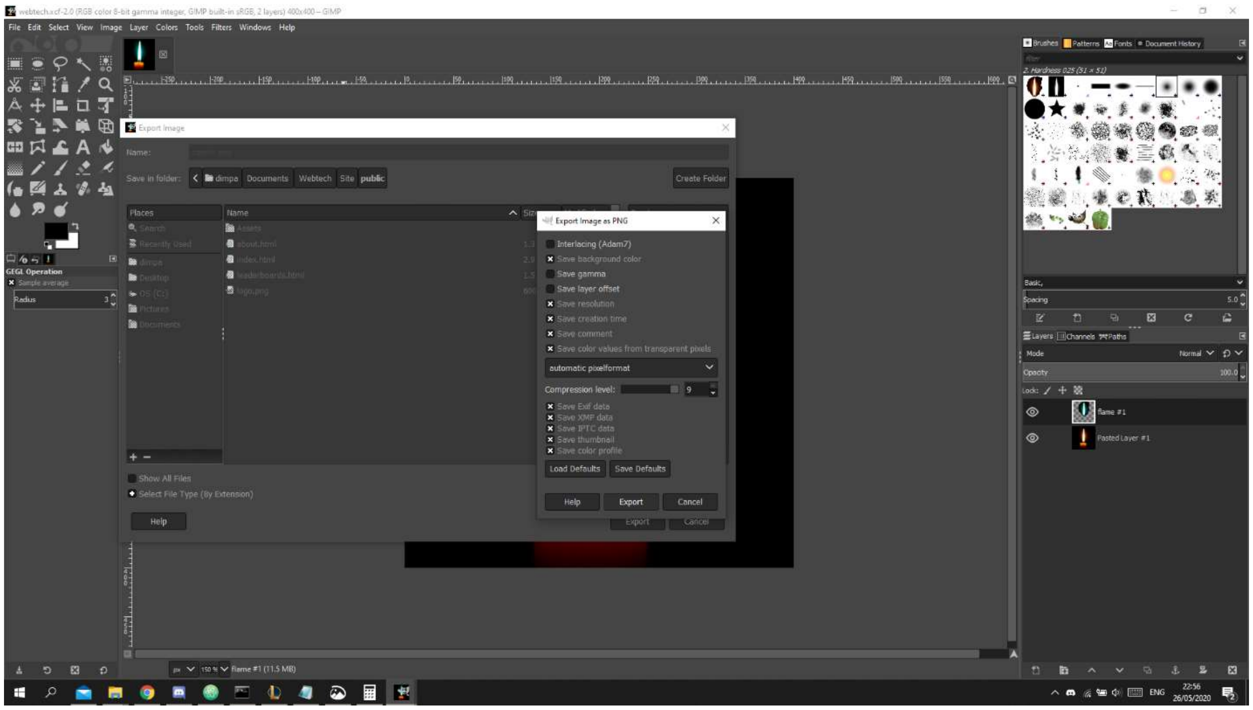

Paste the selection onto a new transparent layer



Hue-Chroma
flame #1-13 ([Untitled])

Hue 136.88
Chroma 0.00
Lightness 0.00
Preview ✓

Using the Colours-Hue-Chroma menu change the hue to a teal colour



Save in folder: dimpa / Documents / Webtech / Site / public

Export Image as PNG

- [ ] Interlacing (Adam7)
- [x] Save background color
- [ ] Save gamma
- [ ] Save layer offset
- [x] Save resolution
- [x] Save creation time
- [x] Save comment
- [x] Save color values from transparent pixels

automatic pixelformat

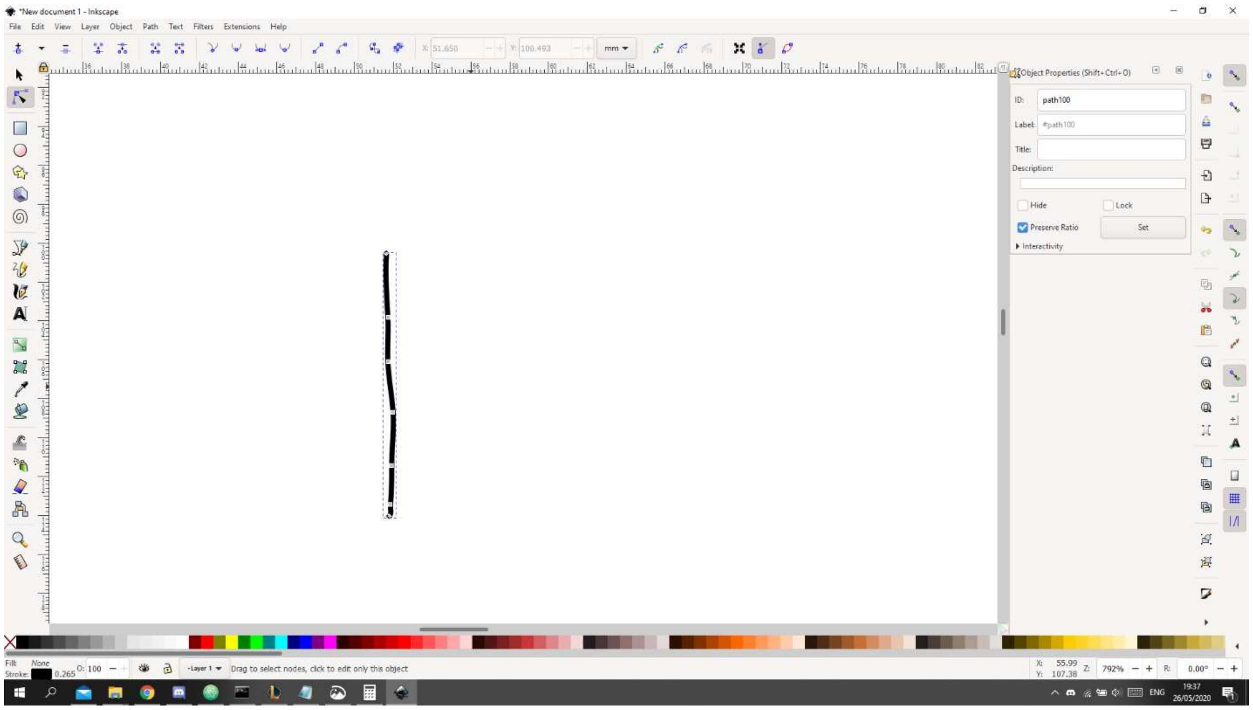
Compression level: 9

- [x] Save Exif data
- [x] Save XMP data
- [x] Save IPTC data
- [x] Save thumbnail
- [x] Save color profile

Make the base layer visible again and export to PNG (while also saving it as an xcf for record)

The final image!

SVG (annotated procedure):



ID: path100
Label: #path100
Title:
Description:
Hide
Lock
Preserve Ratio

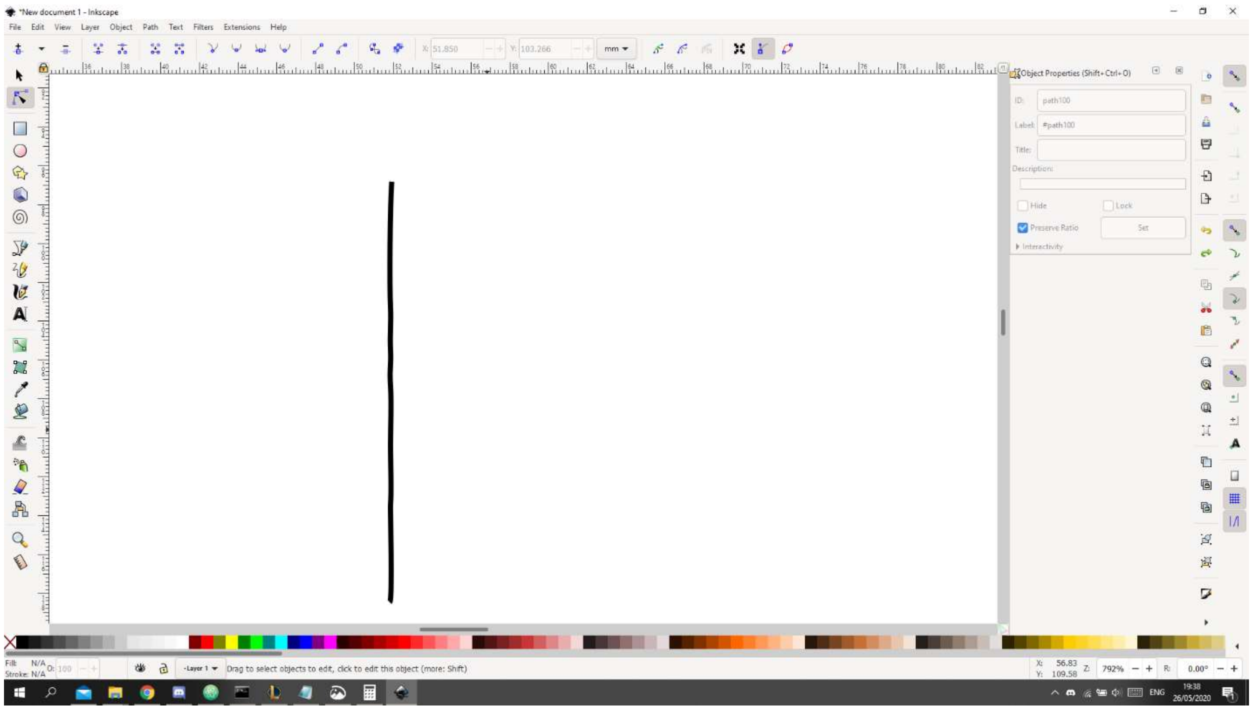
X: 51.650 Y: 100.493 mm

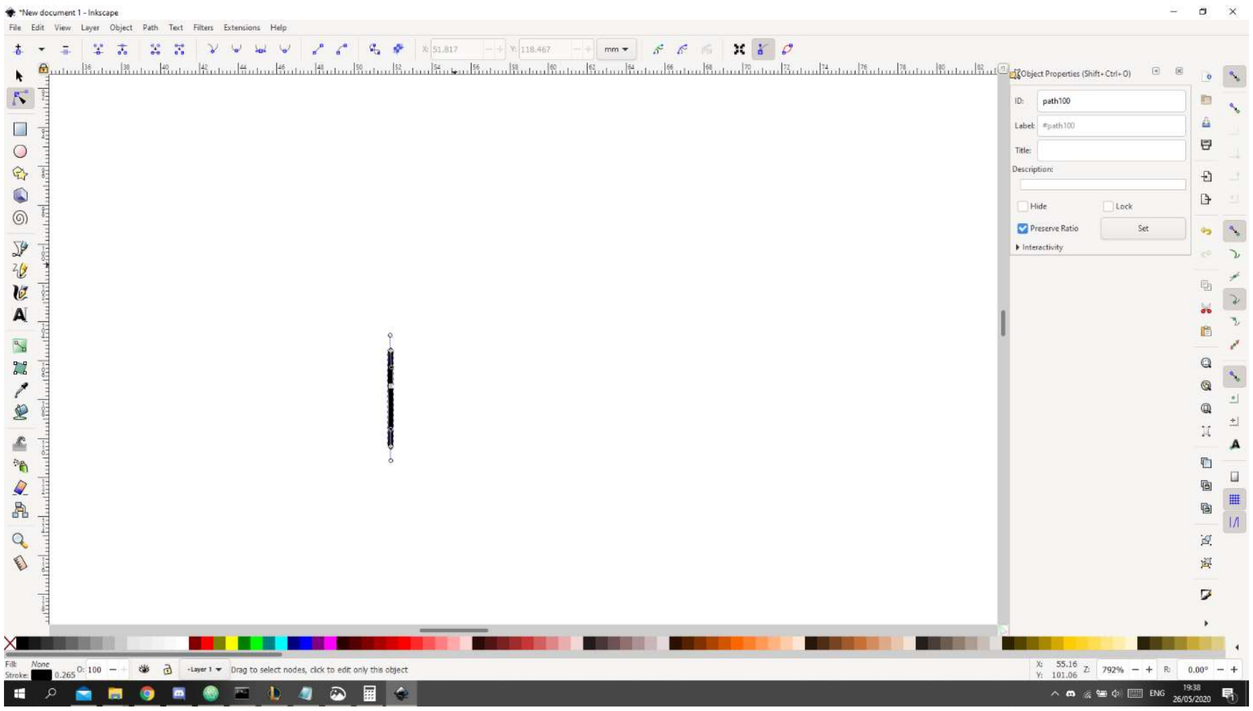
Fill: None
Stroke: 0.265
O: 100
-Layer 1
Drag to select nodes, click to edit only this object

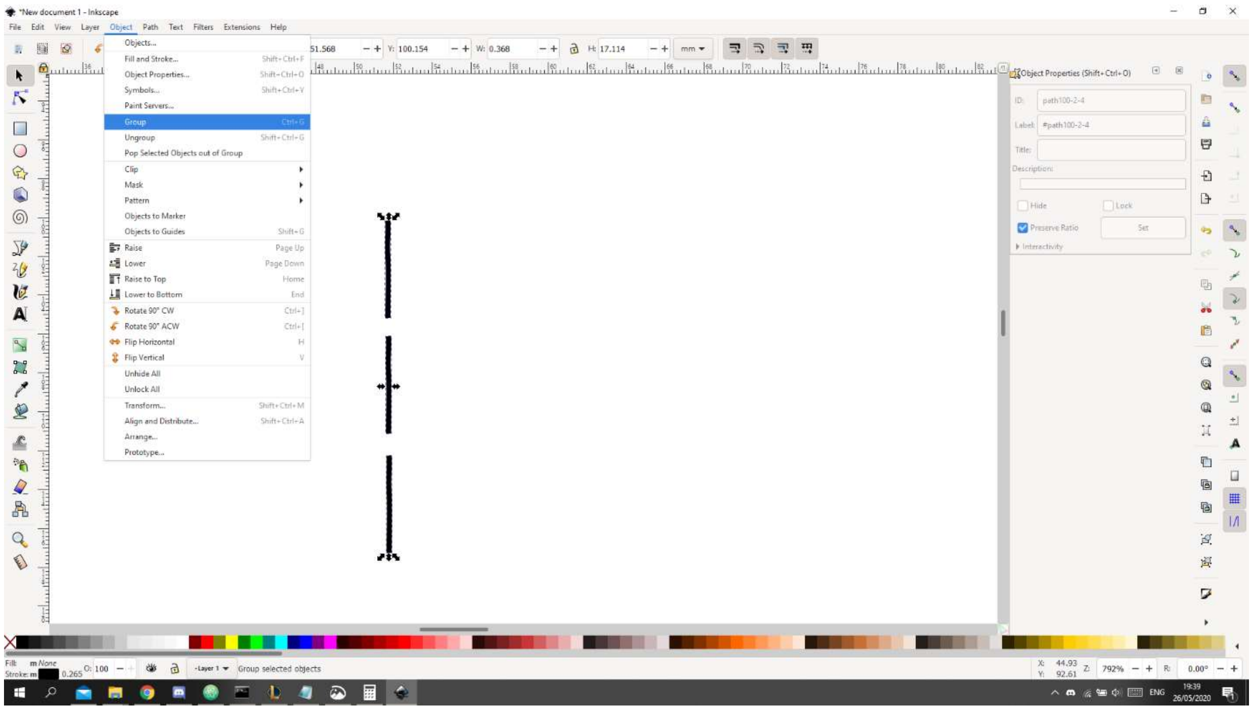
X: 55.99 Y: 107.38 Z: 792% R: 0.00°

ENG 19:37 26/05/2020

Use the free draw tool to make a line as best as possible

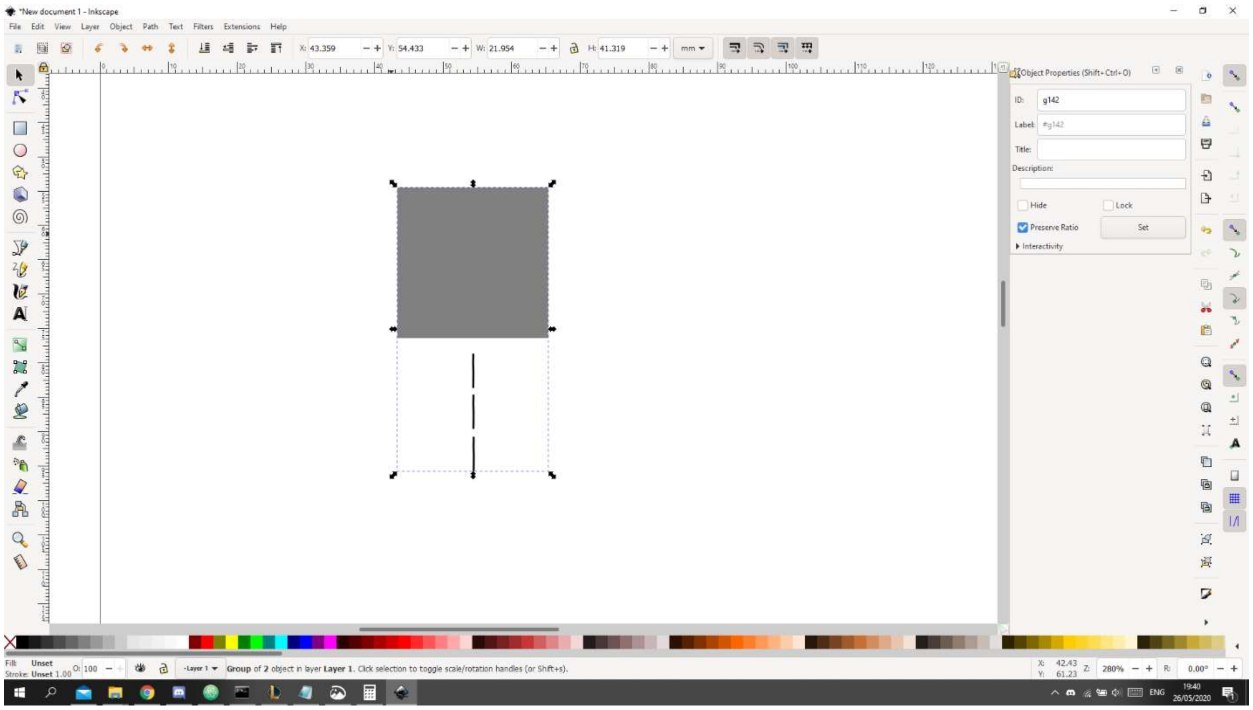

Use the path edit feature to straighten the line. Making it longer makes it easier from my experience


Select the long ends and cut them out to have a small bullet sized length



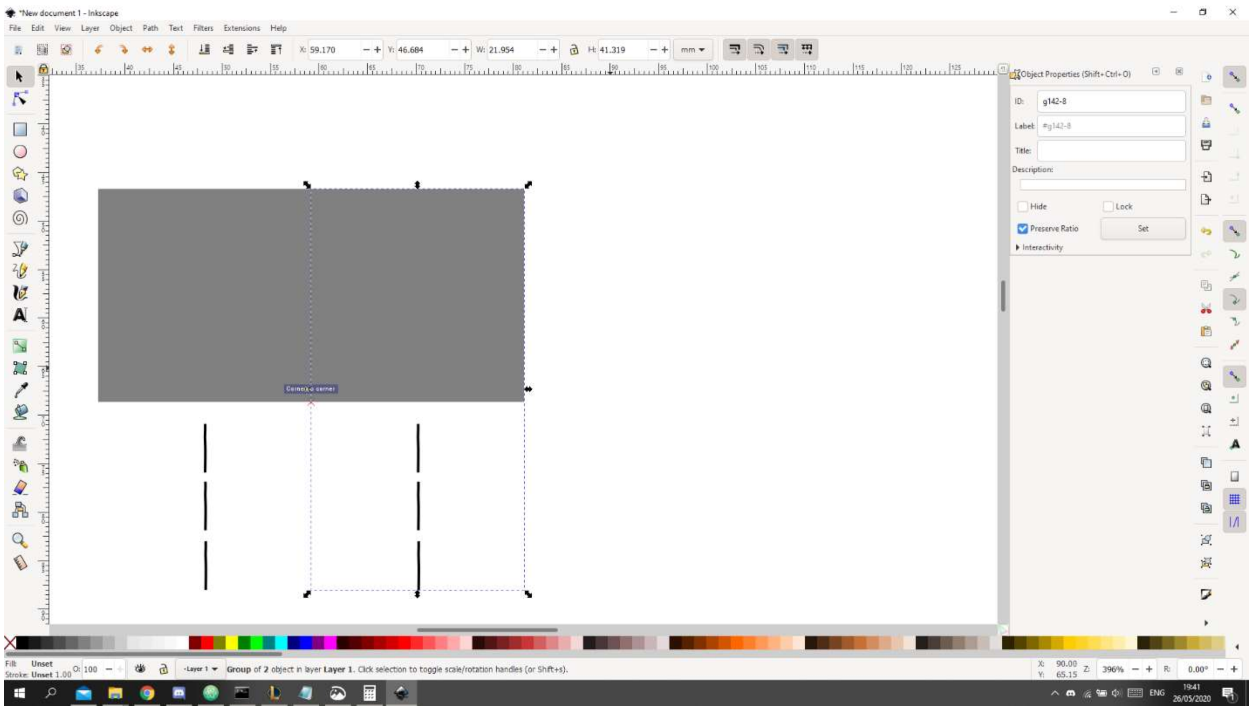
Group selected objects

Duplicate the object and group them together to form a single bullet line

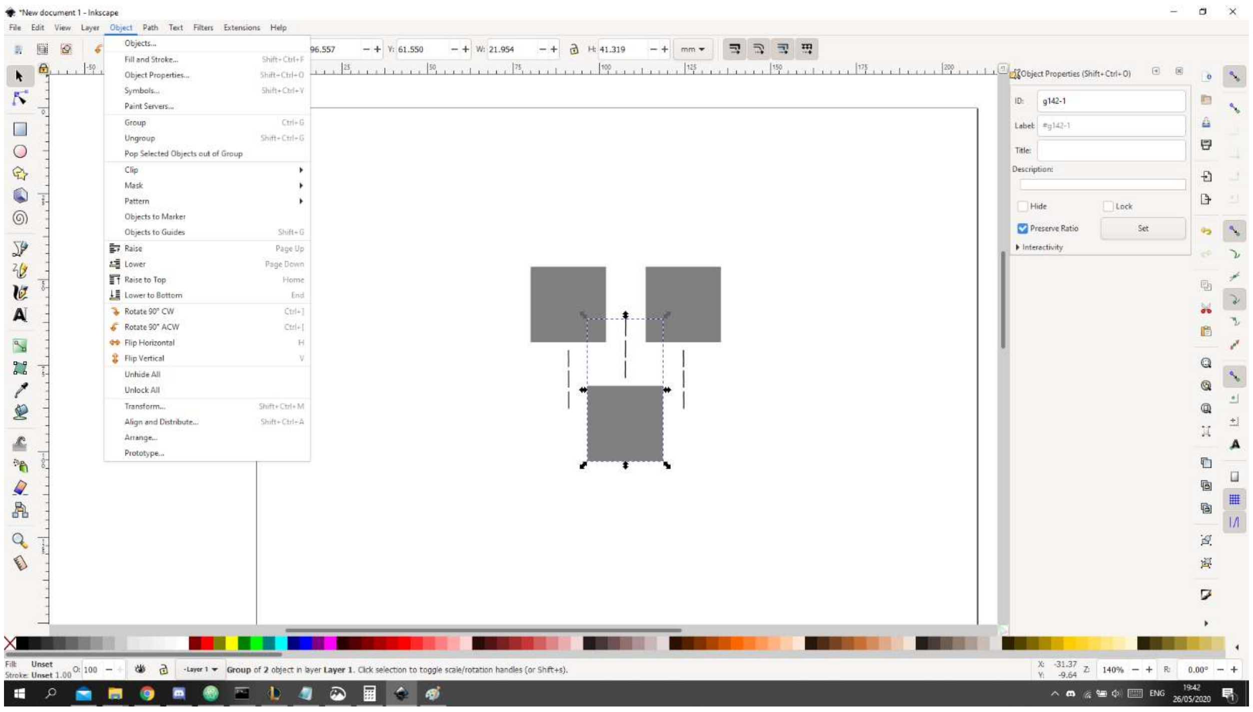

*New document 1 - Inkscape
File Edit View Layer Object Path Text Filters Extensions Help
Object Properties (Shift+Ctrl+O)
ID: g142
Label: #g142
Title:
Description:
Hide
Lock
Preserve Ratio
Set
Interactivity

Group of 2 object in layer Layer 1. Click selection to toggle scale/rotation handles (or Shift+s).

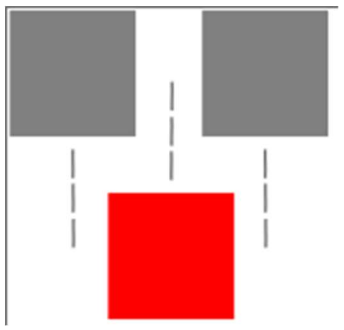
Hold control while dragging a rectangle to keep the aspect ratio intact, and group it with the bullets.


*New document 1 - Inkscape
File Edit View Layer Object Path Text Filters Extensions Help
Object Properties (Shift+Ctrl+O)
ID: g142-8
Label: #g142-8
Title:
Description:
Hide
Lock
Preserve Ratio
Set
Interactivity
Group of 2 object in layer Layer 1. Click selection to toggle scale/rotation handles (or Shift+s).

Duplicate it and line them up. Hold control to move it in a straight line


*New document 1 - Inkscape
File Edit View Layer Object Path Text Filters Extensions Help
Objects...
Fill and Stroke... Shift+Ctrl+F
Object Properties... Shift+Ctrl+O
Symbols... Shift+Ctrl+Y
Paint Servers...
Group Ctrl+G
Ungroup Shift+Ctrl+G
Pop Selected Objects out of Group
Clip
Mask
Pattern
Objects to Marker
Objects to Guides Shift+G
Raise Page Up
Lower Page Down
Raise to Top Home
Lower to Bottom End
Rotate 90° CW Ctrl+]
Rotate 90° ACW Ctrl+[
Flip Horizontal H
Flip Vertical V
Unhide All
Unlock All
Transform... Shift+Ctrl+M
Align and Distribute... Shift+Ctrl+A
Arrange...
Prototype...
Object Properties (Shift+Ctrl+O)
ID: g142-1
Label: #g142-1
Group of 2 object in layer Layer 1. Click selection to toggle scale/rotation handles (or Shift+s).

Duplicate and flip vertically. Finally, fill it with red color to match the game’s player object.



The logo!