BALLISTIC BREAKER BOTS
v1.0.2

Game developed by: Matthew Langford
Using resources provided by the University of Southampton, at
https://secure.ecs.soton.ac.uk/notes/comp2215/

README

Introduction
Ballistic Breaker Bots is a local multiplayer, turn-based artillery game. It runs on a bespoke integrated system, based on an AVR microcontroller. The device was designed and built at the University of Southampton.

Setup
The project source files are accompanied by a makefile to compile and upload the game to your La Fortuna board. You will need *avr-gcc* and *dfu-programmer* installed in order to complete the upload.

The game is fully playable without additional resources, but if you want the graphical titlescreen, you will need to upload the title file to a FATFS-ready SD-card. (University of Southampton students, prepare a SD-card by running Task 5 on your LaFortuna:
https://secure.ecs.soton.ac.uk/notes/comp2215/)
        The file you want is MYFILE.TXT (Will get a more descriptive name when I find out how to rename it without breaking anything...). Simply copy it to the SD-card, and the game will handle the rest.

Gameplay video
A (poor quality) video of a 2-player game being played to completion can be found here:
        https://www.youtube.com/watch?v=xZIX_y-poM4

Controls (In-game)

Button	Function
Left	Move left
Right	Move right
Centre (Hold)	Charge projectile
Centre (Release)	Fire projectile
Rotary encoder	Aim targeting reticule

How to play

Breaker Bots is a game designed for 2 – 4 players, competing locally on one device. There is no bot mode or single player component, so gather some friends – unless you want to play against yourself.
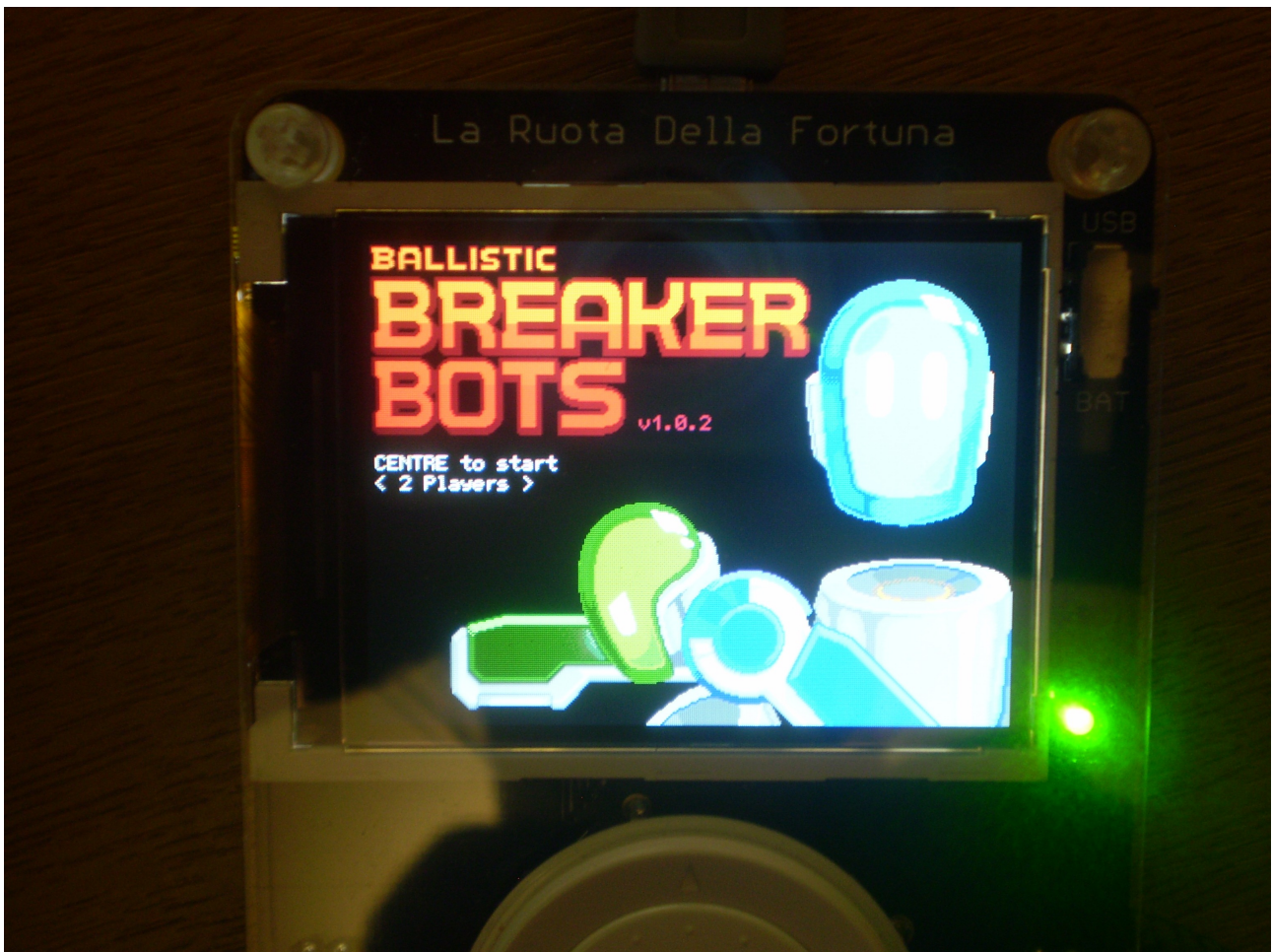
Pictured: Breaker Bots Titlescreen

On the titlescreen, you can select the number of players using the **Left** and **Right** directional buttons. When you are happy with the selection, the **Centre** button will start a new match.

Pictured: In-game screenshot

The aim of the game is to be the last player standing. To this end, each player is equipped with a Plasma Bomb – a highly explosive shell that detonates on impact! You must use your Plasma Bombs to destroy every other player!

The game is played in turns. On your turn, you may move left and right to get a better shot. You cannot climb up walls that are too steep. Once you are in a good position, you can use the rotary encoder to aim a shot. Once you take a shot, your turn ends and control passes to the next player.

1: The current player is indicated by the appropriately coloured targeting reticule. The reticule indicates the direction in which your shot will be launched. Plasma Bombs are affected by gravity, so try to remember your ballistic equations when lining up a tricky shot!

2: Charge your shots up to launch your Plasma Bombs at a higher speed, allowing them to travel further before falling back to the earth!

3: Plasma Bombs are surprisingly lightweight, considering their destructive capabilities – pay close attention to the wind gauge, because your shots will be affected by the it! The colour of the bar indicates the direction of the wind:

Blue bar: Wind is blowing to the right
Red bar: Wind is blowing to the left
The longer the coloured section of the bar, the faster the wind is blowing!

4: Keep track of everyone's health points with this handy UI. When a player's health is reduced to zero, they are removed from the game. Make sure it's not you!

5: Plasma bombs are powerful enough to tear trenches in the landscape. Force your enemies into ditches to make it harder for them to get a clear shot on you!