DIVYATI – SISTEMAS E MULTIMÉDIA

WELDING GAME PROPOSAL

Version 1.4

All work Copyright © 2011 by Divyati.
All rights reserved.

Divyati

February 2012

Table of Contents

I. Game Overview
II. Game Play Mechanics
III. Camera Angles
IV. Controls
V. Saving and Loading
VI. Interface
VII. Menu and Screen Descriptions
VIII. Game World
IX. Levels
X. Game Progression
XI. Characters
XII. Buildings
XIII. Items
XIV. Abilities
XV. Objects to weld
XVI. Script
XVII. Scoring
XVIII. Puzzles/Mini-games
XIX. Bonuses
XX. Sound Bible
XXI. Story Bible
XXII. Background Game Table

CONFIDENTIAL

Version History

Version 1.0 – Created by Nuno Ricardo Fatela on 2011.08.02

Version 1.1 – Modified by Nuno Ricardo Fatela on 2011.08.05

Version 1.2 – Modified by Nuno Ricardo Fatela on 2011.10.30

Version 1.3 – Modified by Nuno Ricardo Fatela on 2011.11.25

Version 1.4 – Modified by Nuno Fatela – 2012.02.01

I. Game Overview

The main premise of the game would be a time-management game based on a welding company or welding shop, hiring workers and looking for jobs, where company workers will be required to perform welding jobs on specific structures, with appropriate welding processes.

The player would be responsible for a new welding company for which he has to hire welders, and provide them with training and material conditions do work successfully.

II. Game Play Mechanics

The main game mechanics will be point and click, using the several graphical objects to navigate between the screens.

There will be a secondary mechanics to the training exercises, for which the player would control a welding gun and would be required to follow a pre-determined line interval.

The tables presented at the end of this document provide a gradual level progression so the user will weld different objects as he upgrades the welding stations to achieve better training and be able to weld all the available objects in the game.

III. Camera Angles

The angles of vision are an overhead vision of the entire welding complex, and when clicking on each of the buildings, the scenario changes to an interior building from a back wall to allow the user to select the welders and apply them actions.

IV. Controls

The mouse is used to all the interaction between the player and the interface.

V. Saving and Loading

The game will auto save the user progress and will auto load at the user next game session.

VI. Interface

The interface with the user is a fixed scenario where the user can click several objects to jump to another screen or click on the characters to access each object set of options.

CONFIDENTIAL

VII. Menu and Screen Descriptions

The main entrance screen will display a general welding illustration with 3 main options: Play, Instructions and Credits.

Clicking on instructions and credits will display overlay screens with the information.

On clicking play, the user will enter the game world.

VIII. Game World

The game world is comprised of 5 main areas:

General View – A general view of a welding complex, with a landscape and 4 clickable buildings.
Building 1 – Main Office – The main office will be used to buy welding stations, hire welders, buy security equipment, check game progress and order numbers.
Building 2 - TIG Welding building – In this scenario the user will be able to build to 3 welding stations.
Building 3 - MMA building – In this scenario the user will be able to build to 3 welding stations.
Building 4 – MIG-MAG building – In this scenario the user will be able to build to 3 welding stations.

The buildings could be general working buildings with the different welding torches as icons for identifying the buildings.

IX. Levels

On each level/job the player has an ultimate goal of welding an object and thus clearing the level to earn xp points (experience points). The player must use a combination of welding processes and materials, if available for that welder. Each object will have a time to weld, and as the orders are available to process and there are available welders, the objects will be welded and the user will receive the payment for that order and xp points that will enable him to execute the training exercises and be able to upgrade each welding station and accept better welding jobs.

With the money received the user will be able to set up more welding stations, hire more welders and buy more the equipment.

X. Game Progression

The player will have several orders to fulfill and there should be orders for 1-3 welders, being the one that uses 3 welders ate the same time is the largest object and with the highest income. Since the maximum number of welding stations in each scenario will be 3, depending on the level of each welder in his welding station.

When all welders are working and at top of their abilities (security items and certification), there could be 6 final orders, symbolizing a chosen landmark of each country (Portugal, Italy, Sweden, Hungary, Bulgaria, Poland)

XI. Characters

Welding Stations: This is the workplace for each welder, which the user will have to buy at first to then hire a welder do use it. In the welding station the player will be able to upgrade welding torches, gas bottles and the torch electrode wire. From the office screen, the user will be able to buy new welding stations that will appear in their respective building.

Figure 1 – Rendering of character design for welders (without working equipment)

Once inside each welding building, the user will click on each welding station to assign a free welder to work on it, if there is an available welder hired.

The welder will only start working if the user equips him with all the security material (helmet, gloves, etc), available by clicking on the welding station, and if those pieces are available (bought through the office screen) to apply to the welder.

Welders: Each of our welders will have to be equipped with his security items and training exercises done with success to weld advanced objects.

CONFIDENTIAL

XII. Buildings

Figure 2 – Rendering of Office Building and Workshops (background)

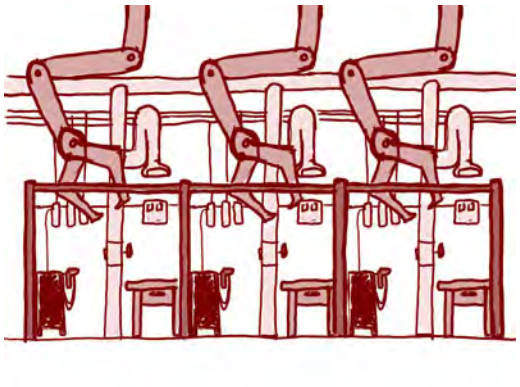


Figure 3 – Rendering of inside view of Welders' stations

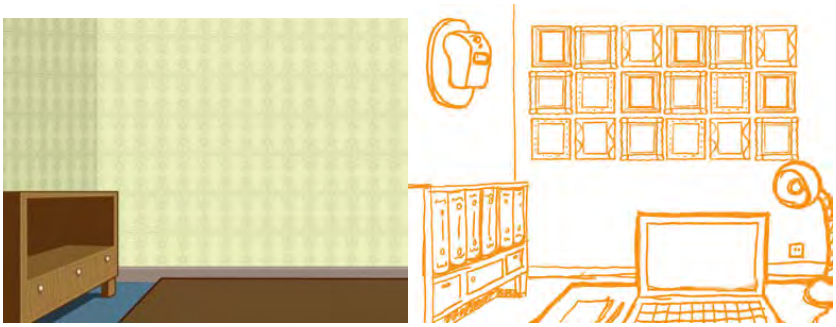


Figure 4 – Inside views (graphic view and preliminary drawing) of "Management Office"

XIII. Items

1. Welding Torch (MIG/MAG, TIG, MMA)
2. Wire rolls for the welding torches

3. Gas bottles

4. Security Items (Welding Helmet, Suit and Boots)

XIV. Abilities

Security items will be used to allow each welder to perform his task. When the welder is not equipped with these items we won't be able to weld the objects. There are 5 items: helmet, boots, gloves, glasses and suit.

They will need to be bought for each welder for him to be able to work.

XV. Objects to weld

- Aluminium shelves (MIG/MAG)
- B-Pillar of a car (MIG/MAG)
- Cell Phone antenna (MIG/MAG)
- Car body (MIG/MAG)
- Helicopter(MIG/MAG)
- Hull of a ship (Super Tanker) (MIG/MAG)
- Wind towers (MIG/MAG)
- Gas pipeline (diameter >100mm) (MIG/MAG)
- Boilers for nuclear power plants (MIG/MAG)

- Metal Fences (MMA)
- Truck frames (MMA)
- Pillars on a Skyscraper (MMA)
- Tractor Frame (MMA)
- Railway tracks (MMA)
- Bridge (MMA)
- Crane (MMA)
- Oil Platform (MMA)
- Under marine gas pipeline (MMA)

- Hand rail at the swimming pool Stainless steel (TIG)
- Pot handle (TIG)
- Stainless steel Barbecue (TIG)
- Aluminium Tank (TIG)
- Vacuum furnace (TIG)
- Space Shuttle (TIG)

CONFIDENTIAL

- Titanium Bicycle (TIG)
- Tubular Chassis of a sport car (TIG)
- Landing Gear of a plane (TIG)

XVI. Script

XVII. Scoring

XVIII. Puzzles/Mini-games

The training exercises will be mini puzzles where the user, controlling a welding gun will have to follow a line without crossing the line borders.

The exercises will follow the practical exercises required for real welders to conduct, in the framework of the EWF Guideline for the Training of European Welders.

XIX. Bonuses

XX. Sound Bible

Will have an original soundtrack of a sound loop, no more than 20 seconds.

XXI. Story Bible

You are the new manager of a welding company and will start to hire welders and buy welding stations so you can accept all the orders that arrive at your office, and have the 3 types of welding, and welders with the full certification to execute the most difficult jobs in welding finishing the game with the possibility of weld one national landmark for each of the partners countries.

XXII. Annex 1 Background Game Table – For game implementation (see enclosed)

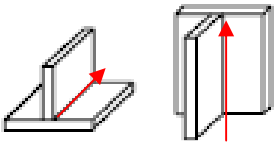
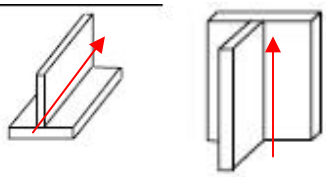
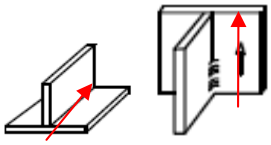
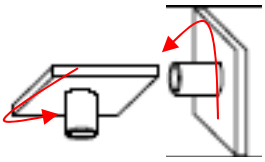
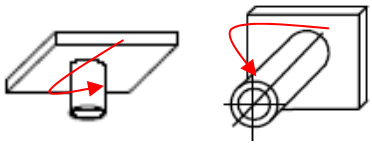
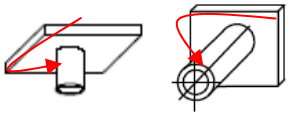
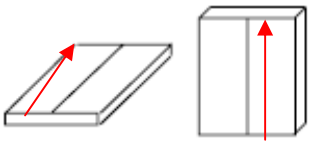
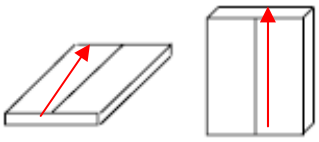
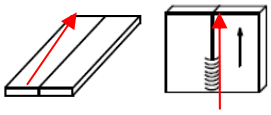
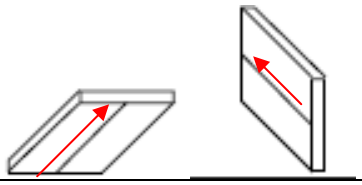
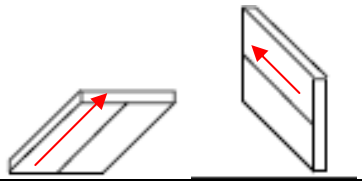
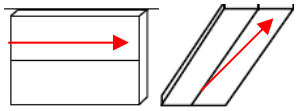
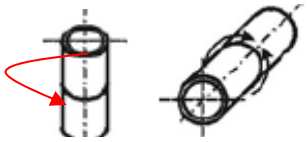
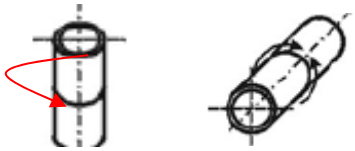
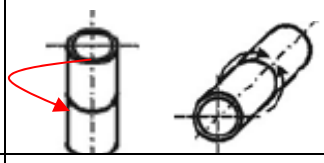
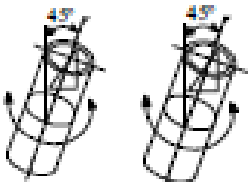
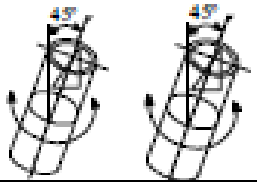
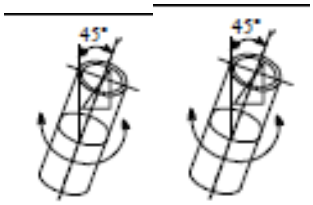
XXIII. Annex 2 Exercises based on EWF Guideline

CONFIDENTIAL

	Contract Difficulty	MIG/MAG	MMA	TIG
Module 1		MIG/MAG 1 & MIG/MAG 1.1	MMA 1 & MMA 1.1	TIG 1 & TIG 1.1
Fillet Welder	Basic	Object: **Aluminium shelves**	Object: **Metal Fences**	Object: **Hand rail at the swimming pool Stainless steel**
		Time to weld: 5 minutes	Time to weld: 5 minutes	Time to weld: 3 minutes
		Pistol Wire Usage: 5 meters	Pistol Wire Usage: 5 meters	Pistol Wire Usage: 3 meters
		Profit: 5 €	Profit: 5 €	Profit: 3 €
		Gas Usage: 5 litter	Gas Usage: 5 litter	Gas Usage: 3 litter
		Pistol Damage: 5 per cent each job	Pistol Damage: 5% per job	Pistol Damage: 3% per job
		Experience earned: 5 xp	Experience earned: 5 xp	Experience earned: 3 xp
	Upgrade Fillet Basic/Intermediate			
	Intermediate	Object: **B-Pillar of a car**	Object: **Truck frames**	Object: **pot handle**
Module 2		MIG/MAG 2 & MIG/MAG 2.1	MMA 2 & MMA 2.1	TIG 2 & TIG 2.1
		Time to weld: 30min	Time to weld: 1h	Time to weld: 10min
		Pistol Wire Usage: 30	Pistol Wire Usage: 60m	Pistol Wire Usage: 10m
		Profit: 100 €	Profit: 200 €	Profit: 10 €
		Gas Usage: 30	Gas Usage: 60	Gas Usage: 10
		Pistol Damage: 10% per job	Pistol Damage: 10% per job	Pistol Damage: 10% per job
		Experience earned: 15X	Experience earned: 15xp	Experience earned: 15xp
	Upgrade Fillet Intermediate/Advanced			
Module 3	Advanced	Object: **Cell Phone antenna**	Object: **Pillars on a Skyscraper**	Object: **Stainless steel Barbecue**
		MIG/MAG 3 & MIG/MAG 3.1	MMA 3 & MMA 3.1	TIG 3 e TIG 3.1
		Time to weld: 45min	Time to weld: 1,5h	Time to weld: 30min
		Pistol Wire Usage: 45	Pistol Wire Usage: 100	Pistol Wire Usage: 25
		Profit: 150 €	Profit: 250 €	Profit: 30 €
		Gas Usage: 45	Gas Usage: 100	Gas Usage: 25
		Pistol Damage: 20% per job	Pistol Damage: 30% per job	Pistol Damage: 15% per job
		Experience earned: 25 xp	Experience earned: 35xp	Experience earned: 20 xp
Module 4		MIG/MAG 4 & MIG/MAG 4.1	MMA 4 & MMA 4.1	TIG 4 & TIG 4.1
Plate Welder	Basic	Object: **Car body**	Object: **Tractor Frame**	Object: **Aluminium Tank**
		Time to weld: 1h	Time to weld: 1h	Time to weld: 1h
		Pistol Wire Usage: 90	Pistol Wire Usage: 100	Pistol Wire Usage: 100
		Profit: 200 €	Profit: 200 €	Profit: 250 €
		Gas Usage: 100	Gas Usage: 100	Gas Usage: 125
		Pistol Damage: 30% per job	Pistol Damage: 30% per job	Pistol Damage: 35% per job
		Experience earned: 50 xp	Experience earned: 50xp	Experience earned: 60xp
	Upgrade Plate Basic/Intermediate			
Module 5	Intermediate	Object: **Helicopter**	Object: **Railway tracks**	Object: **Vacuum furnace**
		MIG/MAG 5 & MIG/MAG 5.1	MMA 5 & MMA 5.1	TIG 5 & TIG 5.1
		Time to weld: 2,5h	Time to weld: 1,5h	Time to weld: 1h
		Pistol Wire Usage: 150	Pistol Wire Usage: 100	Pistol Wire Usage: 80
		Profit: 300 €	Profit: 150 €	Profit: 200 €
		Gas Usage: 150	Gas Usage: 100	Gas Usage: 80
		Pistol Damage: 35% per job	Pistol Damage: 20% per job	Pistol Damage: 25% per job
		Experience earned: 80 xp	Experience earned: 50 xp	Experience earned: 70 xp
	Upgrade Plate Intermediate/Advanced			
	Advanced	Object: **Hull of a ship (Super Tanker)**	Object: **Bridge**	Object: **Space Shuttle**
		Time to weld: 4,5	Time to weld: 8h	Time to weld: 18h
		Pistol Wire Usage: 300	Pistol Wire Usage: 700	Pistol Wire Usage: 850
		Profit: 800 €	Profit: 1.200 €	Profit: 2.000 €
		Gas Usage: 500	Gas Usage: 1000	Gas Usage: 1500
		Pistol Damage: 80% per job	Pistol Damage: 80% per job	Pistol Damage: 90% per job
		Experience earned: 250 xp	Experience earned: 500 xp	Experience earned: 800 xp
Module 6		MIG/MAG 6 & MIG/MAG 6.1	MMA 6 & MMA 6.1	TIG 6 & TIG 6.1
Pipe Welder	Basic	Object: **Wind towers**	Object: **Crane**	Object: **Titanium Bicycle**
		Time to weld: 6h	Time to weld: 6h	Time to weld: 3h
		Pistol Wire Usage: 500	Pistol Wire Usage: 650	Pistol Wire Usage: 3003
		Profit: 500 €	Profit: 600 €	Profit: 350 €
		Gas Usage: 450	Gas Usage: 500	Gas Usage: 200
		Pistol Damage: 75% per job	Pistol Damage: 75% per job	Pistol Damage: 55% per job
		Experience earned: 200 xp	Experience earned: 250 xp	Experience earned: 150 xp
	Upgrade Pipe Basic/Intermediate			
	Intermediate	Object: **Gas pipeline (diameter >100mm)**	Object: **Oil Platform**	Object: **Tubular Chassis of a sport car**
		Time to weld: 4h	Time to weld: 18h	Time to weld: 3,5h
		Pistol Wire Usage: 100	Pistol Wire Usage: 1000	Pistol Wire Usage: 200
		Profit: 250 €	Profit: 3.000 €	Profit: 1.000 €
		Gas Usage: 100	Gas Usage: 800	Gas Usage: 500
		Pistol Damage: 65% per job	Pistol Damage: 90% per job	Pistol Damage: 60% per job
		Experience earned: 300 xp	Experience earned: 800 xp	Experience earned: 250 xp
	Upgrade Pipe Intermediate/Advanced			
	Advanced	Object: **Boilers for nuclear power plants**	Object: **Under marine gas pipeline**	Object: **Landing Gear of a plane**
		Time to weld: 12h	Time to weld: 8h	Time to weld: 12h
		Pistol Wire Usage: 500	Pistol Wire Usage: 600	Pistol Wire Usage: 500
		Profit: 2.500 €	Profit: 1.200 €	Profit: 2.000 €
		Gas Usage: 800	Gas Usage: 800	Gas Usage: 500
		Pistol Damage: 80% per job	Pistol Damage: 85% per job	Pistol Damage: 75% per job
		Experience earned: 500 xp	Experience earned: 600 xp	Experience earned: 500xp

Time to weld:	Time each piece takes to weld
Pistol Wire Usage:	How many meters/centimeters will this piece use, to take that amout from the wire in stock.
Profit:	Profit for each piece finished.
Gas Usage:	How many gas is used from the bottle, to check when the user needs to buy new gas bottles
Pistol Damage:	Damage each job will do to the material, after too many orders, the pistols will need to be replaced
Experience earned:	Experience earned by the player. Only with enough experience can he make the certifications.

Certifications:	Select 18 welding exercises. Define which will be used for each upgrade step.

MIG/MAG 1 e 1.1 	MMA 1 e 1.1 	TIG 1 e TIG 1.1 
MIG/MAG 2 e 2.1 	MMA 2 e 2.1 	TIG 2 e 2.1 
MIG/MAG 3 e 3.1 	MMA 3 e 3.1 	TIG 3 e 3.1 
MIG/MAG 4 e 4.1 	MMA 4 e 4.1 	TIG 4 e 4.1 
MIG/MAG 5 e 5.1 	MMA 5 e 5.1 	TIG 5 e 5.1 
MIG/MAG 6 e 6.1 	MMA 6 e 6.1 (a ideia é soldar os dois tubos a 45º) 	TIG 6 e 6.1