

INSTRUCTION MANUAL



WeldPlay

Hire new welders, train them, set up your welding stations. Become a true top manager of a welding company. Accept and carry out increasingly complex and profitable assignments so as to gain experience and grow your business. To do this you'll need to enhance your resources, implement new welding processes and hire increasingly qualified and experienced welders. Lead your company to the top!

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Features of the game

Weldplay is a managerial game that simulates the management of welding activities, typical of the productive sector of a large industrial company or a workshop. The player will be responsible for the recruitment and training of qualified welders, on behalf of a new welding company. In particular, the player will have to train his welders and equip the company with all the equipment and resources required to process increasingly complex and important products.

As the game progresses, the player should be able to complete increasingly complex and profitable assignments, in order to help the growth of his business and bring it to the top of the field of welding.

Controls

The game interface is represented by one fixed scenario, consisting of multiple areas. The player can move within the different areas of the game by clicking with the mouse directly on the buildings or the icons that appear on the screen.

All the management, training and welding activities of the game are controlled by the mouse.

Home Screen

At the start of WeldPlay a home screen is displayed, in which the player can select three options: *Play*, *Instructions* and *Credits*.

Clicking on the icons *Instructions* the player has access to the instructions of the game.

WeldPlay is the result of a project called AccessWeld, belonging to the family of projects Leonardo da Vinci, co-financed by the funds of the lifelong learning program of the European community (Lifelong Learning Program). By clicking on the icon *Credits*, useful information concerning this project is provided.

To start playing, the player clicks on the *Play* button.

Game Environment

By clicking on the *Play* button on the home screen, the player accesses the play area.

The game takes place inside five different areas:

- 1) Main Scenario;
- 2) The Office;
- 3) MMA process workshop;
- 4) MIG/MAG process workshop;
- 5) TIG process workshop;

Main Scenario

The main scenario is presented as an overview of the company, which is composed of the 4 buildings in which the different activities of the game take place: the first building on the left is the Office, while the other three buildings in the background are the three different Workshops. By clicking on each building, the player can access a defined play area.

Using the menu bar on the bottom of the main scenario, the player can verify the sum of money earned (*Money*). By clicking the coloured rectangles in the lower right, the player can view the experience points (*XP*), for each welding process, gained during the game.



Main Scenario - the welding Company

Office

On entering the Office, the player can access his computer to manage all the aspects of his business. In particular, from this area of the game, the player can perform the following functions:

- buy new welding stations, up to a maximum of three stations for each welding process;
- hire new welders (MMA, MIG/MAG and TIG);
- manage and buy the assets (components for the torch, protection gas cylinders and consumables) necessary for the welding activities;
- accept new assignments (*Welding Contract*)

The acceptance and completion of new assignments is fundamental to earn the money and experience required to manage the different activities of the company and increase the level of qualification of the welders. As the game progresses, the welders will be awarded a diploma in recognition of their skills. These diplomas will be viewable on the wall of the Office.

In the office, in addition, the player can familiarize with the main welding terms and processes, by accessing a technical encyclopaedia, available in 6 different languages (Italian, Polish, Portuguese, Romanian, Hungarian and Swedish).

From the Office screen the player can return to Main Scenario by clicking on the arrow icon.



Exit Icon

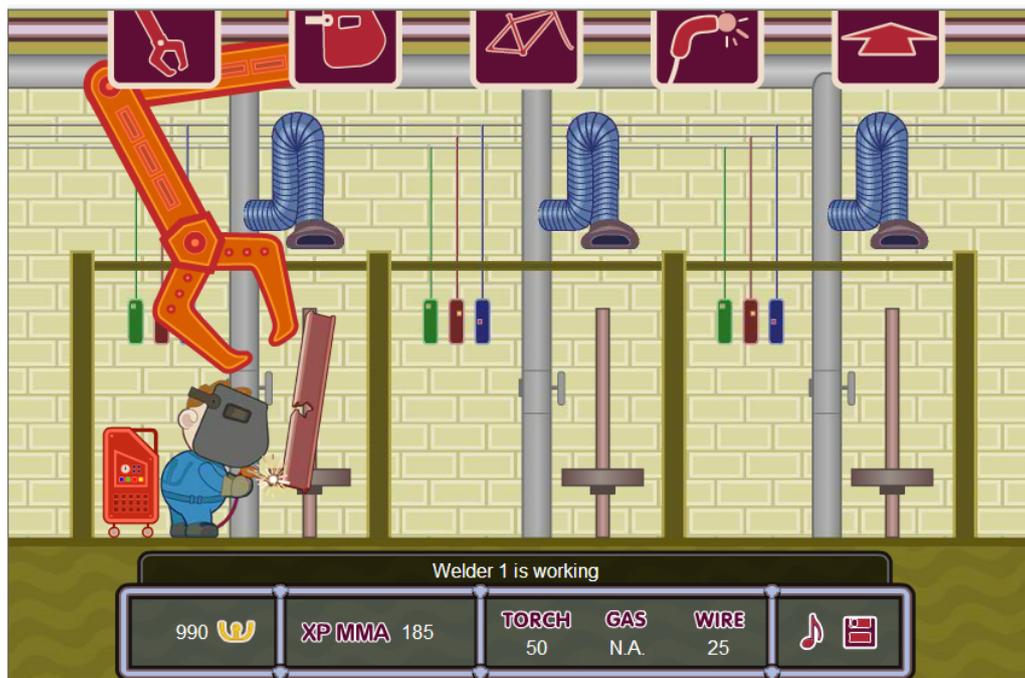


Office

Workshops

The welding activities are performed within the 3 buildings in the background of the main scenario, representing the workshops relating to the various welding processes. Within these buildings, the player can build up to 3 welding stations and process the objects related to a specific task.

The welding station is the place where the welders activities take place. With an increase in the amount of money available, the player can enhance his welding stations, buying new equipment (such as new welding torches, gas cylinders and consumables), hire new welders and accept new assignments.



Workshop - MMA Process

By clicking on one of his welding stations, the player can assign a welder, from those available, to realize an object.

The welder will begin to work only if equipped with all the material necessary for the realization of that type of object (amount of gas and wire) and if the conditions of the torch are appropriate. The amount of gas, wire, and the conditions of the torch are displayed in the appropriate menu bar on the bottom of the screen. This bar also displays the amount of money earned, the experience points earned and the controls for the management of the audio and the saves of the game session. The purchase of further material may be done through the icon showing the welding torch.



Icon for the purchase of new material

By clicking on the icons of the welding helmet, it is possible to hire a new welder.



Icon for the recruitment of a new welder

Before hiring a new welder, you must purchase a new welding booth, through the special command (icon showing the mechanical arm).



Icon for the purchase of a new welding booth

The new assignments can be selected through the icon showing the frame of the bicycle.



Icon for the purchase of a new welding station

Finally, the player can return to the Main screen by clicking on the icon with the exit arrow (see *Exit Icon* in the Office section).

Game levels

The aim of the game is to complete the various tasks, or work contracts (*Welding Contracts*), which are selected from the Office or from the Workshops screen.

For each assignment, the aim of the player is the creation of an object using a specific welding process. Each object requires a certain execution time (*working time*) and a certain amount of wire and gas, as well as use of the torch. It is important to note that the working time does not correspond to the actual time of the game. The player must then carefully manage his resources and money, in order to be able to buy additional welding stations and realize all the objects provided for the three

different welding techniques. In order to increase the productivity of the company, the player can use, for each process, up to a maximum of 3 welders.

At the completion of an object, the player will be paid and will receive experience points (xp points), which are necessary to grow the level of his welders and thus to be able to accept increasingly complex and profitable jobs.

With the money earned, the player will have the opportunity to adopt and enhance additional welding booths, hire multiple welders simultaneously and buy additional material.

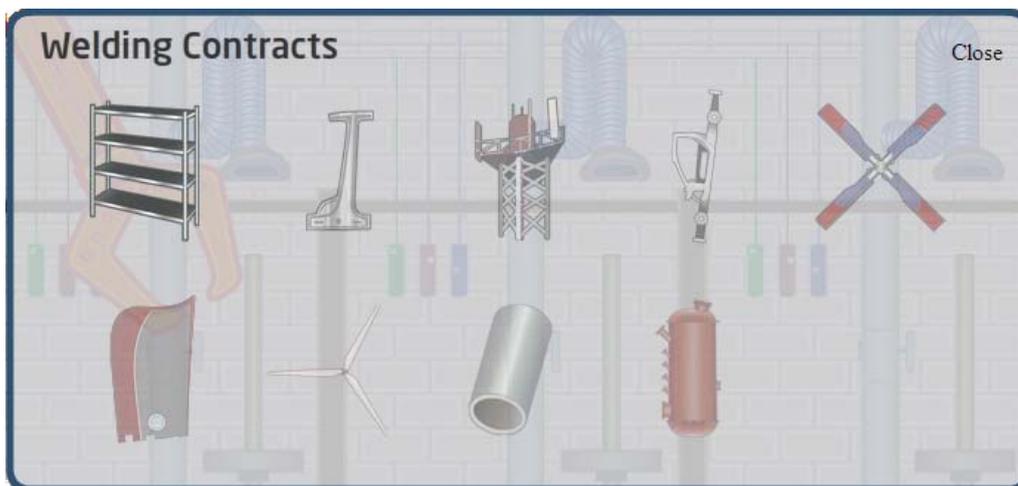
The experience points and the money earned are shown in the menu bar, located on the bottom of each screen.

The game ends when all the welders available are at the top of their skills, that is they have obtained all the certifications and are equipped with all the objects and the safety equipment, and all the assignments have been released.

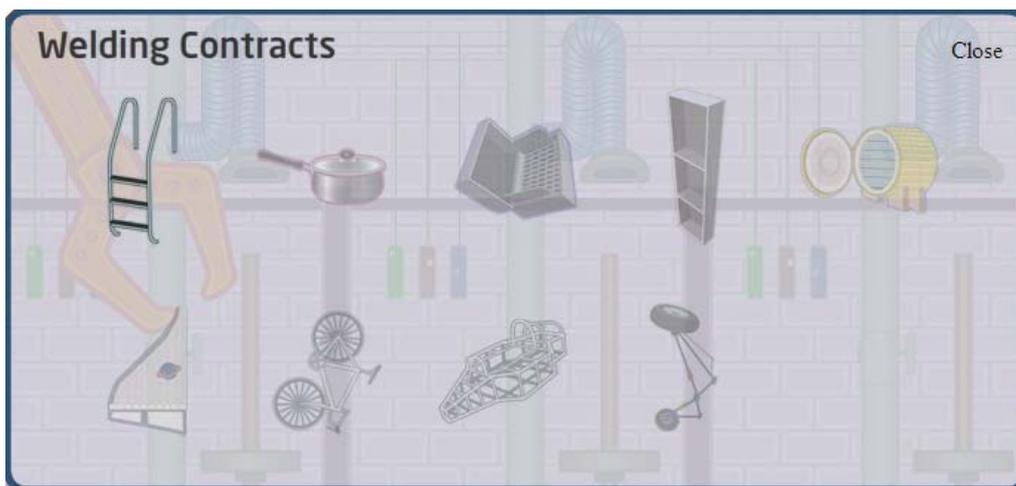
The following images show the *Welding Contracts* relating to the various work processes.



Welding Contracts for the MMA process



Welding Contracts for the MIG/MAG process



Welding Contracts for the TIG process

Saving and loading the levels

The game automatically saves the progress made by the user, and automatically uploads the next levels of the game.

Information about the welding processes

The practical part is carried out within the workshops, containing, respectively, the welding stations relative to three different processes. Depending on the type of object to be realized, the player can choose the most suitable welding technique.

MMA – Manual Metal Arc Welding

In this process, the electric arc is generated between a consumable electrode, typically coated, and the object to be created.

The heat generated by the electric arc melts the consumable electrode that ends up inside the joint as filler material. Thanks to the action of the heat, the coating of the electrode melts together with the filler metal, creating both a gaseous atmosphere and a slag that acts directly on the welding area, protecting it from any oxidation problems. At the end of the pass, the deposited slag must be removed.

This technique is the simplest among the various welding processes. Among the advantages associated with this technique, we remind:

- Flexibility.
- Low cost.

MIG/MAG – Metal Inert Gas Welding / Metal Active Gas Welding

The MIG/MAG processes are part of the welding techniques defined as "continuous wire", because the filler material in this case consists of a wire that is fed without interruptions during the entire process. As in the MMA process, the electric arc is generated between the fusible electrode (continuous wire) and the object to be created.

The protection of the weld is ensured by a flow of gas from the welding torch. The process is defined as MIG or MAG process, depending on whether the gas used is an inert gas (since they do not react with other elements at high temperatures) or an active gas.

This technique is characterized by the following benefits:

- High productivity.
- Quality of the welded joint.

TIG – Tungsten Inert Gas Welding

Unlike the processes mentioned above, in this case the electric arc is generated between a non fusible electrode in tungsten and the object to be created. The filler material is used in the form of small bars. The electrode and the welding area are protected by a flow of inert gas from the welding torch.

Thanks to the properties of the tungsten, this process is able to develop a high amount of heat, resulting in high quality welds.

The TIG process requires a great deal of welding skill, but ensures the realization of joints of extremely high quality.

