

This is a brief script for a video that we were would like to create to accompany the lesson.

This video is a brief tutorial on how to play Micro-RTS. In less than 5 minutes it will review several key items in playing Micro-RTS; basic movements of the units, gathering raw material to create military resources, creating military resource, and using military resources to attack an opponent.

MicroRTS is a Real Time Strategy Game that uses Artificial Intelligence in order to compete with human intelligence. It can use varying AI algorithms to learn how to defeat an opponent during play.

### **Resource Buildings**

One foundation element of play is resource buildings. The elements in resource buildings do not belong to any single player on the playing grid. Resource Units cannot execute any actions. It only has one role to play in the game, supply resources for the following: to create workers, military bases, military barracks and military attack units. When the number of resources left on a resource building reaches 0, the building disappears

### **Military Worker**

A primary role of the worker is to retrieve resources from resource buildings and take them to a Military Base. Workers can carry only one resource at a time. They have only 1 hit point which means they are very easy to destroy during play. One hit from any of the opponent player's attack units will eliminate a worker from play. In order to retrieve resources from a resource building a worker unit has to be in a cell immediately above, to the left, to the right, or under, a resource building. To move a worker to a new position on the playing grid,

**Select the Unit:** by left clicking on the unit

**To Move the Unit to a new position:** right click on the cell in the grid that you want it to move to. As you see, the unit will begin to move to the new position one square at a time taking a best possible path.

Once the worker unit reaches a square next to a Resource Building, it can begin to transfer resources from the Resource Building to a Military Base.

To Begin the Transfer: First select the unit to receive the recourse, and then right click on the building containing the resource. As you see the, the worker unit will begin to carry resource from the resource building to the base. This operation can be carried out by multiple workers at the same time. Simply repeat the process for additional workers. Make sure to try and keep a clear path for the workers to travel.

The worker additionally can act as a military unit. It can attack a unit adjacent to it.

**To Attack a Unit:** First select the attacking unit, and then right click on the unit to attack. The attacking worker must be in a cell immediately above, to the left, to the right, or under, the unit it is attacking. A worker may attack any military unit or building. They can only cause 1 unit of damage per attack on the unit they are attacking.

Finally, worker units can be used to create military buildings, bases or barracks. A player will require the building of a barracks in order to create advanced military units. The advanced military units are the Light, Heavy and Ranged Military Units, these units will be demonstrated shortly.

**To Create a Military Building:** First select the worker unit that will be assigned to creating the building. When a worker is selected two command buttons appear at the bottom of the playing grid, a button for Base and a Button for Barrack.

**To Construct a Barrack Buildings:** Barracks are important because they are needed to construct military attack units. To Construct a Barrack Buildings: First, select the Barrack type building at the bottom of the game grid, and then right click on the destination square in the grid where you want to place the constructed building. The worker will move to a square next to the destination square and begin to build the Barrack Building. The worker will be pointing to the destination square. Remember, there is a time and resource penalty/cost for constructing a Barrack Type Building. They cost 5 resource units to build, and take 200 time units to be built. After the appropriate build time passes, the building will appear on the destination square.

Once the Barrack is built, they will have 4 hit points. They will be able to withstand being hit 4 times before they are destroyed

**To Construct a Base:** Bases are important because they are needed to turn resource units into workers. All bases have share the same accumulative repository of resources that that have been transferred from resource buildings. It is similar to having more than 1 ATM machine that you can use to access funds from a single bank account. If the opposing player destroys a base, the system will automatically access you resources from a remaining base. To Construct a Base: a worker is needed to construct a base. First select the worker that you will use to construct the base. You will see two buttons appear at the bottom of the playing grid. Click on the Base Button, and then right click on the square where you

want the worker to create the base. A line will appear from the worker to the square where the base will appear.

**Creating Additional Workers-** bases can produce additional workers. When a base contains resources, it can start producing workers.

When a Base is selected, a command button is displayed at the bottom of the playing grid, The command button has the label **Worker** on it. As it is displayed on the diagram. Left click the worker Button at the bottom of the playing grid. The Base will point to and cell adjacent to it. After the time cost for a worker unit has elapsed, the worker unit will appear at the square that the base is pointing to. The base resource count will decrease by one to cover the material cost for creating the worker unit.

Workers can only attack, harvest or return to units that are in the cell immediately up, left, right or down, adjacent

They can harvest (20 units of time), and return (10 units of time). ???