# V-World Workshops (Workshop 1 – familiarisation)

These workshops are organized into a series of exercises. The intention is:

1. Become familiar with the platform:
    a. Representation of the world
    b. Representation of the agent, objects and other actors (animate objects)
    c. Behaviours, i.e. how actors act (deliberate, react, etc.)

2. Make simple changes to the agent's rules such that its behaviour is modified. In particular that the behaviour becomes more 'interesting.'

3. Be able to make any number of modifications and additions to the agent/ actor/ object behaviour to satisfy the programming component of the coursework.

## Running V-World

Important: V-World is available at present from the P-Drive on the network. Although it can be executed directly from here, it is recommended that you first:

**Copy the entire V-World folder to your own system** (Flash drive, or whatever). *In this way, you will be able to manipulate all files in the V-World folder as you wish – including agent files. We have permission to do this.*

The modified (working) version is on the P-Drive on the following path:

P:\COURSEWK\CI342\V-World\**vworld.pl**

Note: there are many files in the V-World folder, including a stand-alone version. I have kept this here because some of the icons must be accessed from here. This is not allowed in WIN-PROLOG 4.8 and beyond, but for now we are forced to use them.

**vworld.pl** is the main Prolog file. It is executed by **opening the file** from WIN-PROLOG, **compiling** and running using the command:

?- **vmain.**

## Notes for when you are developing the system for your assignment

WIN-PROLOG has default sizes for its stacks, heaps, etc. that are perfectly adequate for many simple applications. However, for larger applications these may have to be enlarged. There are two ways to do this:

1. In the WIN-PROLOG '.ini' file
2. At the command line, i.e. from a shortcut

We will revisit this in the future if the need arises. The instructions will be posted on Student Central in due time.

**Run WIN-PROLOG 4.8 and open the file:**

**P:\COURSEWK\CI342\V-World\vworld.pl**

**Compile the program, and in the Console Screen, type the following:**

**?- vmain.**

The following screen should appear:



This shows the general 2-D basis for the game world & has various objects & actors (animate objects). This is not a world – it is just an opening graphic. The instructions in the centre tell us that it is necessary to:

1. Load a world. There are many pre-configured worlds in the V-World folder
2. Load an agent. There is only one pre-configured agent – 'bumble'

Under the **File Menu**, select **Load World** and then select the simplest – '**bird1.vw'**
Note the suffix '.vw'

The world now looks like this:
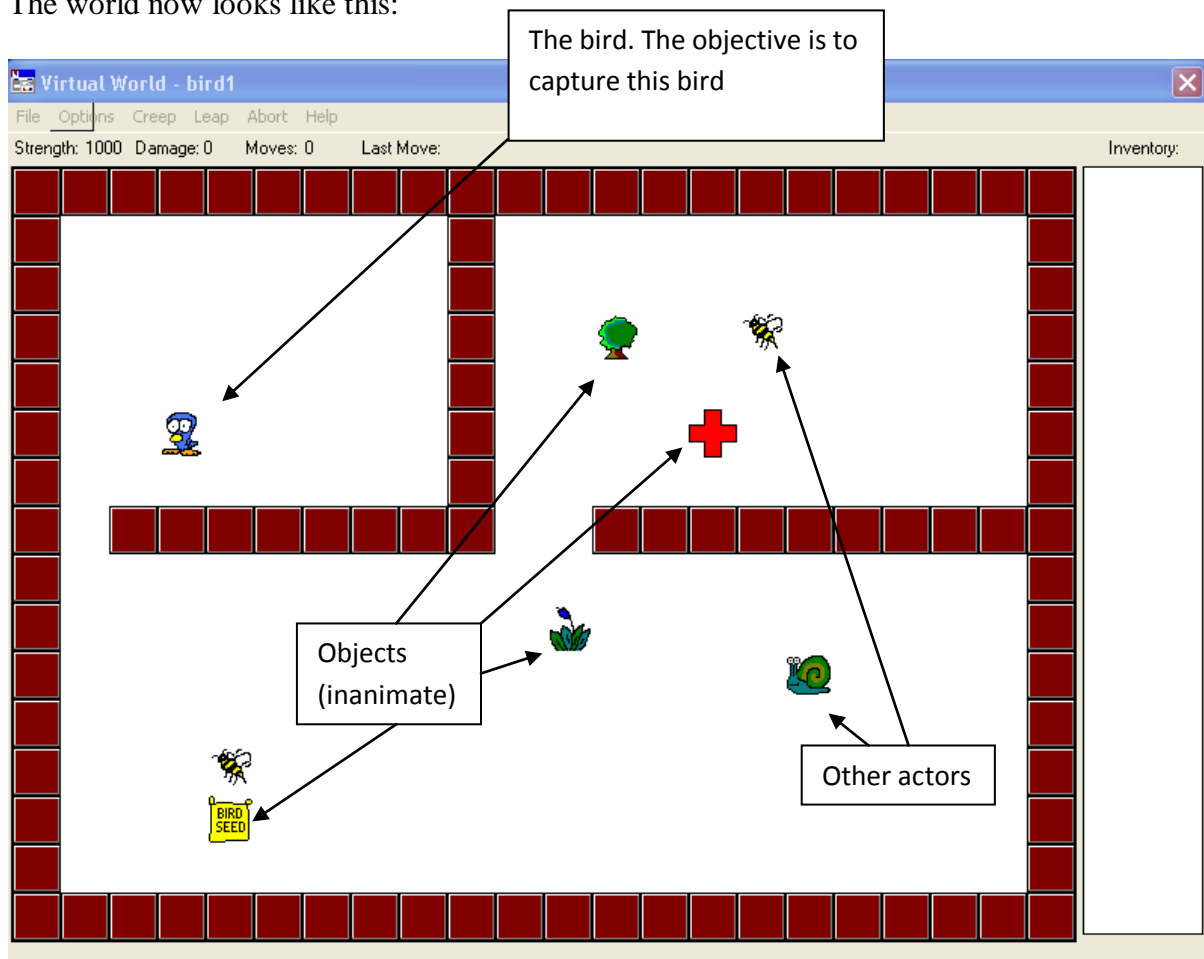


Look at the V-World introduction & familiarise yourself with the various objects and actors in this extremely simple world.

## Now load an agent:

Under the **File Menu**, select '**Load Agent'** and then select the one available agent:

 '**bumble_1.0.agt'**, noting the suffix '.agt' The world is now complete with its actors, objects and an intrepid agent:

Bumble is placed in the default start position, but you can change that, plus the icon used by:

Selecting **Options/ Change Agent Location** and then left clicking anywhere in the world you want the agent to be (other than in a wall or the space occupied by another object/ actor

Selecting **Options/ Change Agent Icon** & then making a selection from the window that appears.

The agent 'bumble' at default location
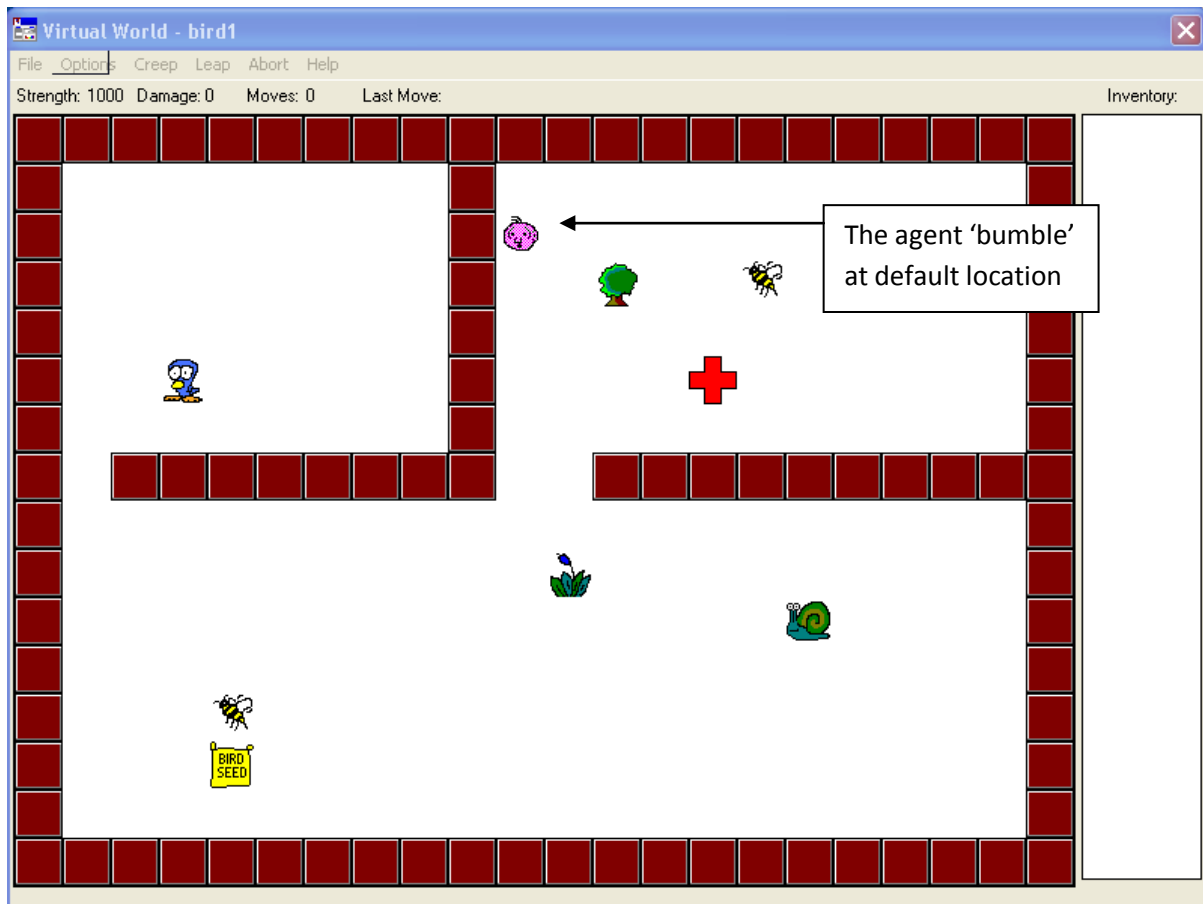
## Exercise 1: Catch the Bird

Now select **Options/Agent View** Mode from the menu bar. All of the screen will become dark except for the area that an artificial agent inserted into V-World can see.

Finally, select **Options/Manual Testing** Mode from the menu bar. This allows you to control the agent using the keyboard. You can move the agent with the 8 arrow keys on the number pad (including Home, PgUp, PgDn, and End.). (This will not work if NumLock is on.) Try moving the agent around a bit to explore bird1.

You should very soon discover a tree, a red cross, and a hornet. If you tried to keep away from the hornet, you were wise. There are displays under the menu bar for Strength, Damage, Moves, and Last Move. When you first loaded Bumble, Strength was set at 1000 and Damage was set at 0. You may have noticed that Strength decreases as you move about, that Moves increases (keeps count of how many moves you have made,) and that Last Move records the last move you made. If you were unlucky enough to come into contact with the hornet for very long, you may also notice that Damage increases. If Strength falls to 0 or Damage reaches 100, Bumble will die. How do you increase Strength and decrease Damage?

Move Bumble until he is beside the tree, and then move in the direction of the tree. V-World interprets this as a "push" against the tree. When you do this, an apple should appear near the tree. Bumble has "shaken" an apple from the tree. Now move Bumble into the space occupied

by the apple. The apple will disappear and Strength will go up. You can continue to do this until Strength reaches a maximum value of 4000. Similarly, you can "push" against the red cross. When you do this, Damage is reset to 0.

As you explore further, you will discover a flower. Move into the location of the flower. When you do this, the flower disappears and the word "flower" appears in the Inventory listbox at the right of the screen. This is a list of items that Bumble has picked up and is carrying with him. Using the mouse, click flower in the Inventory listbox, then hit the Delete key. You have just "dropped" the flower. It is usually possible to retrieve an object that you have dropped.

Now you know enough to finish the game represented by bird1. Somewhere in this world is a bird. **Your goal is to catch the bird**. When you do, a message will appear. Good luck!

After finishing the game, load bird1 and the Bumble agent again and play the game without setting the Agent View Mode. If you want to turn this or the Manual Testing Mode off, just select the Mode again from the Options menu. There will be a check mark beside a mode on the menu when that mode is active.

Start V-World and load bird2. Again, the goal is to find and catch the bird. In this world, there are lots more hornets and you need to find some way to kill them. This world also has more than one screen (level) and you move from one screen (level) to another using a door. Play the game with Agent View Mode turned on and then with it turned off.