# Grand Valley State University

## Laboratory Activity – Lab 4

### CS 365 Artificial Intelligence

### Winter 2012

### Raven – Steering and Goal-driven Behavior

#### Objective:

To become familiar with the code examples used in class and the development environment.

#### What to do:

1. Download the file "LabRavenProjectTest.zip" from BB (Documents Folder) into a local folder or copy from N: drive if you saved it there before.
2. Unzip the file, making sure to preserve file paths in case of download.
3. Start VS 2008.
4. Find the downloaded and unzipped folder "LabRavenProjectTest", e.g.,   
   “C:/Documents and Settings/Your\_Name/My Documents/Visual Studio 2008/Projects”.
5. Locate the “Raven” project.
6. Load the project into Visual Studio 2008 (the solution [.sln] files only).
7. The "Common" directory should already be added to the "Include Directories" in the Project Properties window. Otherwise add it manually:  
   (Project->Properties->Configuration Properties->C/C++->General).
8. Compile the code. There shouldn’t be any errors.
9. *Reminder:* This is the tournament code provided by Dr. Robin Burke from DePaul University in Chicago for VS 2005 with my 2008 fixes, not the original Buckland code. There are special folders for the student bot codes. The Buckland original bot is named “RavenBot”, while Burke’s bot is named RBBot. There is one common lua file for all bots and one for each bot, e.g., the Buckland bot uses “Raven\_Bot.lua”. Each bot has its own sciptor accordingly. Familiarize yourself with the file structure.
10. *Reminder:* If you run the program, three bots are in the game, two from Buckland and one from Burke. Show the bot ID’s (General Bot Info->Show Ids). Track the Burke bot (right-click). Typing the letter “P” will pause the game. Typing “P” again will continue. Try to identify differences in strategy between Burke’s bot and Buckland’s.
11. Check out the lua files, esp. the tweakers. What is the purpose of the tweakers? How to they differ? How are they loaded into the bot system? Buckland? Burke? How is the performance of the bots different? How can you change the tweakers in both the bots? Therefore, what does the input in the lua file actually change?
12. How and when will the Goal FollowPath be activated? How could you implement the idea that Buckland mentioned in the textbook to get the bot started on a partial path in case the path finding takes to long? Which classes would be involved? Which of those are the ones that are specific to the bot (i.e., RB\_Bot)? How could you include the others in the tournament setting?
13. Record your answers and upload the file to BB.
14. Exit Visual Studio.
15. You may copy the " LabRavenProjectTest " to your N: drive, the lab environment does not store files.

#### What to turn in:

• Upload your answer sheet into BB.