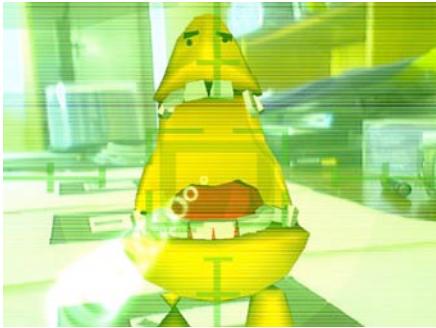# Integration Report

Name of Work: Ghost Scanner: The Shardup Hunt

Basic Sequence of Events (list)

Player walks into the room and finds the ghost scanner.
Picks up the ghost scanner and is challenged to find the various ghosts located in the room.
Player views room through the scanners screen and sees a ghost
Player "grabs" the ghost using the scanner and deposits the ghost in an AR "ghost trap"
Repeat until all ghosts in the room have been captured.
If the player successfully locates all of the ghosts within the time frame, the player wins, otherwise the player is considered to have lost.
If the player wins, a either a solution word, or instructions for how to proceed are displayed.
If the player loses, the player is challenged to try again.
After indicating that the player is finished with the scanner, or after inactivity, the game begins again.

Solve Presentation

The solution word or instructions will be output to the scanner screen as text with a button for the player to indicate that they have read the solution.

Instructions for Installation Setup & Testing

Installation and Running
Copy the folder *"Shardup Hunt – Final"* to any drive on the computer.

Run the file *./Shardup Hunt – Final/ShardupHunt.exe* and the program will begin to load. Note that a web camera must be plugged in and installed on the computer before the program can run.

From the dialog box that appears, choose the desired screen size (640 x 480 is recommended). The game will now begin.

Testing
This game uses various patterns that are scattered throughout the real world environment. The patterns used can be found in the directory *./ARToolkit/patterns/* and are *pattKanji.pdf*, *pattHiro.pdf*, and *pattSample1.pdf*.
The key 'G' has been used as the trigger button.

Once the game has begun, some introductory text will appear on the screen. When you are ready to start, press the trigger button (G). Aim the web camera at each of the patterns. Two of the patterns will show a Shardup character, and the third is the *Shardup Trap*. When aiming at a Shardup, press and hold down the trigger button. This will fire a laser at the Shardup that will grab it and drag it to the front of the camera. You now have ten seconds to put the Shardup into the Shardup Trap. When the web camera is

aimed at the Shardup Trap, release the trigger. If aimed correctly, the Shardup will now be sucked into the trap and float around in its vortex. Once all Shardup's have been captured the game is over.

Press the trigger again to return to the start screen.

Bump-out
This program makes no system changes. To remove, simply delete the directory that holds all the game files.

Physical Space Required

Due to the nature of the ARToolkit optical recognition, the game should take place in an environment that is well lit and evenly lit. In addition the room should be as free from visual obstructions as possible to prevent markers being obscured. By the same token, it should not be a major thoroughfare as people moving over markers will also prevent them from being recognised by the system.

Markers will be printed as large as possible to give the greatest possible recognition range. Markers will be printed onto a fairly stiff board to ensure they remain as flat as possible. Multiple decoy markers will need to be provided as well to make the game more of a challenge. In addition, there will possibly be smaller markers in hidden places. For example, in the currently proposed location, a reading room, an option would be to have a marker hiding inside a book. The user would then have to open the book to find the Shardup.

The physical layout of the game will very much depend on the location where the game will take place. The positioning of the base station and markers will need to be adapted to the particular environment. It will depend upon factors such as, location of power supply, distance of walls from centre of room, type of objects in room etc. Given below is a very basic possible layout,