Donald Nute's VWorld

Bumble 2.0

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Documentation

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Project Aim

You will be working on Donald Nute's V-World throughout the majority of the workshop programme, and will have soon completed workshop exercises designed to experiment with the world, its actors and its main (adventurer) agent "Bumble." This assignment is simple and extremely open-ended:

> Modify aspects of the program to make the behaviour of the actors (including Bumble) more 'interesting' than it is at the end of the formal workshops

Ideas

Interesting behaviour could be characterised in many ways, but the following is indicative:

- The (demonstrated) ability of Bumble to deliberate about its situation
- The (demonstrated) ability of Bumble to react to changes in the world
- The ability of Bumble to demonstrate intelligent decisions about actions
- Actors in the world to demonstrate an enhanced level of intelligent behaviouretc.
- Proof of the success of your modifications could be:
- Behaviour based on a given set of scenarios - comparison with Bumble 1.1 & 1.2 say
- Performance measured against V-World's number of moves before (RIP) etc.

Deliverables

To be submitted: Thursday 10 May, 2012 by 8:45am

(a) The program - submission details to be arranged
(b) Documentation - submitted both in written & electronic form

This should be structured in the normal way for such documents, e.g. introduction, strategy, modifications made (with relevant code snippets), test plan, outcomes, further work, conclusions. It should support the program and be around 3000 words

Marking Criteria

- The system is functional according to the specifications, i.e. new behaviour demonstrated - it works: 20%
- Level of sophistication in the new behaviour(s): 30%
- The code is well-structured, documented and annotated (it is clear and accessible): 10%
- The documentation as specified: 40%

Introduction

Aims

Modifications

General & Minor Changes

Priority Logic

Exploration

Mapping

Search

Testing

Map	Test 1	Test 2	Test 3	Mean
Test 1	X	Y	Z	X+Y+Z/3

Table 1: This table shows some data

Evaulation

Data Evaluation

We have utilized the set of test maps supplied with bumble to evaulate the effectivness of our solution. In this experimentation we work with the assumption that if bumble survives more than 5000 moves he will live infinitely.

???3 or 5 tests ?

Talk about each test we've run and why it may have succeded.

Solutiuon Evaluation

Bitch about prolog. Talk about how much we love prolog.

Outcomes

is this section needed ?

Conclusions

We have blah blah blah.

Further Work

Machine Learning

We have both compleated final year projects in this area, and this is something of great intrest, we feel that this is very intresting area of AI...

Q-learning

Reinfocement Learning

Genetic Algorithms

Search Improvements

At current the search in the system is simple in nature, it was desired to have implemented A* but this has unfortuantly proven to be problematic.

Collision avoidance

Naturalistic search

Mapping Improvements

The mapping algorithm is simple in nature and could be improved by the use of?

Boundry Detection (IE) can i see a wall ? is the cell ajcent a wall ? therefore i do not need to visit that cell because it won't reveal anymore information to me.

The problem of mapping is strongly linked to Maze exploration, there are several intresting maze exploration algorithms such as (Azkaban algorithm, Dead-end filling, Wall follower) and we feel that the use of one of these would make the bubmles discovery of areas more effectively.

Out of these of we feel that the wall follower algorithm is well suited to bumbles world would....

Talk about wall follower.

Appendix X: jfkdsgkjfdksljgklfdlkgjlkfd