Department of Software Engineering
Mehran University of Engineering and Technology, Jamshoro

Course: Agent based Intelligent Systems (SW318)			
Instructor	Dr. Isma Farha	**Assignment Type**	Complex Engineering Problem
Semester	5th	**Year**	3rd
Submission Deadline	29-05-2022	**Assessment Score**	---

Complex Engineering Problem - Characteristics		
1	Depth of knowledge Required	☑
2	Range of Conflicting Requirements	☐
3	Depth of Analysis Required	☑
4	Infrequently Encountered Issues Involved	☑
5	Beyond codes/standards of practice	☐
6	Diverse groups of stakeholders with widely varying needs involved	☐
7	Interdependence (high level problems including many component parts/sub-problems)	☑
8	Have significant consequences in a range of contexts	☑
9	Judgement (Require judgement in decision making)	☑

Problem Description

Most of the people get confused while playing this game that which step to take now to make plus point to be the winner of game because on every step the rules must be strictly followed and hence a human based on his thinking and analyzing capacity can evaluate the step which is to be taken to some extent only and can't predict accuracy most of the time.

The problem here is that as this is a brain game so the players of this game will definitely spend the time and energy in solving the game. But when they are stuck at some point having multiple options, but they are unable to make sure which step will lead to the winning state and will try to evaluate options, so this calculation or evaluation of a steps can be a time-consuming task for a human. So, to save evaluation time there should be a feature which could show accuracy of step.

This BrainVita solution is basically an Agent/AI based program incorporated in the game as a feature which has ability to evaluate steps to the last valid move on the board by applying next steps based on player's previous taken steps. It will estimate the accuracy of each option towards winning state and show it to the player and hence player can decide which step to apply based on the options' weightage estimated by program. Moreover, it will also be able to suggest the next step to the player from the current state if there's any valid move.

Players who are stuck at a state, can now find the next step/move leading to the winning state very easily just by activating this feature. More importantly they can save time evaluating a step and select most accurate option from multiple available options very easily. Even beginners can play and learn this game by following the steps suggested by the agent.

Rubrics	Assessment					Marks
	Unacceptable	Poor	Acceptable	Adequate	Proficient	
R1 Identification of constraints/requirements/demands	☐	☐	☐	☐	☐	
R2 Originality/contribution	☐	☐	☐	☐	☐	
R3 Engineering knowledge (standards)	☐	☐	☐	☐	☐	
R4 Efficiency of the solution	☐	☐	☐	☐	☐	
					Total Marks	10