

## **Learning Outcome**

The Gamebot project is a venue for students to achieve the learning outcomes below:

- LO1. Collaboratively design and evaluate algorithms and representations for effective path finding and tactical/strategic decision making in a game environment;

Students will demonstrate their skills in developing and evaluating the artificial intelligence of a Generic Stealth Game (GSG) bot. They are going to apply A\* or any other similar algorithm to make their bot smart. Then, the behavior of their bot must be examined carefully to decide whether to consider the bot intelligent or not. They will also write a report explaining very clearly and convincingly why they think the bot is intelligent or unintelligent.

## **Generic Stealth Game (GSG)**

GSG is a browser-based game platform developed using html 5 in 2012 by Jon Hans and Vincent Binas, programmer and artist of the Game Development Lab of the College of Computer Studies. GSG was initially inspired by the Metal Gear solid radar mechanic where players would sneak around the level undetected. It later evolved to have intelligent bots that can be programmed using javascript.

## **Instructions**

1. Form a group composed of maximum of 4 members.
2. Download the game from this link: [GSG Download Files](#)
2. Inside the AI folder, the PlayerAI.js file is located. It is currently empty. A\* or any similar algorithm must be applied and implemented to make it smart. To play/start the game, open index.html using any web browser. It will immediately open the game and display the bot (which have been programmed in PlayerAI.js) succeeding or failing the stages of the game.
3. Write a report explaining very clearly and convincingly why the bot that have been developed is intelligent or not. If the bot is considered as intelligent, explain very clearly where the AI of the bot lies. If it is considered as unintelligent, explain very clearly how it can be improved. In either case, be sure to refer to the relevant AI concepts and techniques studied in class or found in the literature.

## **Final Deliverables**

The Gamebot project has two components – a type-written report and a demo of the bot.

1. Prepare a type-written report, **minimum of two pages** (excluding the title page), single-spaced, short-bond paper, containing the following:

### **I. Introduction**

In paragraph form, describe the Generic Stealth Game and give a brief overview of the Artificial Intelligence of your bot.

### **II. AI Features**

- Present the **pseudocode or flowchart** of how the bot works first.

- Below the **pseudocode or flowchart**, enumerate and describe in detail the AI algorithms and rules used by the bot. Specify rules in IF <antecedent> THEN <consequent> format. For each AI algorithm or rule, explain why these are used.

### III. Results and Analysis

- Discuss what situations the bot can handle. Explain why the AI algorithms and the rule base made the bot intelligent, and how these features made the bot win against other bots.
- Discuss what situations the bot cannot handle. Explain why these situations cannot be handled by the bot. Point out which part of the Artificial Intelligence of the bot made it fail.

### IV. Recommendations

Based on the analysis of the performance of the bot, point out the weaknesses of the bot. Identify and explain possible ways to address these weaknesses.

### V. References (Follow the APA format)

### VI. Appendix A: Contribution of Members

Name	Contributions

### Notes:

- Algorithms found in the internet must be inspected and analyzed carefully. Deliberately using code from a source might result to a **failure in this project** if detailed explanation on how it works is not found in Chapter II of the document.
- Formatting requirements:
  - Include a Title Page.
  - Pages of the document must be numbered.
  - Check your document for spelling and grammar errors.
  - Proper usage of language and terms must be observed.

### Submission Policy:

- Submit the PlayerAI.js file and .pdf documentation of your game bot on **October 14**, 2359.
- The demo can be scheduled thru Canvas.
- **Plagiarized works will automatically be given a grade of 0.0 for the course.**

<Title of your system>

A Gamebot Report  
for the course on  
Introduction to Intelligent Systems  
(INTESYS)

Submitted by

<lastname, firstname> of group members  
(in alphabetical order)

<Teacher's Name>  
Teacher

<Date of Submission>