**Turing Tests for Specific Fields of Expertise**

A domain-specific Turing Test is a method for backing up or refuting a claim that a computer system (hardware/ software combination) is “intelligent” in a specific domain or field of expertise. For example, in medicine, a Turing test might involve a panel of human doctors who pose a series of questions to the computer system and to a human doctor, and on the basis of the answers, try to determine which answers are from the computer and which from the human. If the computer gets more votes for “human” than the human, it passes the test.

1. Choose a field of expertise that interests you. It could be It could be your major, but it does not have to be. (Maybe consider subjects such as organic chemistry, electrical engineering, mathematics, classical music, etc.)

[If you are using Word, or it’s otherwise convenient, please enter all your answers in BLUE]\_\_\_\_\_\_RTS(Real Time Strategy)gaming\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. Explain what a person typically does in a job within this field.

Compete with other players with limited resources and information.

3. Explain what parts of this job can already be done by computer.

Simulate different play style and beat mid-level gamer

4. Explain what seems to be BEYOND the state of the art -- something in this field that a computer cannot yet do but might be able to do soon.

Dominate this genre of game like go-playing AI

5. Describe how a good Turing test would be set up in this field:

Let AI to join world class championship game and fight for the title

Limit the AI to human capacity of information input and output(fog of war, APM(Actions per minute) limit

1. Who should be the judges?

The game company and the event organizers, plus AI scientist to prevent possible cheating

1. What kinds of questions would be fair game for the test?

Whether the AI can beat all human players and win the title.

Knowledge test about the game.

Ask the AI and player to comment on the current field situation and its own playing strategy.

c. What affordances would be particularly important in this field? (Understanding human speech? Understanding a particular notation such as chemical formulas? Machine vision? Ability to perform logical deductions? Knowledge of particular types of facts such as chemical element properties?

Logical deduction, since RTS game is a subfield of intellectual games like chess and go, AI must be able to find the best winning strategy in ever-changing playing field.

6. Is there any particular "must-have" feature for a computer to exhibit in your field in order to be considered "intelligent" within your field?

Able to win the game only with the advantage of better strategy, which means the AI would be limited in reaction and action time, and win human only by its “intelligence”.

7. What do you see as the likely progress of AI in this field in the next 10 years?

I believe there are already some AI can defeat the best RTS gamers, but usually in a one-off contest. Since RTS game is suppose to be “simpler” than go, I think we can soon see an AI crush this field like alpha-go did.

8. Get critiques from at least 2 classmates during breakouts...

a. First classmate’s name and email: \_ Timothy Roach \_ Classmate’s own topic: \_Music Composition \_\_\_\_\_ Classmate’s main suggestion for your test:

“I think this is a pretty focused Turing test since it appears you are measuring if the AI can dominate/solve the game against just one opponent. However, I think another important element of the Turing test is whether or not humans believe that the AI is in fact a human. In the test you presented, it appears that you are just measuring whether or not the AI can solve a particular RTS game rather than if people think that the AI acts like a human would. This might be something you might want to consider in your test.”

b. Second classmate’s name and email: \_\_\_\_\_\_\_\_Yeesa Kee yeesakee@uw.edu \_\_\_\_Classmate’s own topic: \_\_AI gamer\_\_\_\_ Classmate’s main suggestion for your test:

“I think for the judges there should be more people that are very knowledgeable with the game’s mechanics. I am not sure what you meant on question 5 part b. Question 7 can also be elaborated further.”