

Consent form

HUMAN FACTOR STUDY ON EXPLAINABLE PLANNING

I am a graduate student under the direction of Professor Subbarao Kambhampati in the Department of Computer Science and Engineering at Arizona State University. I am conducting a research study to investigate how humans views and respond to sequential plans.

I am inviting your participation, which will involve playing an online game and answering a few questions. The expected duration of your participation is less than 10 minutes. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The compensation that you are guaranteed to receive after completing this activity is \$5. You must be 18 or older, and fluent in understanding and speaking English, in order to participate in the study.

During this study, you will be exposed to research procedures pertaining to conducting human factor studies. You will also be exposed to various computer science disciplines, which include automated planning, and will be able to get a firsthand view of state-of-the-art research in human-robot interaction. There are no foreseeable risks or discomforts to your participation.

The data collected will be anonymous. The results of this study may be used in reports, presentations, or publications but your name will not be used. Furthermore, the results will only be shared in the aggregate form.

If you have any questions concerning the research study, please contact the research team at: Subbarao Kambhampati (rao@asu.edu). If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Please let us know if you wish to be part of the study.

Accept

Decline

Please enter name and email

Name:

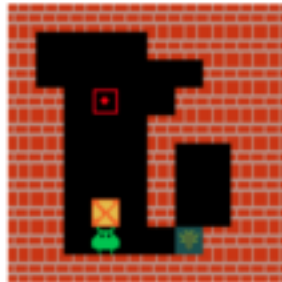
Email:

Instructions for the study

Please read the following instructions carefully

Through this survey, you will be asked to play a game and your task is to finish the game as soon as possible. You will have 3 minutes to finish the game. You can, however, restart the game as many times as needed within these 3 minutes. Each person is only eligible to take part in the study once. You are eligible for the base \$5 pay regardless of whether or not you finish the game. Top 5 people with the best time will each get \$5 bonus. In cases of ties for the top five slots, the total reward for \$25 will be split between everyone with the top five completion times.

Total cost: —



Game Interface

Game Information

Game goal: Push the box into red target

Action just executed: —

Restart Game

Time Remaining:

2m 35s

Possible Explanations:

Keys to execute actions:

Move up -

Move down -

Move left -

Move right -

Push up -

Push down -

Push left -

Push right -

The goal of the game is to push the yellow box into the red square. The sokoban (the green character) has access to eight actions: Four move actions to move in the four direction and four actions to push the box in four directions. The image of the screen shows the eight buttons corresponding to each action. If for some reason the game fails because of some invalid move, you might have access to explanations to see why the move failed.

In the next page you will be shown a set of concepts relevant to the game. Please familiarize yourself with the concepts. You will be required to complete a quiz related to the concepts before starting the game

IMPORTANT: We are collecting this information as part of a research project. Please do not share any strategies or information about the study to any of the other participants. We will be checking your entries before reimbursing you for the study

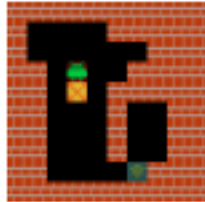
See Concept List

Concepts:



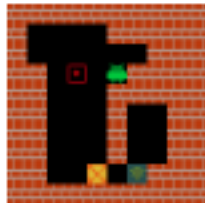
Butterfly box on right

The butterfly box is in the cell right of Sokoban (the little green character). The butterfly box has been marked on the image.



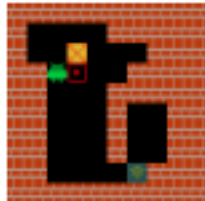
Box is below

The box is in the cell below Sokoban (the little green character)



Empty left

The cell to the left of Sokoban (the little green character) is empty.



Target is on right

The red target is in the cell right to Sokoban (the little green character)



Butterfly box activated

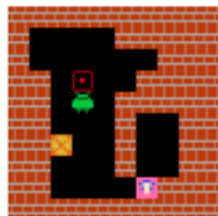
The butterfly box (on the bottom right of the image) is activated. The butterfly box when activated has a pink color.

[Take a quiz on concepts](#)

Quick test

Answer the following questions:

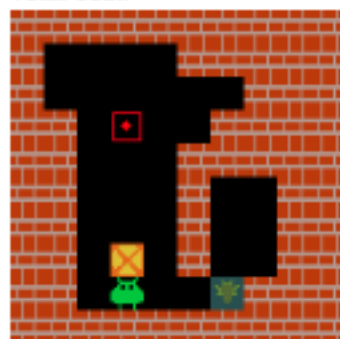
Question-1: Choose all the concepts that are true in the given image:



- ☐ Butterfly box activated
- ☐ Empty left
- ☐ Box is below
- ☐ Target is on right
- ☐ Butterfly box on right

Click to submit your answers

Total cost: —



Game Information

Game goal: Push the box into red target

Action just executed: —

DO NOT REFRESH THE PAGE

Restart Game

Time Remaining:

2m 53s

Possible Explanations:

Keys to execute actions:

Move up -

Move down -

Move left -

Move right -

Push up -

Push down -

Push left -

Push right -



Game Information

Game goal: Push the box into red target

Action just executed: Push up

DO NOT REFRESH THE PAGE

Restart Game

Time Remaining:

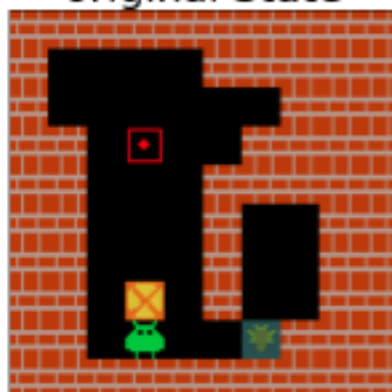
2m 27s

Possible Explanations:

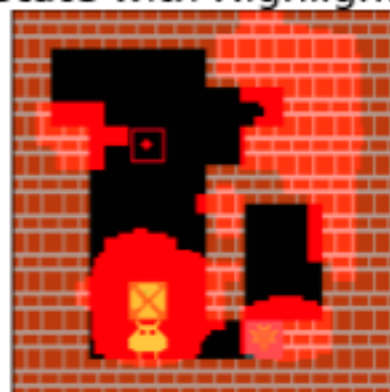
Here is a possible explanation for a failure in a similar state:

If you were using an ai system to play the game here are the parts (highlighted in orange) of the state it would look at

original State



State with Highlights



Keys to execute actions:

- Move up -
- Move down -
- Move left -
- Move right -
- Push up -
- Push down -
- Push left -
- Push right -

Thank you for taking the study. You finished the game in 0 minutes and 52 seconds.
After the end of the study we will notify you if you are eligible for any additional bonuses

Did you see any explanations?:

- ☒ Yes
- ☐ No

How helpful did you find the explanation?

- ☒ Not at all Helpful
- ☐ Somewhat Unhelpful
- ☐ Neutral
- ☐ Somewhat Helpful
- ☐ Fully Helpful

What other information would be useful (if any):

Submit

Background information

Please enter Age:	<input type="text"/>
Select gender	<div>Do not specify</div>
Select education	<div>I have a under-graduate degree</div>
Have you attended any AI classes?	<div><input type="radio"/> Yes <input type="radio"/> No</div>
If you have attended any AI classes, are you aware of any Automated Planning techniques?	<div><input type="radio"/> Yes <input type="radio"/> No</div>
If you are aware of any automated planning techniques, then specify planning formalisms you are familiar with:	<div></div>

Submit information and finish study