Github Link: https://github.com/Israe-abdellaoui/Ghostbuster

جامعة الأخوين
ⵜⴰⵙⴷⴰⵡⵉⵜ ⵏ ⵓⵅⴰⵡⵉⵏ
AL AKHAWAYN UNIVERSITY

Ghost buster project

Report

Description:

In this project, we will have a ghost placed in a box of a grid; we should know on which box he is placed. If we are far from the ghost, the box that we clicked on turns green or yellow; if we are getting closer, the box should take the color orange or red. Each time we click the probabilities of the other boxes changes because we have new information (color). We decide when to bust the ghost whenever we feel ready, and then either we lose or we win.

Steps:

We create a 6x 15 grid

We place the ghost in one of the cells according to a prior distribution of Ghost over location P(Ghost).

We use a uniform distribution to start with.

We define and use a conditional probability distribution P(Colour/Distance from Ghost) to decide on the color to display when clicking on a box.

We update the Posterior Probability of the Ghost P(Ghost/ Colour) and we display it on the cells using Bayesian inference P(Ghost_t)=P(Ghost/Color_t)=P(Ghost_t-1)*P(Colour/Distance from Ghost).

P(Ghost_0)= P(Ghost/Color_0)= P(Ghost) the prior probability.

We should normalize