**Learning to predict rewards**

Thank you for taking part in this experiment. We are interested in how humans learn from reward feedback. The experiment should last about 10 minutes. You will be paid up to $xx for your participation: you will get a minimum of $xx, and up to $xx extra depending on performance. This information sheet describes the instructions for the task you are about to start.

The task is composed of 200 trials. In each trial (Figure 1),you will see a black or white square patch in the centre of the screen, which will be displayed for about 500ms. After each stimulus presentation, you will be required to choose a response between a circle or square shape, by clicking with the mouse on one of the two shapes. The response options map onto the white and black states in one way or another (see Figure 2), in that for each of the two possible states, there is one response that is designated the correct response, and is most likely to lead to a positive reward (rewards are stochastic). More specifically, if you choose the correct response you will receive a positive reward (one money bag worth 10 points) with high probability and a nil reward (a white money bag worth 0 points) with low probability; Inversely, on trials in which you choose the incorrect action, you will receive the nil reward with high probability and the positive reward with low probability. Your task is to maximize your reward.

***Fixation***

***Stimulus***

***Choice***

***Reward***

**time**

**10**

**Figure 1**. Sequence in one trial. The black dot in the choice step represents the mouse cursor (here selecting the square option).

**Mapping 1**

**Mapping 2**

**Figure 2.** The two possible mappings. Each arrow points to the correct response (right) at a given state (left).

You have to use the reward feedback to learn the correct mapping between the light and dark states and the two response options. The number of points you will manage to collect in the second phase will be converted into dollars according to the following exchange rate: 200 points = $1. Thus, if you perform well, you can earn up to $xx on top of the minimum payment of $xx.