

Experiment Design:Probability of incorrect assembling. Multipurpose self-adapted gloves vs Holographic Instructions

Question (Uncertainty)

Does usage of assembling-holographic instructions have less probability of incorrect assembling than multi-purpose self-adapted gloves, during assembling ?

Author

F.Rabia Yapicioglu, University of Eastern Finland

Method

Since multipurpose self adapted gloves inspired from robo-glove, and robo-glove is currently been used by some other factories,we can take a look at the quality of other products that is produced by robo-gloves to see if they have any fault or not. And Since holographic instructions is a still developing project by Microsoft we can make a search about the existing experiment solutions, and the number of experiments that was resulted by an incorrect assembly.We have performed an interview about this uncertainty with Y.Koray Demirtaş who is an expert in the field of astronomy and space sciences and has his own tech company which is working over the instant holographic image transportation.

(<https://www.theverge.com/circuitbreaker/2016/7/6/12105074/nasa-gm-pow-glove-tech>)


Prediction

Robo-glove has less probability of incorrect assembly than a holo-lens if we are working on a small area and if we have some repetitive tasks otherwise holo-lens much better at correct assembling.


Model/Rationale

Robo-glove can learn repetitive tasks of an astronauts and reduce the power needed for example from 20 lbs to 5 lbs and it can also be used after setting a virtual environment with the holographic instructions, so hololens are more generalised and provides detailed map of the solution.


Illustration w.Keywords



HYUNDAI

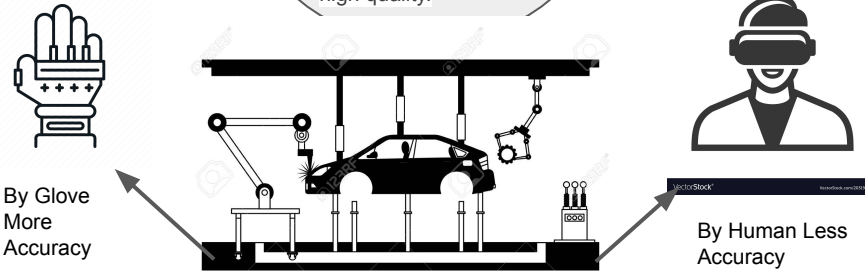


Panasonic®



BMW

have all developed exoskeleton prototypes of varying complexity in order to help manufacturing workers, and they are producing products in high quality.



By Glove More Accuracy

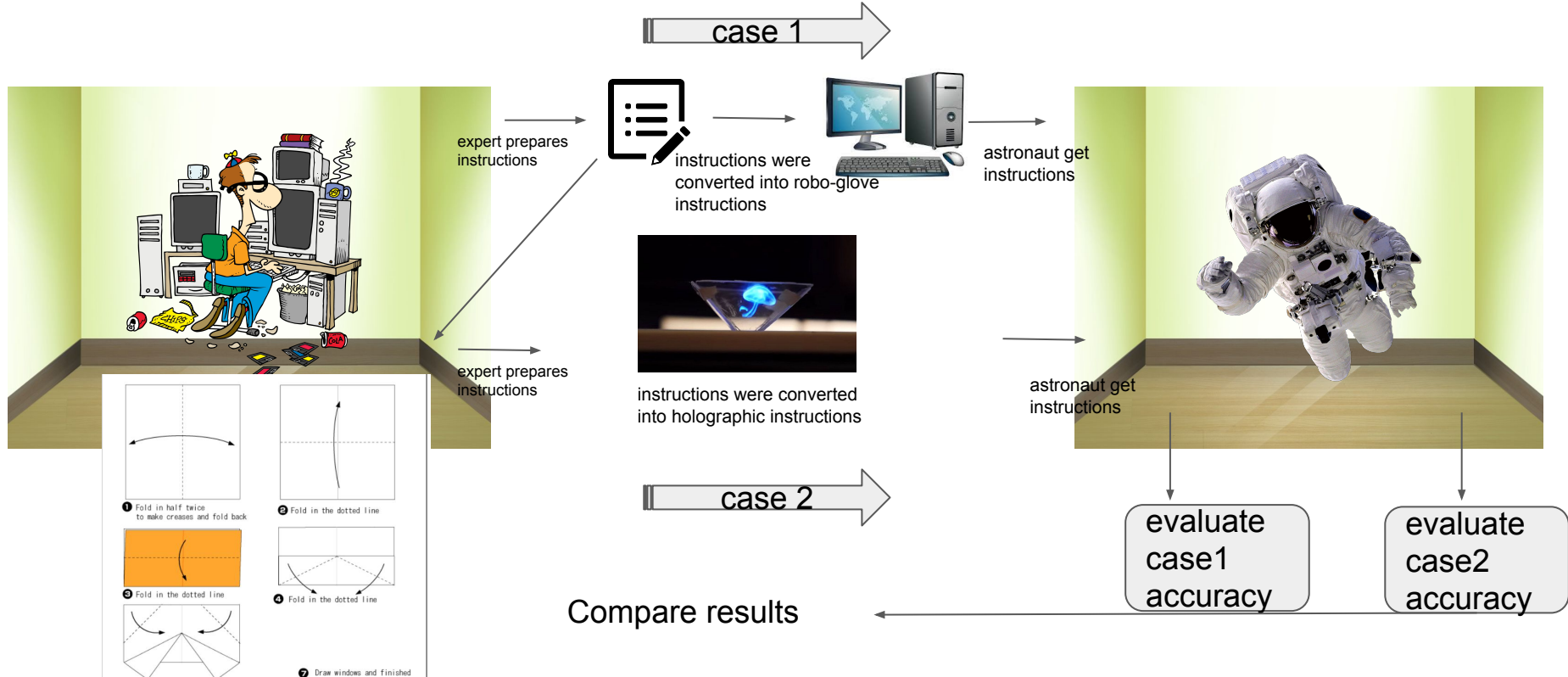
By Human Less Accuracy

Illustration w.Keywords

Room1 - World

Room2 - Mars

We want our astronaut to make a model that he doesn't know previously. Experts design a model and send the instructions to the astronaut's room. And then expert group evaluate the correctness of the assembling.



Results

- >Some students who have astronaut role understood better from step by step manually designed instructions, while other understood better from video etc.
- >So, we decided to combine them all together in one system.
- >Different instruction providing types affects the duration of the task that is done by the astronaut.
- >Video instruction's understanding depend on the duration of the video as well.