

Analysis of human response in different track patterns

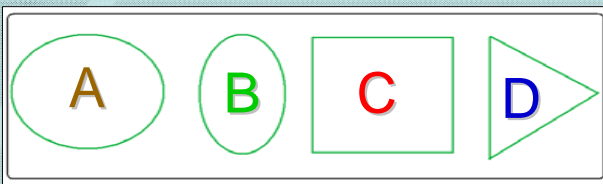
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SUMMARY

Previous researches indicate that there is an asymmetrical relation between human and machine in terms of interaction. In a human machine system, an intelligent machine can assist human effectively if the machine knows the human characteristics and skills.



'Buggy' driving simulator using steering wheel



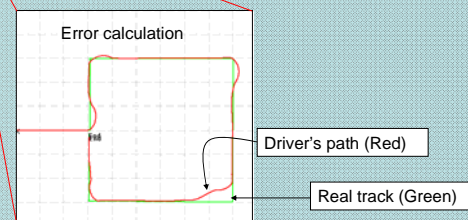
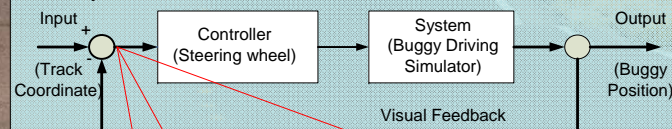
Four types of track patterns: A – Circle, B – Ellipse, C – Square, D - Triangle

INTRODUCTION

Nowadays, humans and machines have a very close relationship. Machine also can assist human to achieve the best performance. In such a system, how do you know that the intelligent machine will give more assistance? The machine has to know the right time to give more assistance.

METHODOLOGY

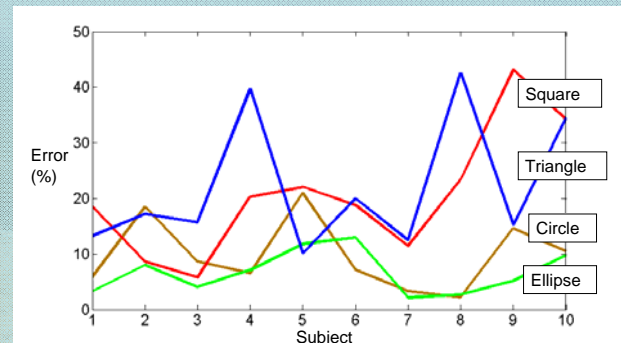
A buggy driving simulator has been developed. The experiment involved 10 human subjects with different experience levels in driving. Four types of track patterns were used. A steering wheel was used for navigation and the track following response of the subjects were recorded.



Block diagram of the system and the error measurement.

RESULTS

The error between the real track and path taken by the human was measured. On average, the triangular track gives more significance error compared to other patterns. Thus, more assistance is needed from the machine to navigate this path.



Error produced by 10 human subjects

CONCLUSION

More assistance is required from the machine for navigating the triangular path. In the next stage, a machine which understands human characteristics will be developed.