3D and AR Visualisations:
Efficacy and Applicability in Consumer Product Testing

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Project Objectives

The research aims to evaluate the usefulness and applicability of advanced visualisations (AR & 3D) over conventional forms (2D static images) in the field of survey-based online consumer product testing.

Consumer product testing come in many forms, with many in the form of online surveys (e.g. concept testing, A/B testing). Current means of testing generally use 2D images in the surveys. However, this comes with intrinsic limitations. Research is therefore done to evaluate if the incorporation of 3D and AR visualisations could improve current approaches.

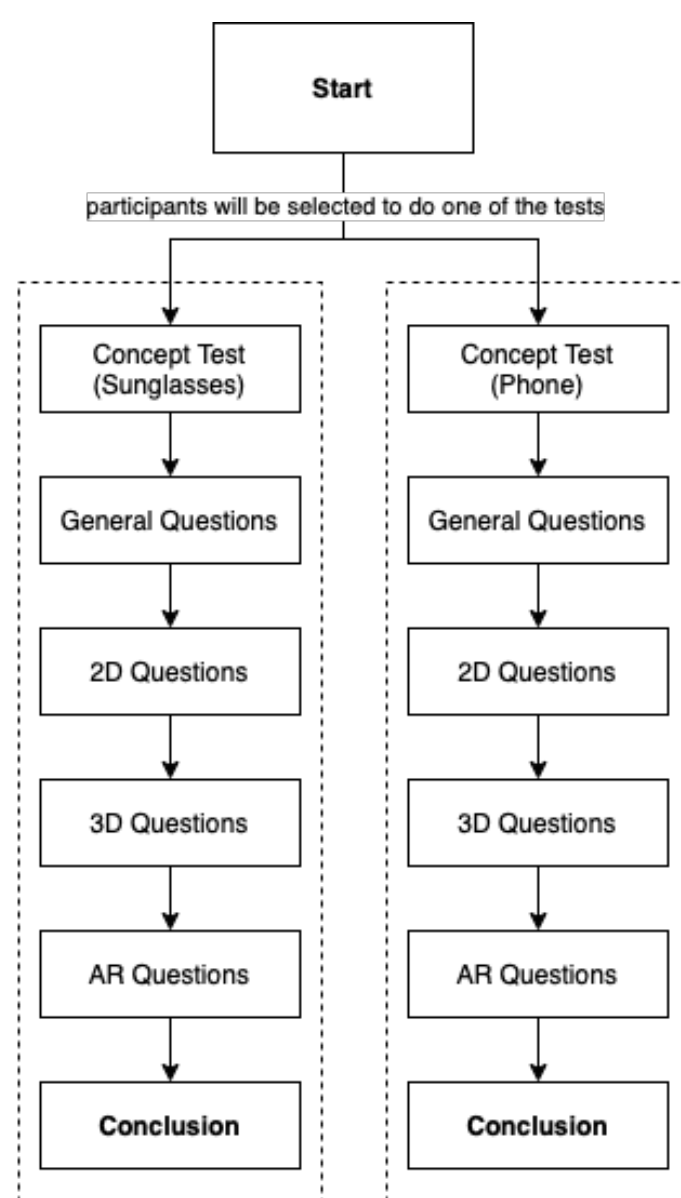Figure 1: Example of AR Instagram sunglasses filter on Meta Spark platform

Figure 2: Survey Flow

Method

A dual sequential monadic survey design is conducted. Participants are randomly assigned one of 2 surveys, and are asked a series of questions. Each survey revolves around a hypothetical concept testing product, where participants are exposed to all 3 types of visualisations (2D, 3D, AR).

Non-parametric statistical tests, namely the Friedman test, followed by a pairwise post-hoc Wilcoxon Signed-Rank test, are use to evaluate systematic differences in probability distributions across the 3 forms of visualisations. Data analysis was also conducted.

Conclusion

Strong preference of both 3D and AR visualisations over 2D, in terms of both usefulness and personal preferences.

No clear preference between AR and 3D, although participants generally preferred AR over 3D for interactive (wearable) products, but the opposite for non-interactive products.