



## Stichting NIOC en de NIOC kennisbank

Stichting NIOC ([www.nioc.nl](http://www.nioc.nl)) stelt zich conform zijn statuten tot doel: het realiseren van congressen over informatica onderwijs en voorts al hetgeen met een en ander rechtstreeks of zijdelings verband houdt of daartoe bevorderlijk kan zijn, alles in de ruimste zin des woords.

De stichting NIOC neemt de archivering van de resultaten van de congressen voor zijn rekening. De website [www.nioc.nl](http://www.nioc.nl) ontsluit onder "Eerdere congressen" de gearchiveerde websites van eerdere congressen. De vele afzonderlijke congresbijdragen zijn opgenomen in een kennisbank die via dezelfde website onder "NIOC kennisbank" ontsloten wordt.

Op dit moment bevat de NIOC kennisbank alle bijdragen, incl. die van het laatste congres (NIOC2025, gehouden op donderdag 27 maart 2025 jl. en georganiseerd door Hogeschool Windesheim). Bij elkaar zo'n 1500 bijdragen!

We roepen je op, na het lezen van het document dat door jou is gedownload, de auteur(s) feedback te geven. Dit kan door je te registreren als gebruiker van de NIOC kennisbank. Na registratie krijg je bericht hoe in te loggen op de NIOC kennisbank.

Het eerstvolgende NIOC vindt plaats in 2027 en wordt dan georganiseerd door HAN University of Applied Sciences. Zodra daarover meer informatie beschikbaar is, is deze hier te vinden.

Wil je op de hoogte blijven van de ontwikkeling rond Stichting NIOC en de NIOC kennisbank, schrijf je dan in op de nieuwsbrief via

[www.nioc.nl/nioc-kennisbank/aanmelden\\_nieuwsbrief](http://www.nioc.nl/nioc-kennisbank/aanmelden_nieuwsbrief)

Reacties over de NIOC kennisbank en de inhoud daarvan kun je richten aan de beheerder:

R. Smedinga [kennisbank@nioc.nl](mailto:kennisbank@nioc.nl).

Vermeld bij reacties jouw naam en telefoonnummer voor nader contact.

# Augmented reality

Adrie van der Padt  
Computer Science

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IDT/Java

# Glenn Mosdall

- **Rotterdam University**

- **Education:** Computer Science
- **Minor :** Embedded Systems

- **Logica**

- **Program:** Working Tomorrow
- **Division:** Industry, Distribution and Transport
- **Competence:** Java



# Inhoud

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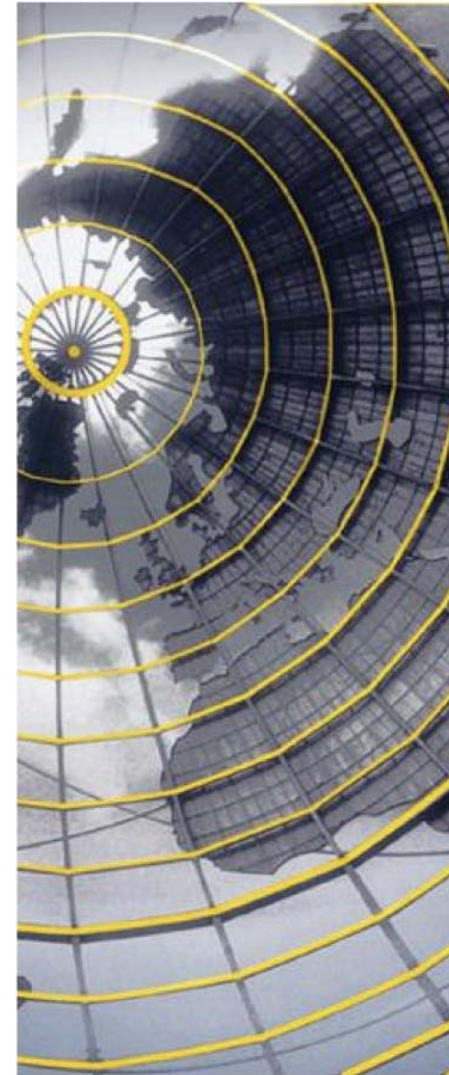
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# Introduction



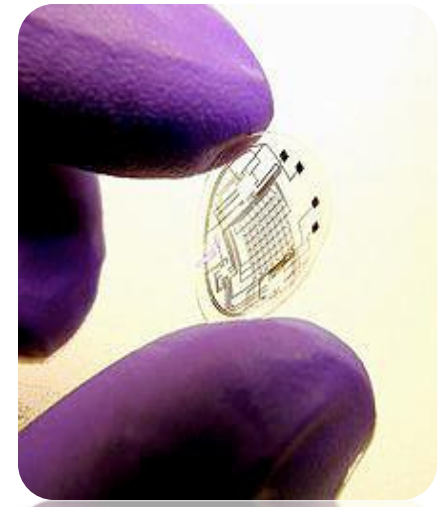
15.000 v.Chr.



1962



1966



Toekomst

# Reasoning

## MultimediaN

Walking assistant  
for elderly



Intelligent table



Assisting people  
with emotions



Assisting the  
traveller



# Assignment

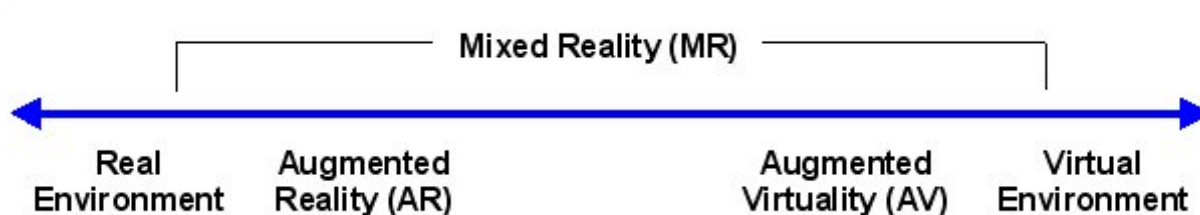
*“What information can be provided for interesting objects by augmented reality to enrich the experience of tourists?”*





## Research: what is augmented reality?

*“An augmented reality system generates a composite view for the user. It is a combination of the real scene viewed by the user and a virtual scene generated by the computer that augments the scene with additional information.”*





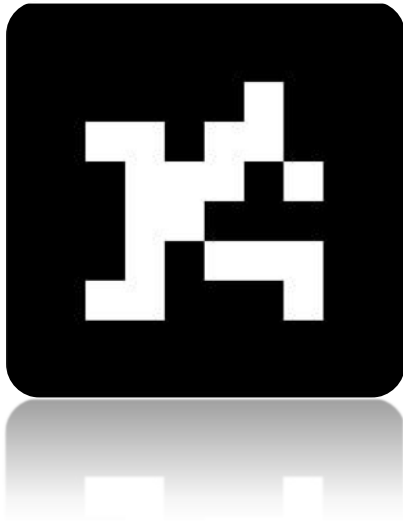
# Research: what is augmented reality?



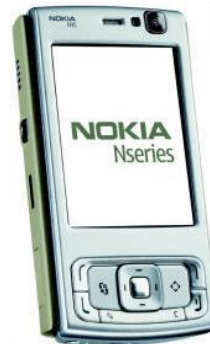
# Research: visualisation



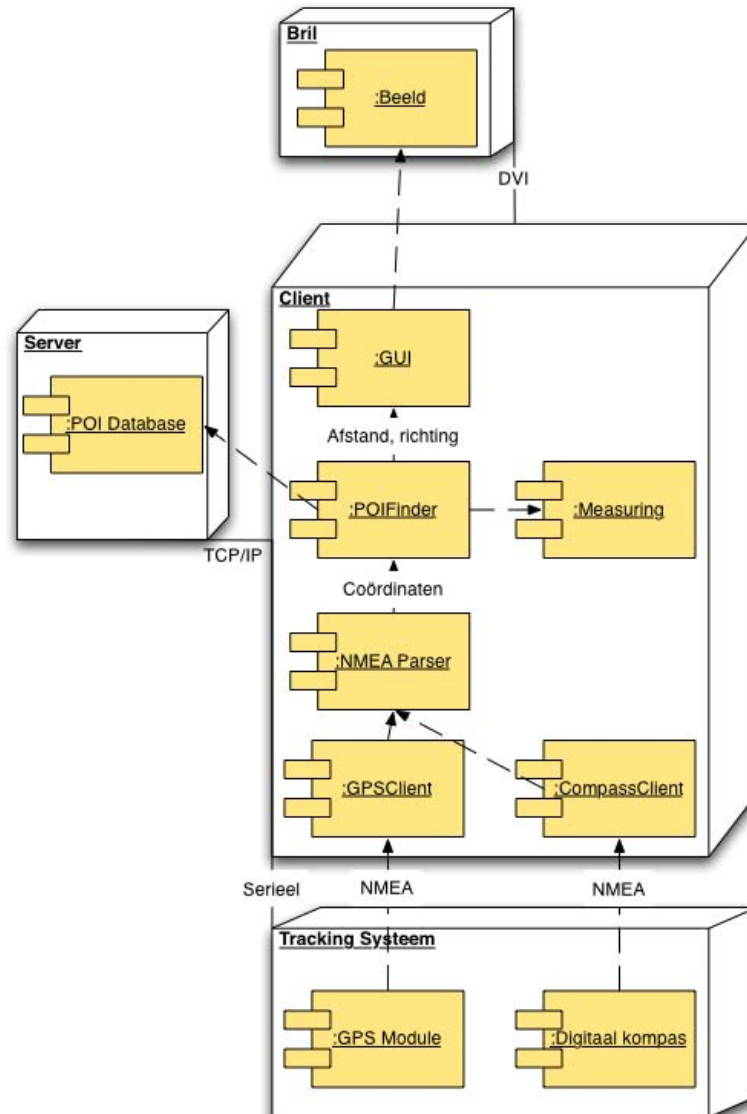
# Research: tracking system



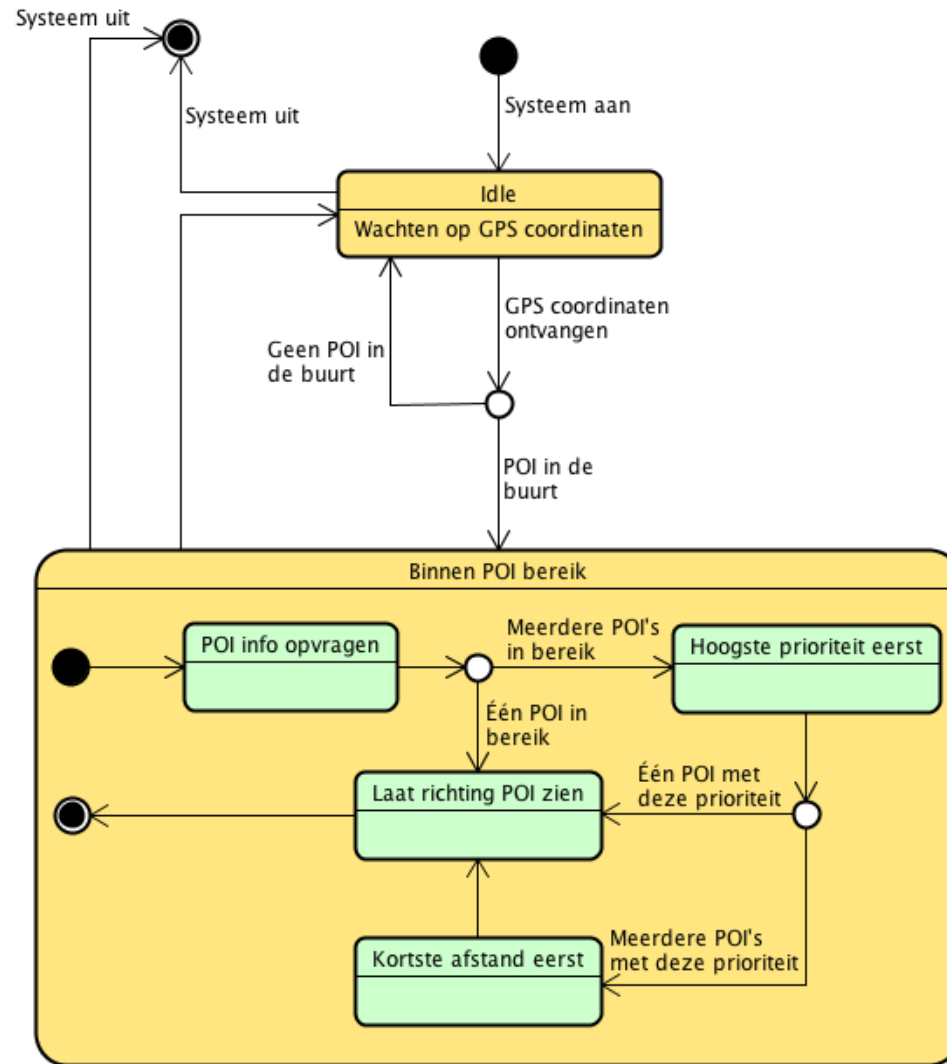
# Research: programmable computer



# Prototype: Component diagram



# Prototype: State-chart diagram





# Prototype: Summary



Bluetooth



DVI





## Prototype: in use



## Prototype: operation



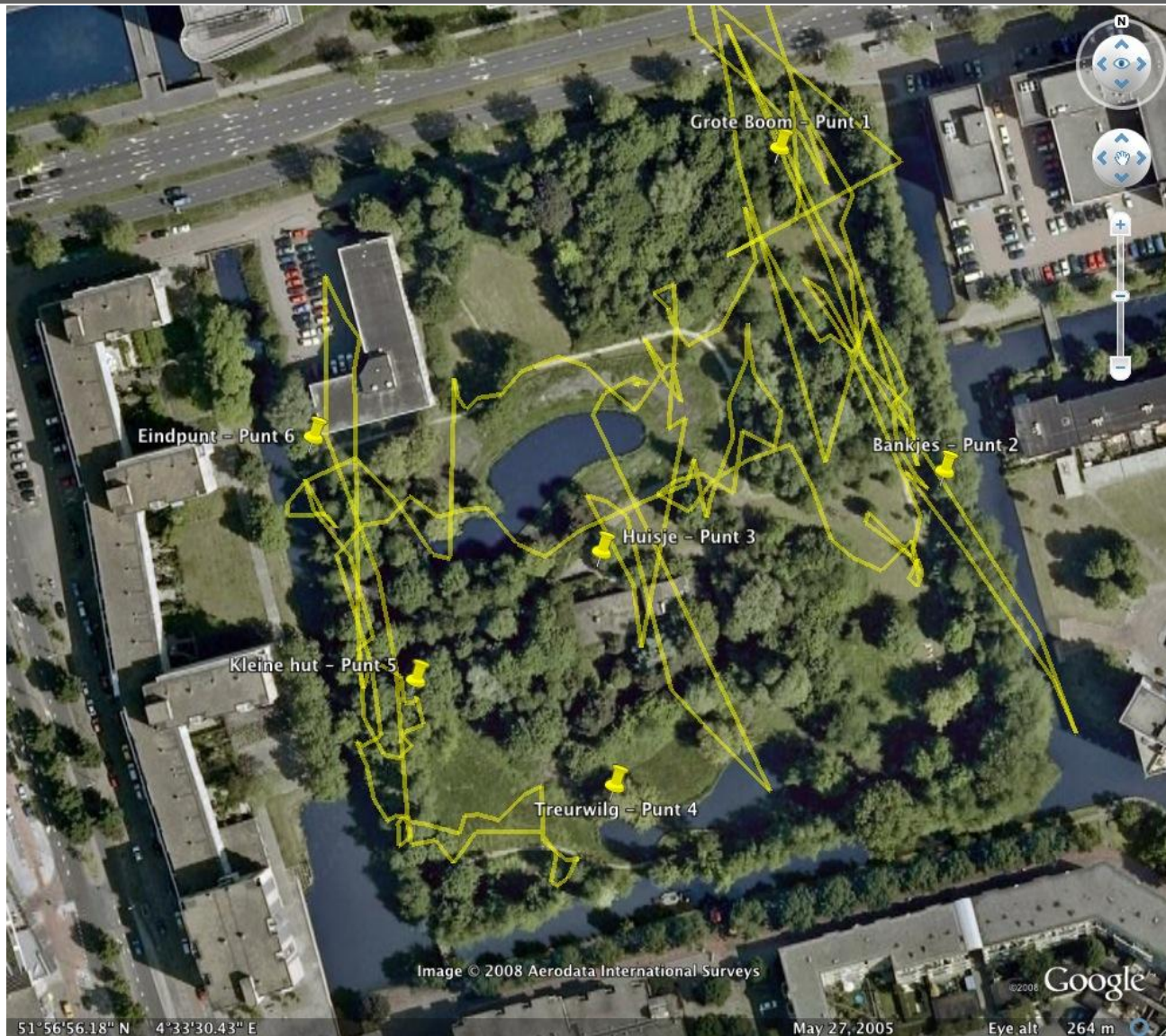


# Usability test: planning



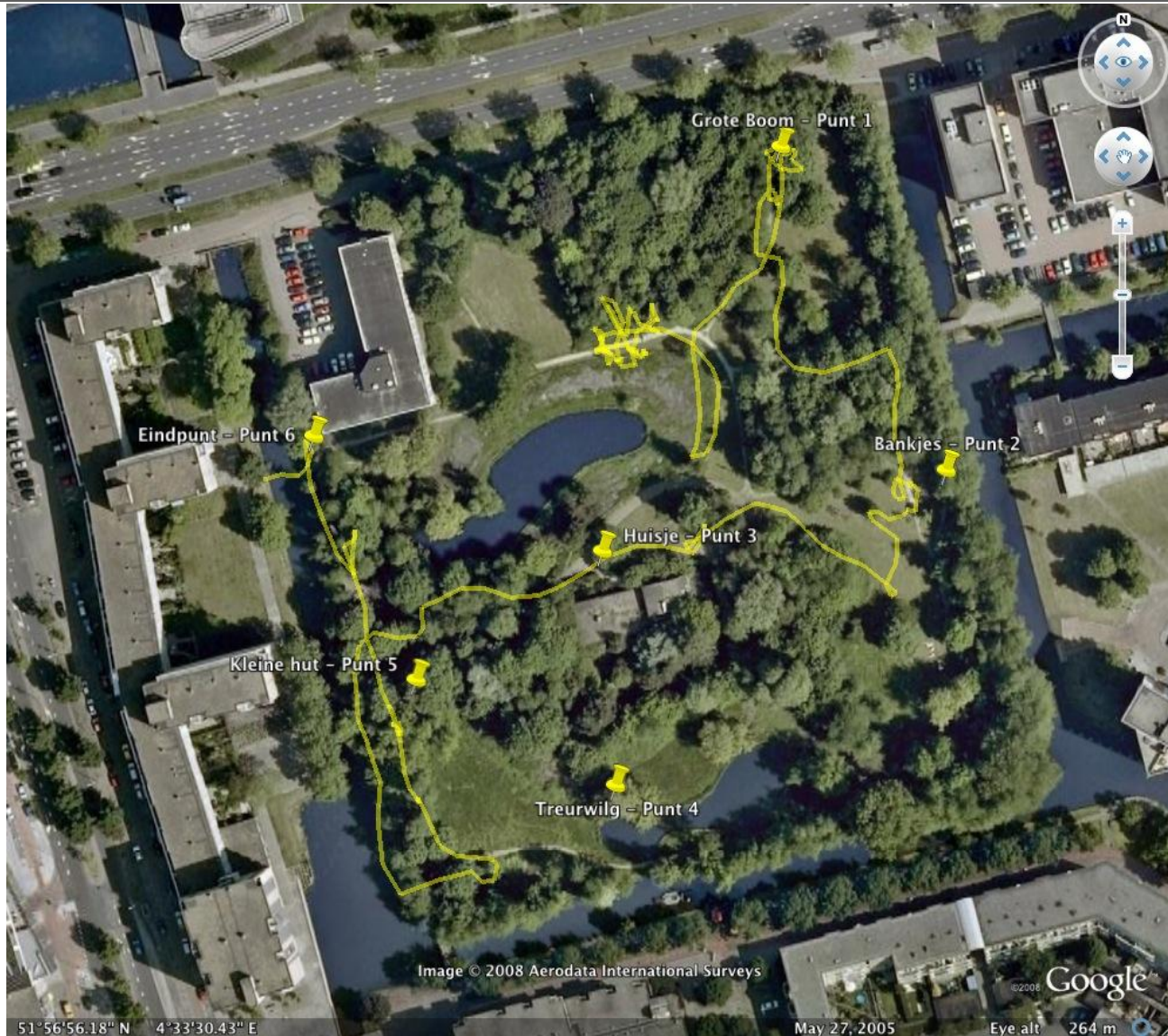


# Usability test: walking routes

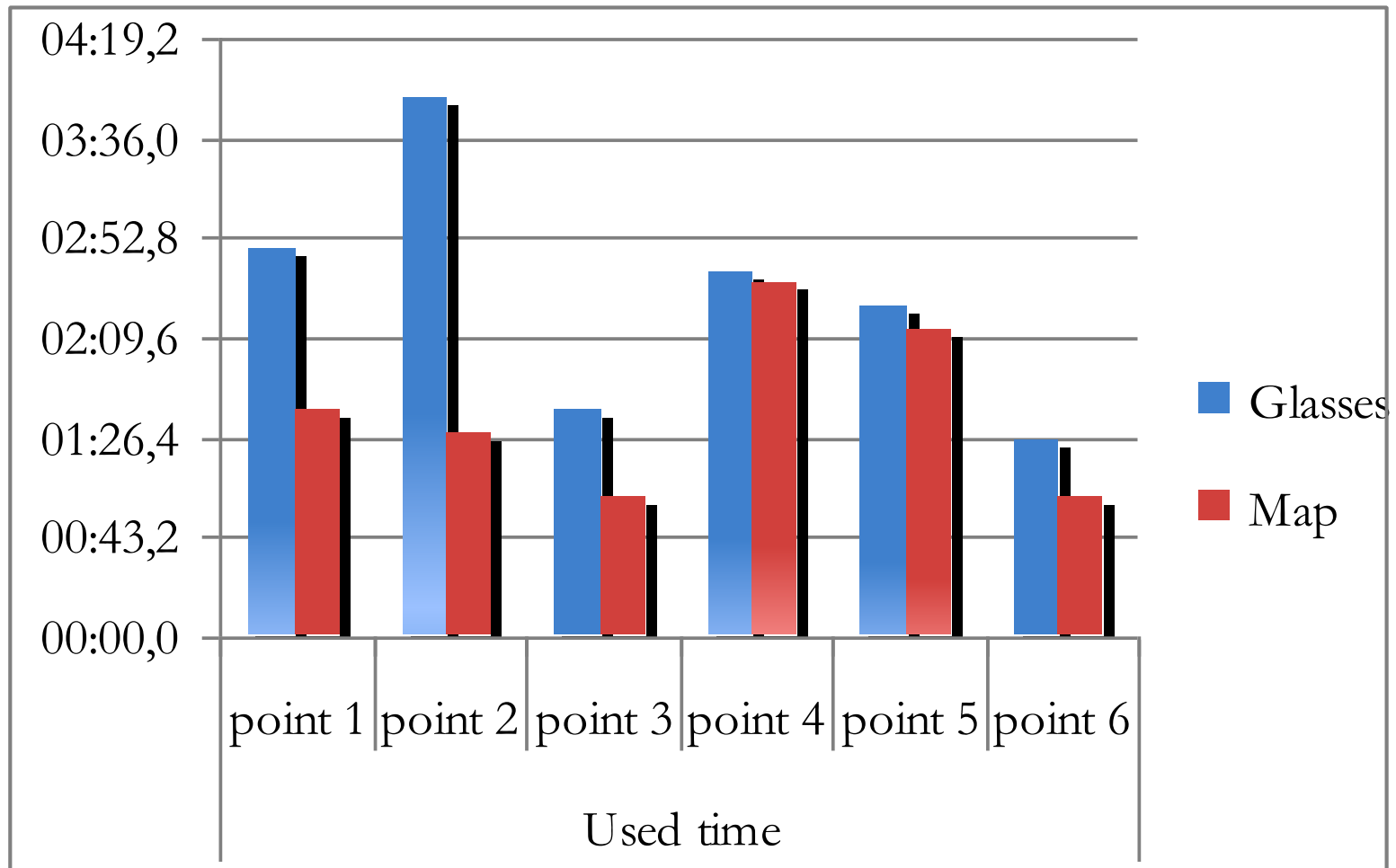




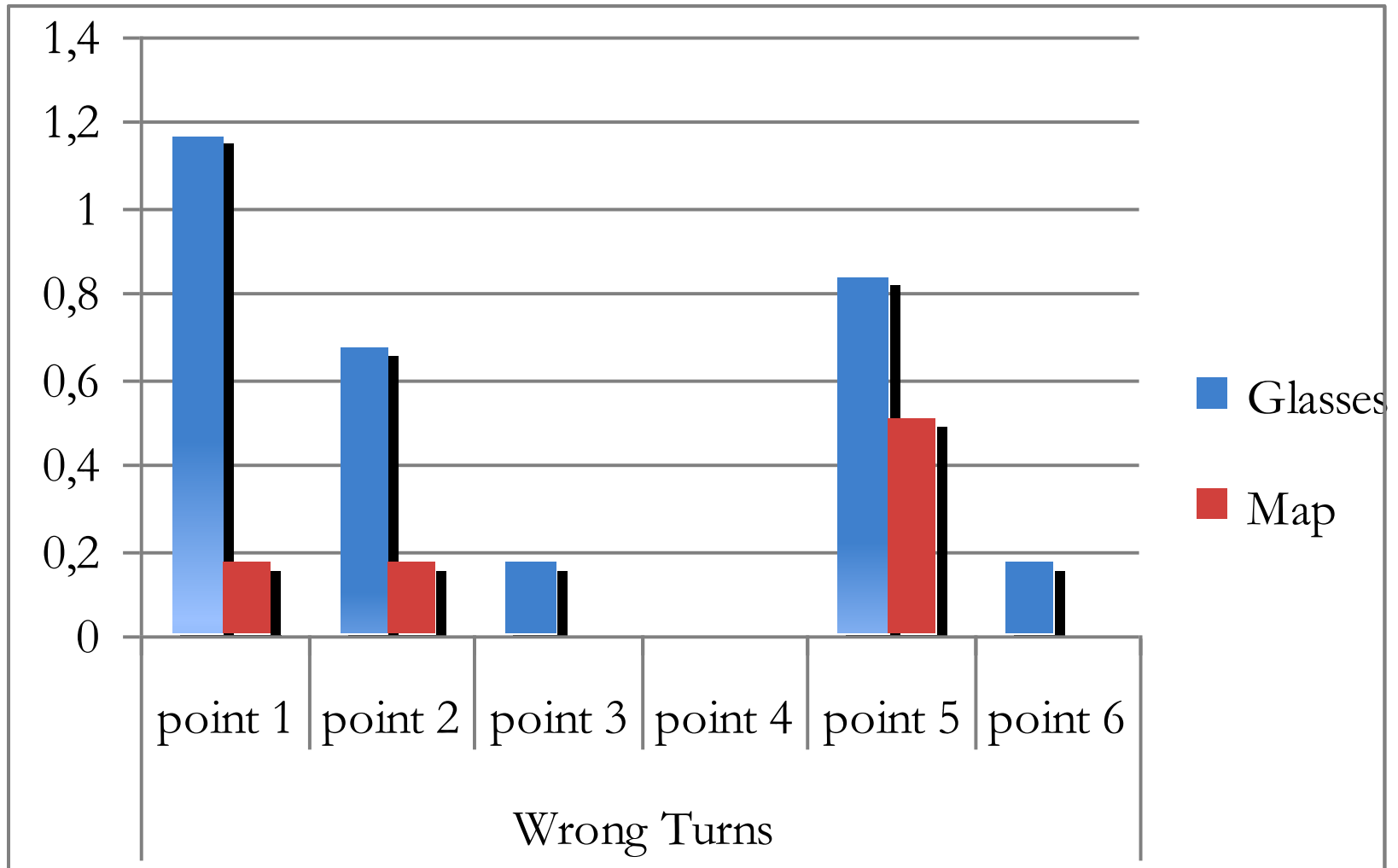
# Usability test: walking routes



# Usability test: observations

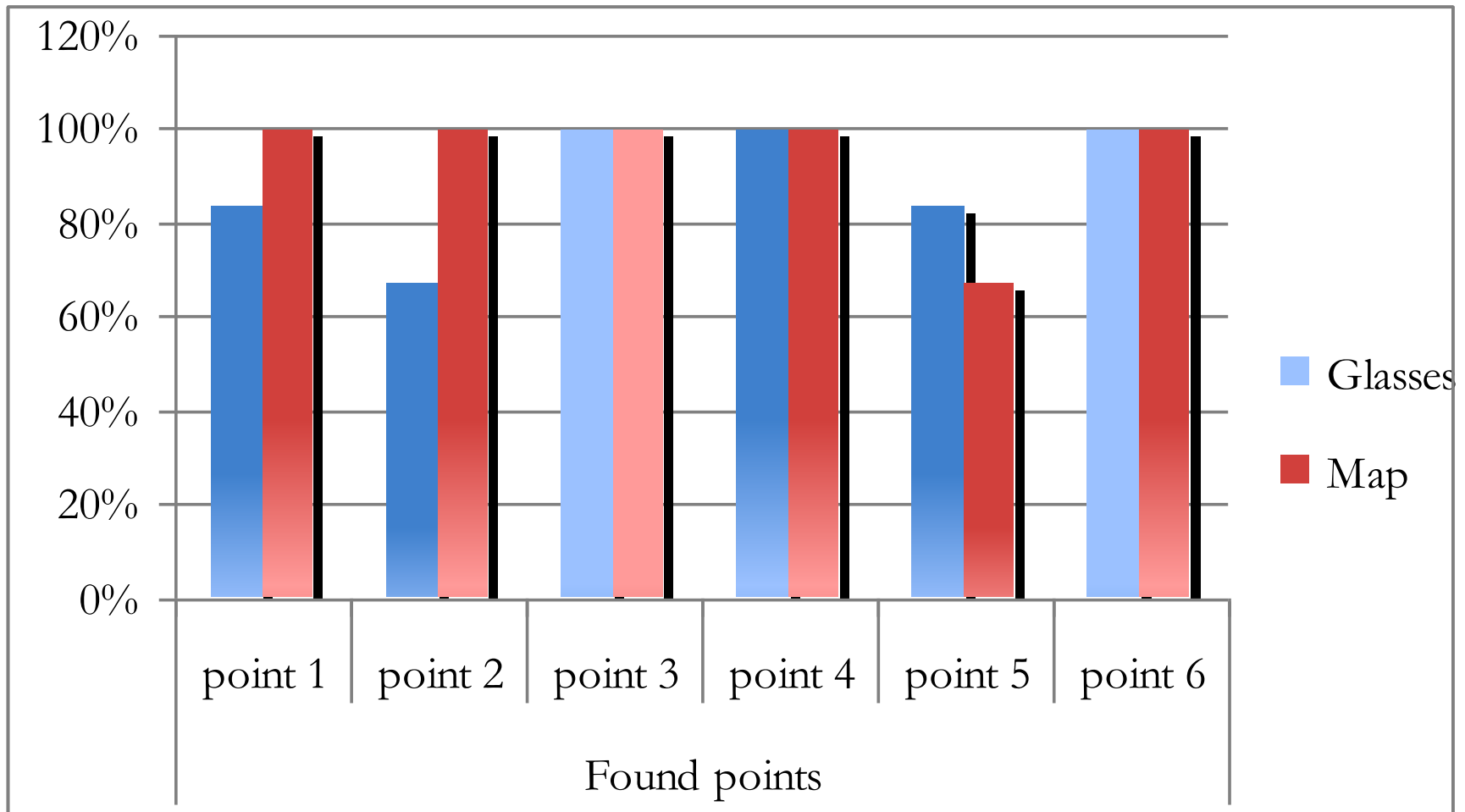


# Usability test: observations

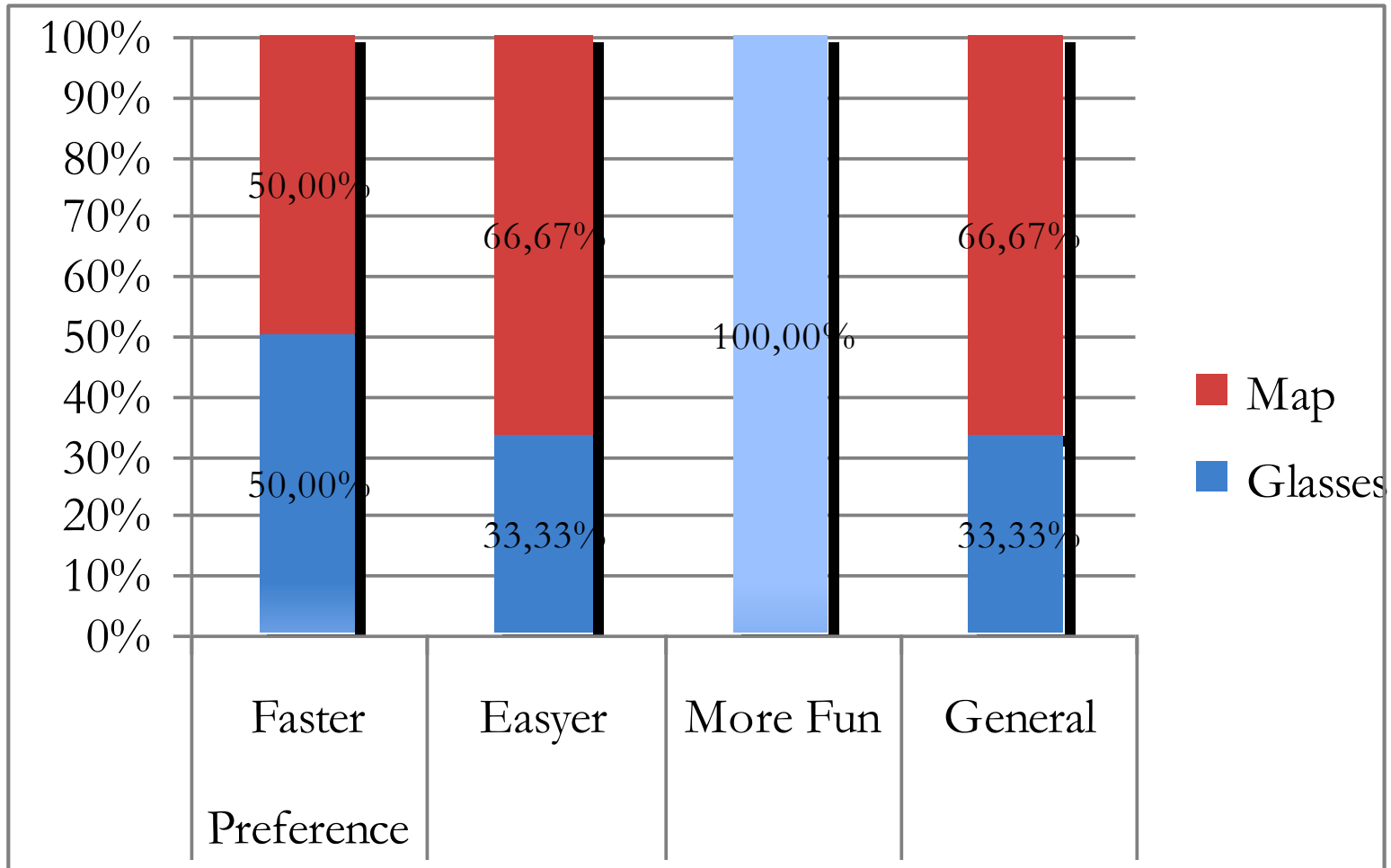




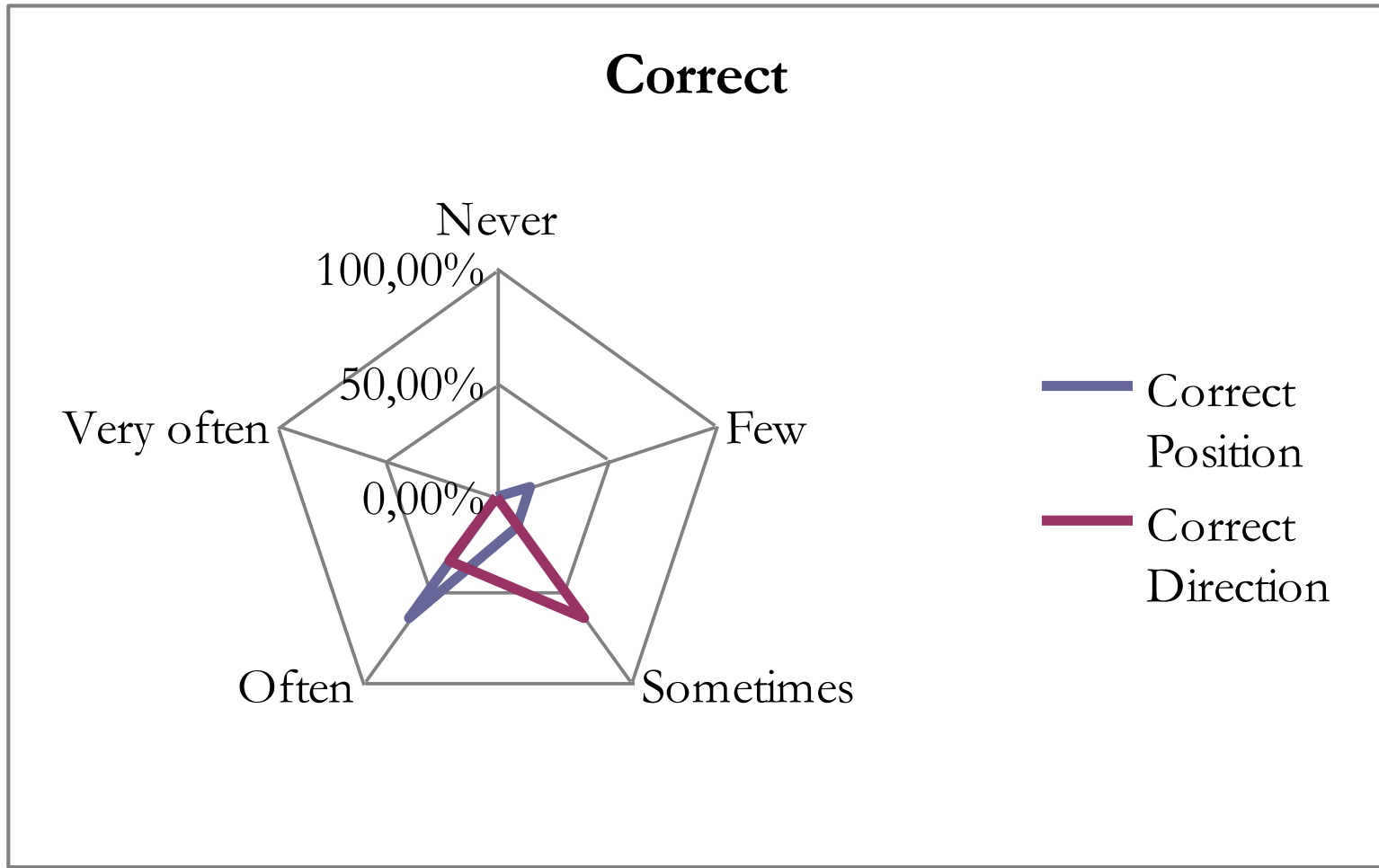
# Usability test: observations



# Usability test: evaluation

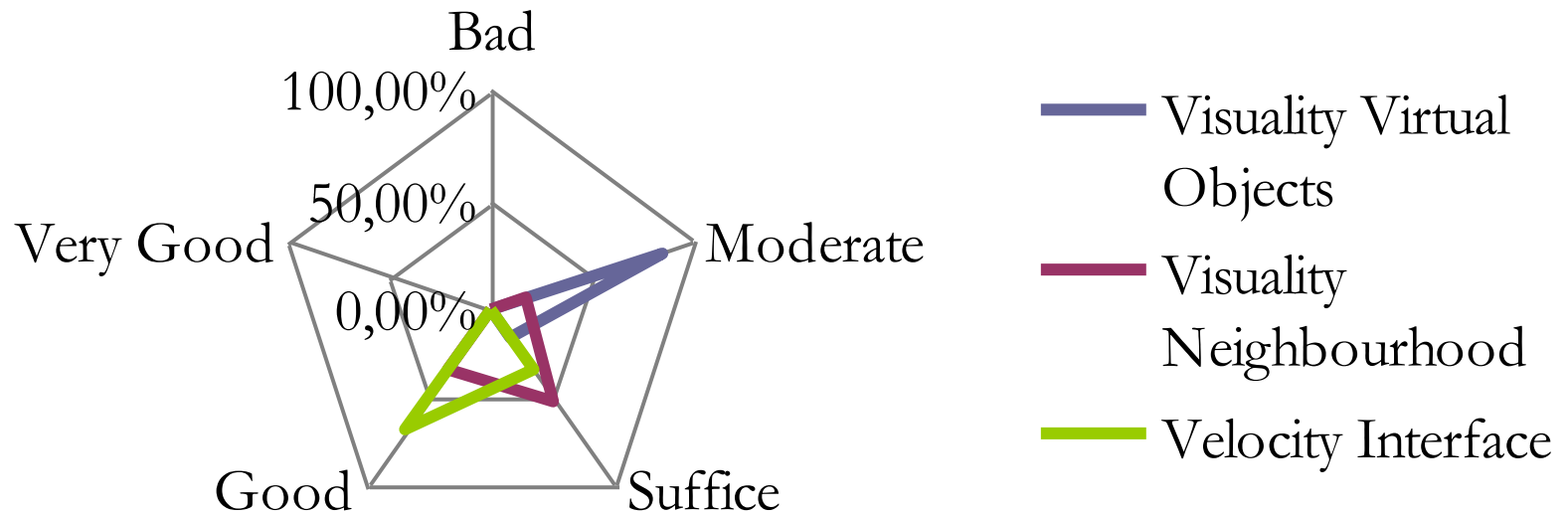


# Usability test: evaluation

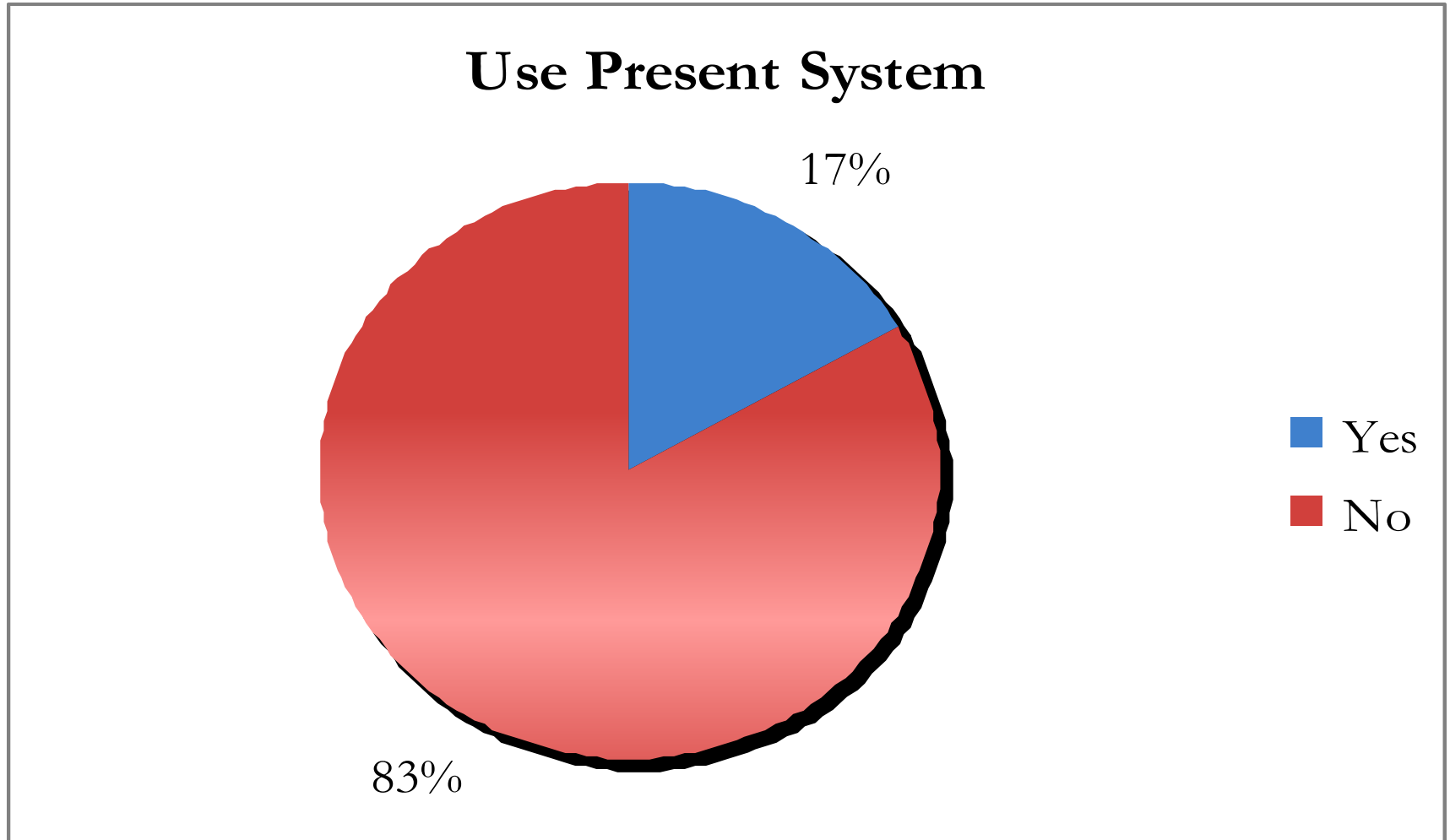


# Usability test: evaluation

## Performance

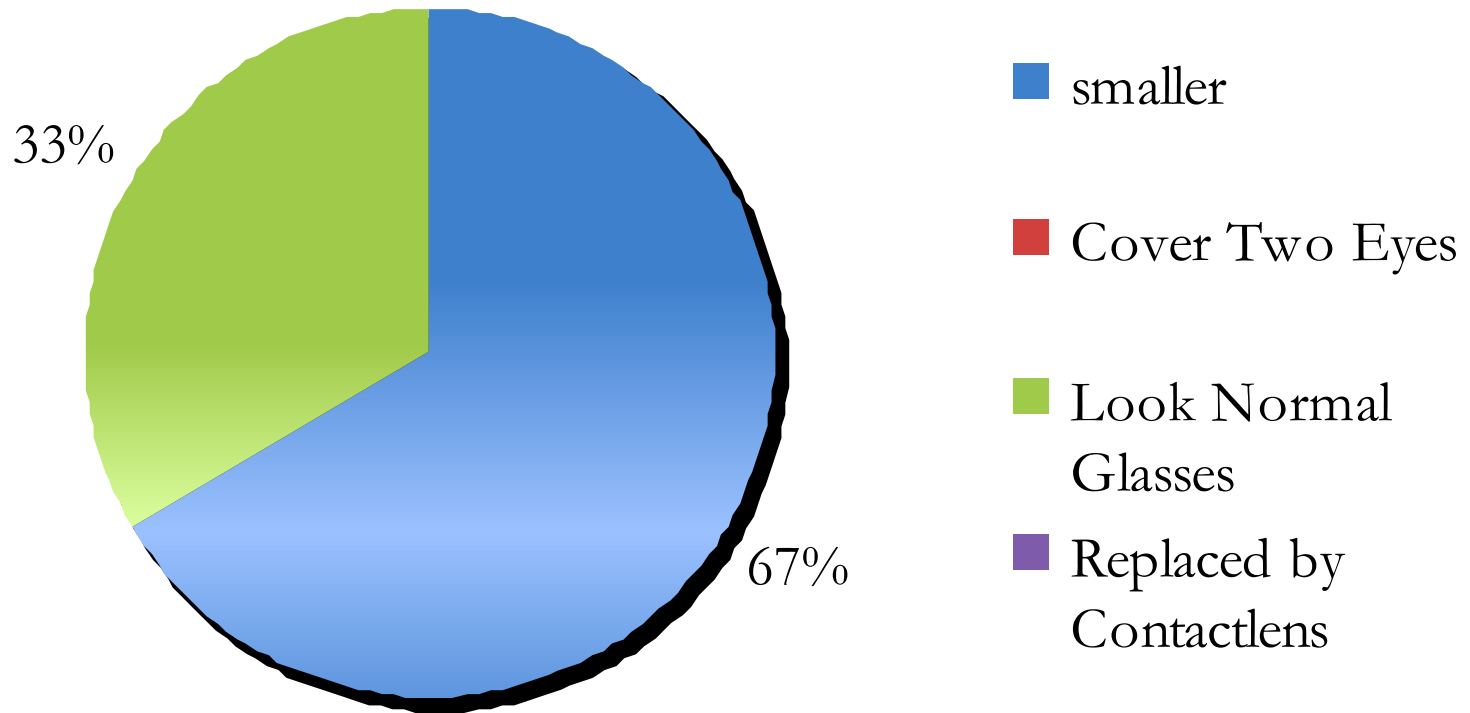


## Usability test: evaluation



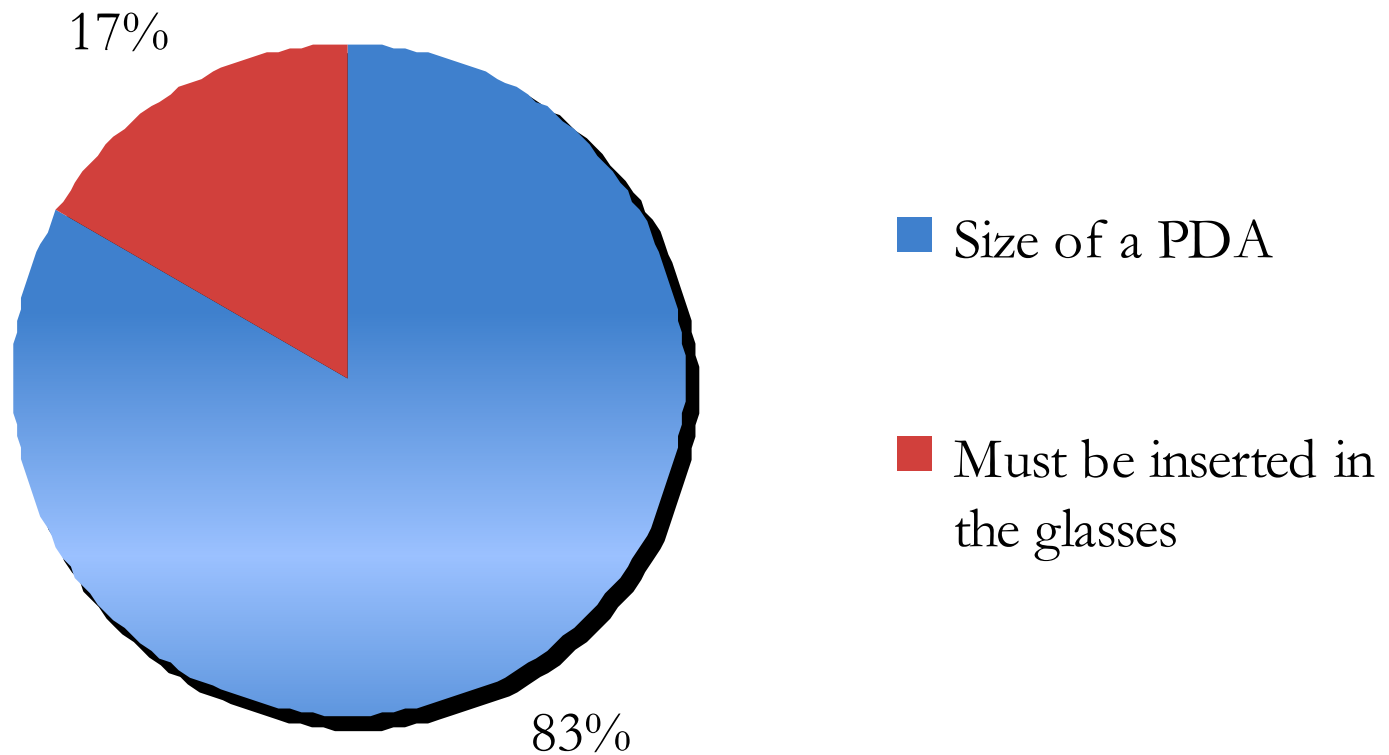
## Usability test: evaluation

### The Glasses Must ...



## Usability test: evaluation

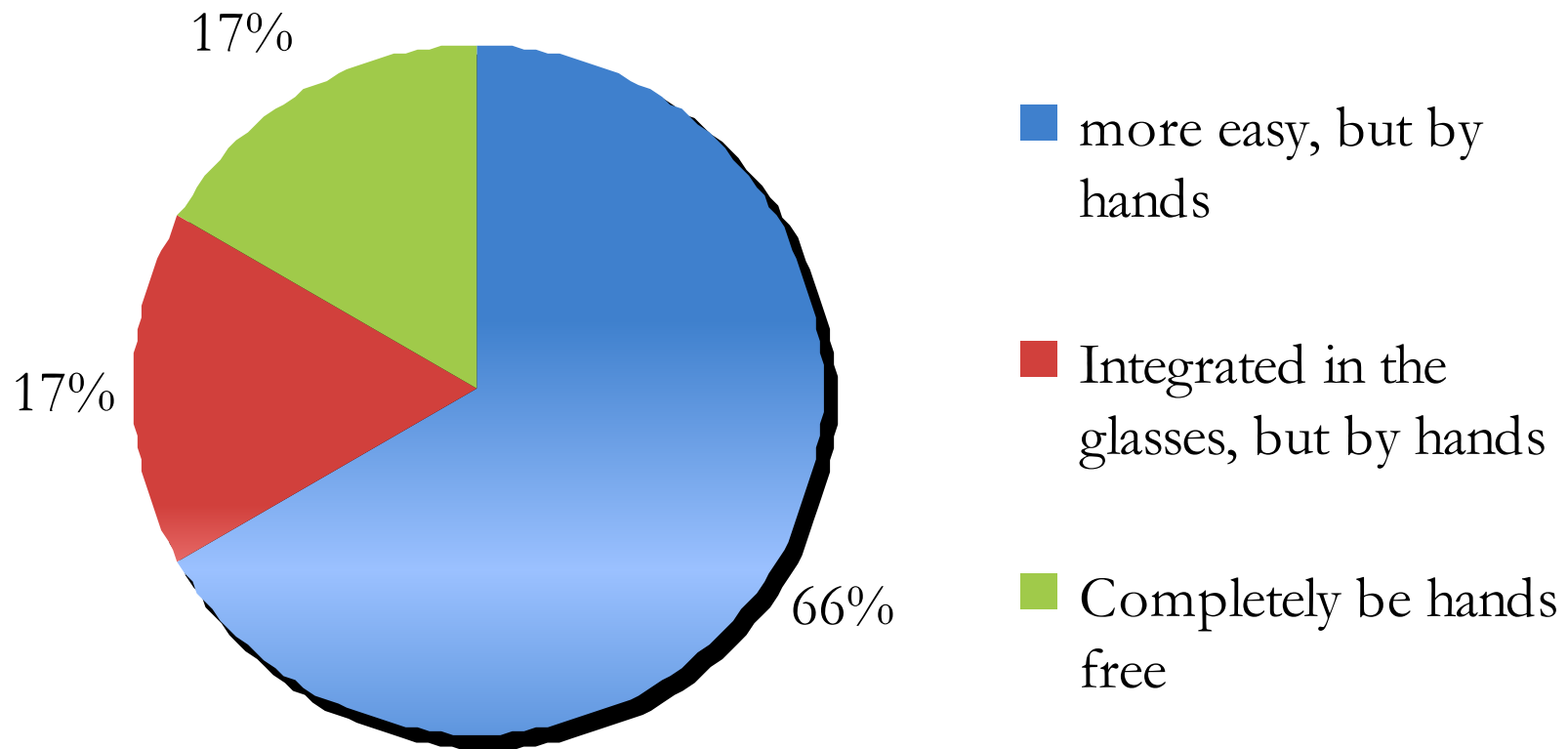
### The laptop in the bag must...



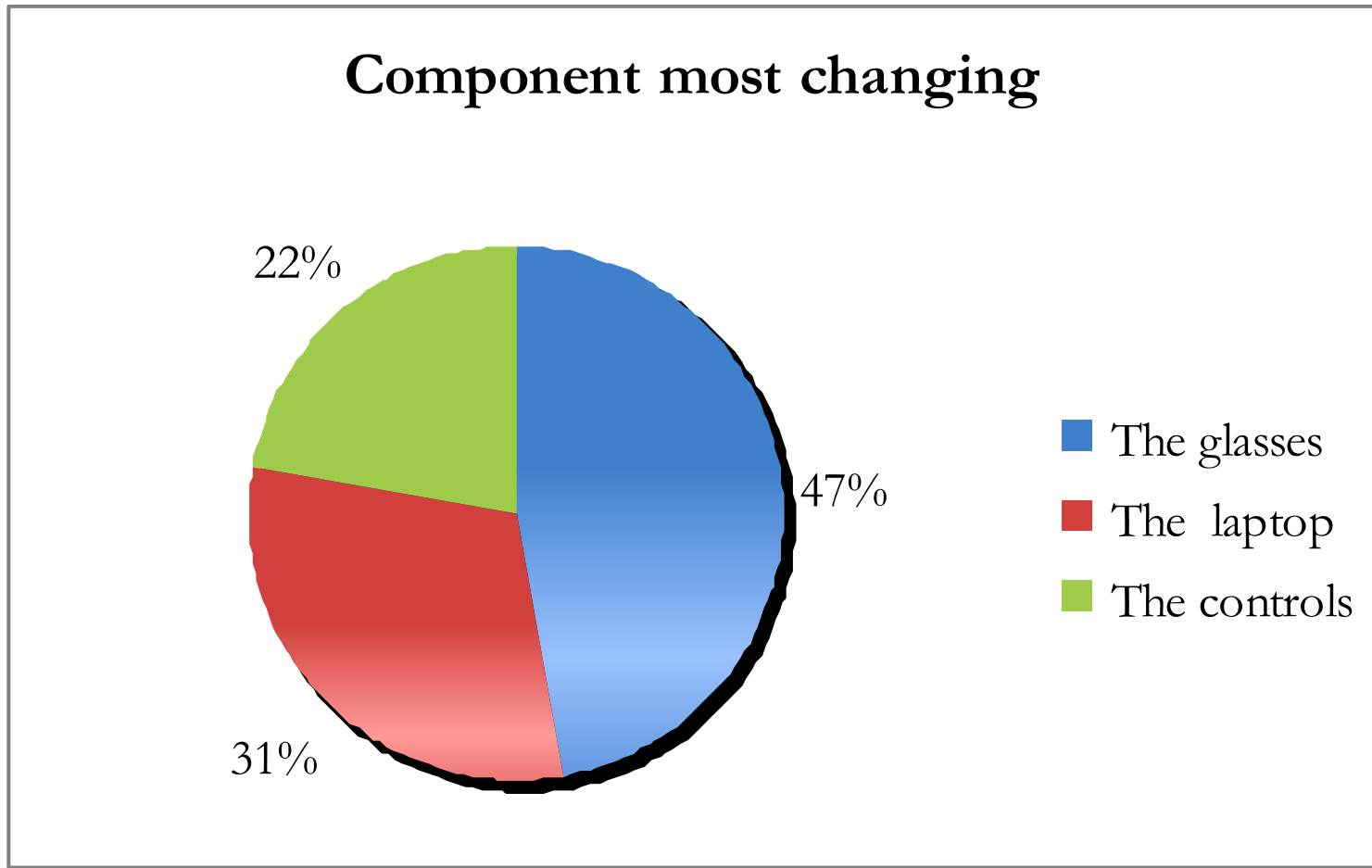


## Usability test: evaluation

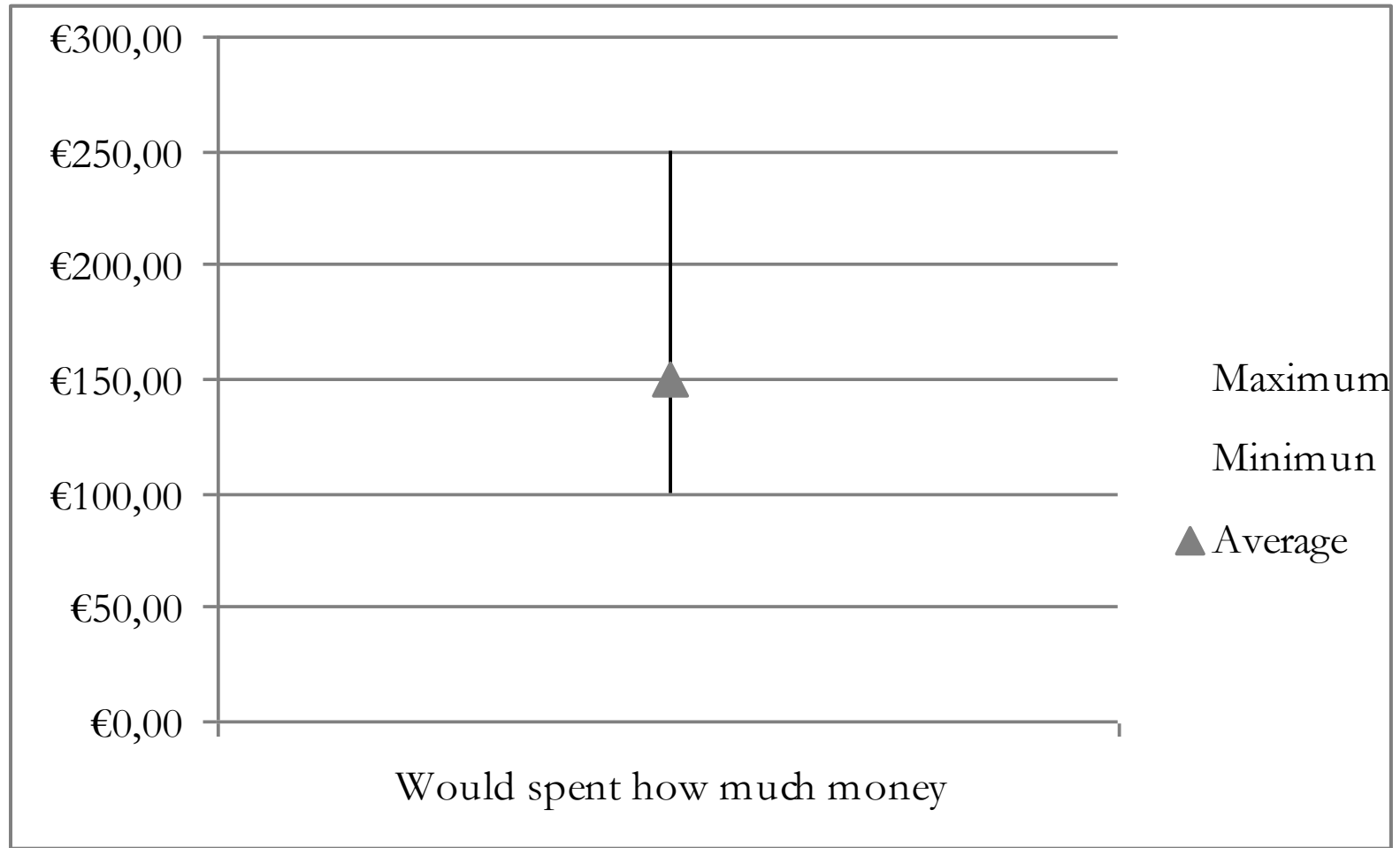
### The controls must ...



# Usability test: evaluation



# Usability test: evaluation



## Conclusion

- Project is succesful!
  - Business innovation is satisfied about the product.
- Navigation with augmented reality has the future
  - Target group is interested
  - Some adaptation is necessary
- Applications
  - Improvement used technology is necessary
  - There is a lot of possible applications

## Demo & Questions

