

Bakeoff 1: Pointing

Team 19

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Initial Ideas

1. Make highlight color Red.
2. Flash a square (between Red and White) when highlighted.
3. Reduce visibility of un-highlighted squares.
4. Draw a line from center of the highlighted square to the cursor.
5. Remove the mouse and make cursor color Cyan.
6. Shrink cursor when it hovers over the highlighted square.
7. Play sound feedback when a square is highlighted.
8. Play sound feedback on hit/ miss.

Initial Ideas

Selection Rationale: “Focus on visual design”

- Enhance visual clarity.
- Engage the user (attention).
- Reject sound feedback ideas (light travels faster than sound).

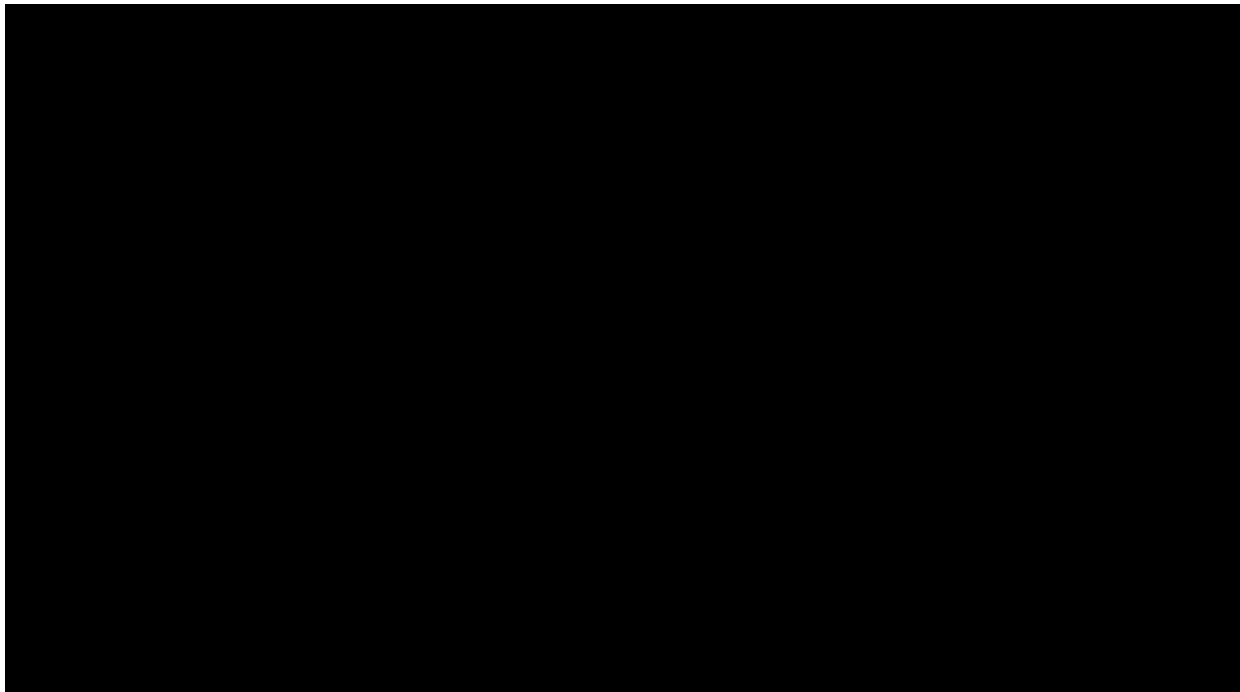
1st Prototypes

Selection Rationale

- Reject ideas 7, 8
 - Play sound feedback on highlight and hit/ miss.
- Select ideas 1-6:
 - Remove mouse pointer, make cursor color Cyan.
 - Reduce cursor size when it hovers over highlighted square.
 - Flash square (with colors red and white) on highlight.
 - Dim un-highlighted squares slightly.
 - Include shortest path line from cursor to center of highlighted square.

1st Prototypes

Video



1st Testing

Methodology: Randomly select 2 users, 2 trials each

Metrics: Accuracy, Average time for each button

User 1

Trial no.	Accuracy	Average time
1	87.5%	1.49s
2	87.5%	0.77s

User 2

Trial no.	Accuracy	Average time
1	87.5%	0.81s
2	81.2%	0.84s

1st Refinement

Selection Rationale: “Visual clarity and attention”

- Modifications for better contrast
 - Make the cursor bright green instead of Cyan.
 - Remove the black stroke around cursor.
 - Increase stroke weight.
- Keep all the other ideas.

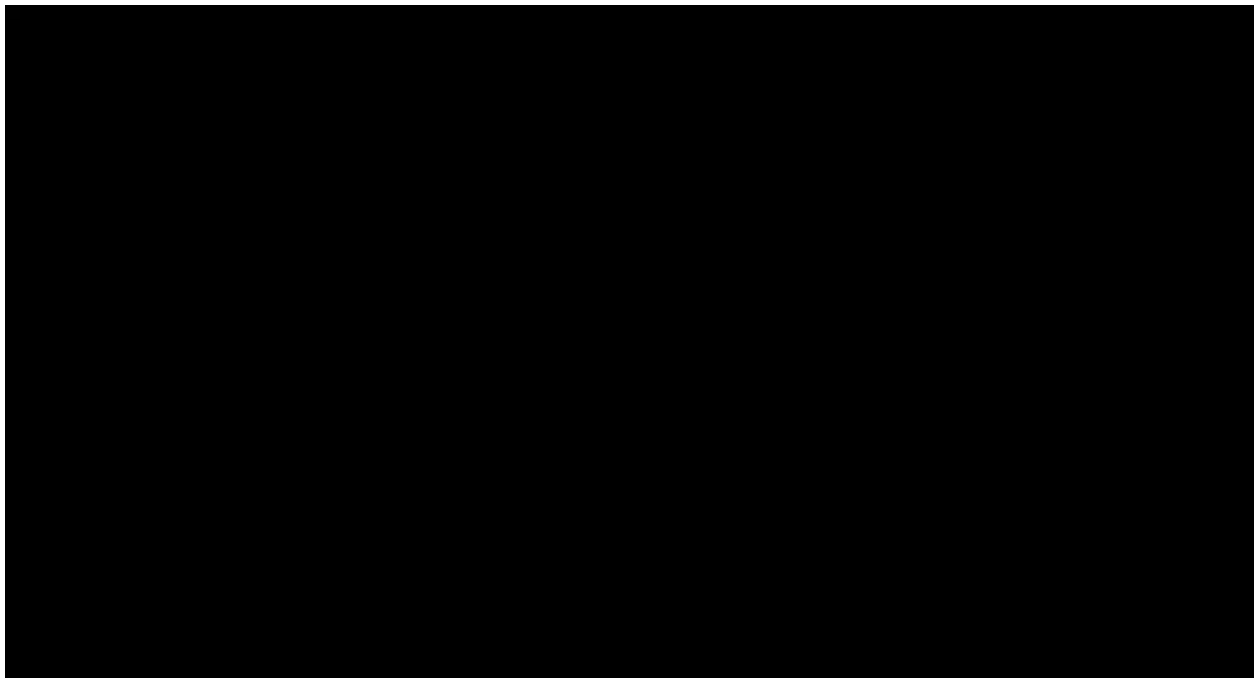
2nd Prototypes

New Ideas

1. Make workspace full screen.
2. Decrease the sensitivity of mouse.

2nd Prototypes

Video



2nd Testing

Rationale: “Minimize errors”

1. Make workspace full screen.
 - Remove outside distractions.
2. Decrease the sensitivity of mouse.
 - Prevent overshoot errors.

2nd Testing

Methodology: Randomly select 2 users, 2 trials each

Metrics: Accuracy, Average time for each button

User 1

Trial no.	Accuracy	Average time
1	100%	0.85s
2	100%	0.84s

User 2

Trial no.	Accuracy	Average time
1	93.75%	1.17s
2	100%	1.08%

Refinement & Final Prototype

Selection Rationale: “Stick to what works”

1. Revert the sensitivity to default.

Refinement & Final Prototype

Selection Rationale: “Stick to what works”

1. Revert the sensitivity to default.
2. Keep all the other ideas:
 - Remove mouse pointer, make cursor color Green.
 - Reduce cursor size when it hovers over highlighted square.
 - Flash square (with colors red and white) on highlight.
 - Dim un-highlighted squares slightly.
 - Include shortest path line from cursor to center of highlighted square.
 - Make workspace fullscreen.

Refinement & Final Prototype

Video

