ThunderBrain

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Needfinding

Interviews

Prof Kautz: What do you find annoying about brainstorming?

- Conversation gets dominated, opinions go unheard
- Suggestion: Create meeting moderation bot

Prof Gonec: How do you feel about a meeting moderation bot?

- A bot that tells people when to speak would be annoying
- Concern: Careful to select people for brainstorming to reduce bias &
- Get ideas from people with personality differences
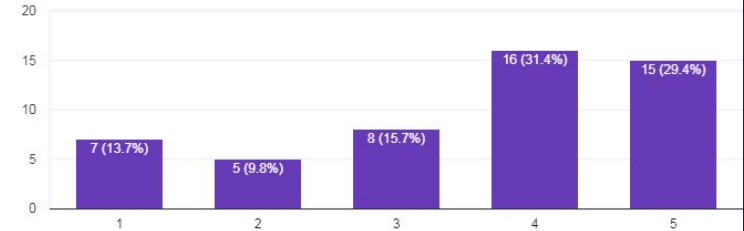
Survey & Findings

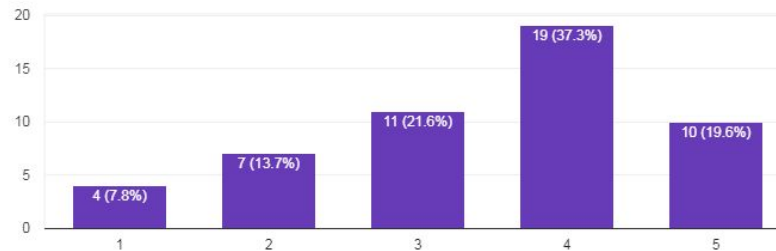Have you ever participated in a group brainstorming session?
55 responses

- Yes 70.9%
- No 14.5%
- Maybe 14.5%
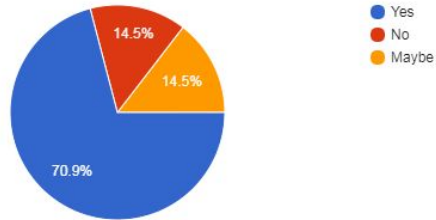
I felt uncomfortable shooting down the idea of a friend
51 responses

1: 7 (13.7%)
2: 5 (9.8%)
3: 8 (15.7%)
4: 16 (31.4%)
5: 15 (29.4%)

I considered all ideas objectively and equally.
51 responses

1: 4 (7.8%)
2: 7 (13.7%)
3: 11 (21.6%)
4: 19 (37.3%)
5: 10 (19.6%)

Needfinding

I disliked one of the members of the group i was brainstorming with
51 responses

Value	Count
1	6 (11.8%)
2	7 (13.7%)
3	6 (11.8%)
4	18 (35.3%)
5	14 (27.5%)
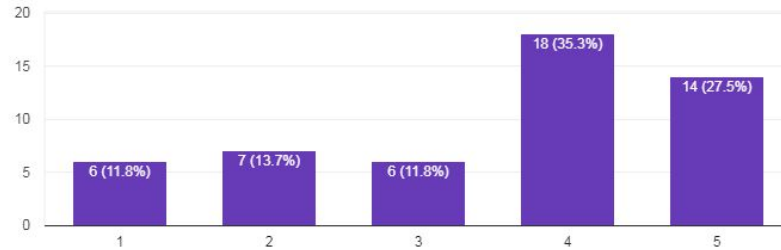
I thought less of an idea because it came from someone I don't like
51 responses

Value	Count
1	6 (11.8%)
2	14 (27.5%)
3	6 (11.8%)
4	16 (31.4%)
5	9 (17.6%)
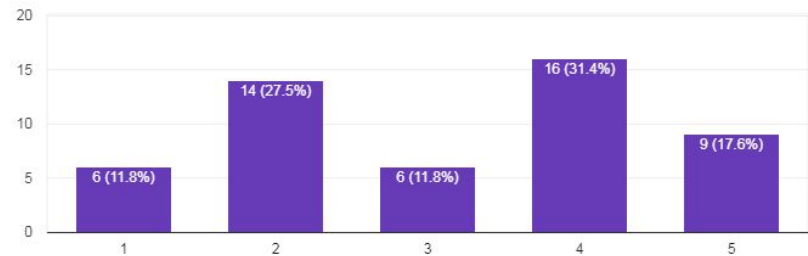
How much would it help you to objectively evaluate ideas in a group discussion if the ideas were anonymous?
51 responses

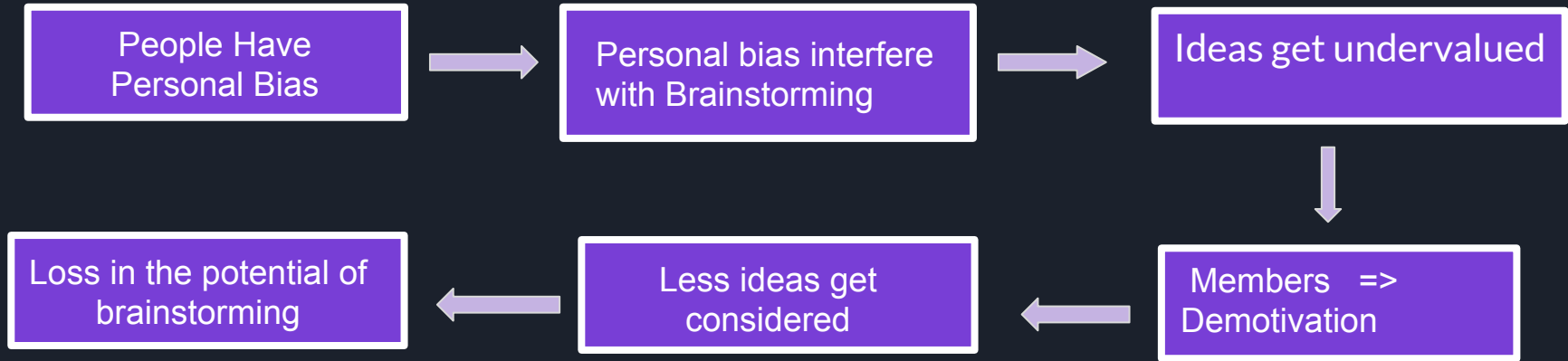| Value	Count
1	5 (9.8%)
2	6 (11.8%)
3	7 (13.7%)
4	17 (33.3%)
5	16 (31.4%)
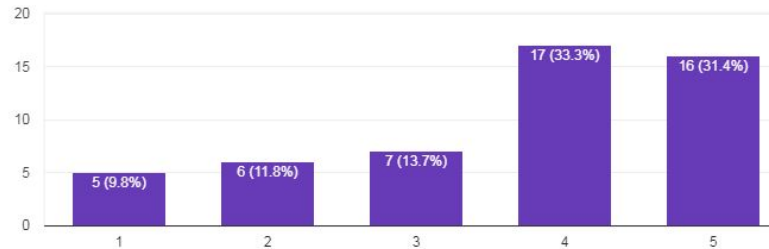
Quotes

"A person with a bad track record (either attitude wise or technical capability wise) will have thier ideas looked down on more often (if ideas are even considered)"

"If someone simply appears to be smart, their ideas may get taken more seriously"

"You might also consider your friend's ideas more than other people in the group"

"In my experience I think it's not so much liking or disliking an individual but having positive or negative previous group experiences with them."

Problem

People Have Personal Bias → Personal bias interfere with Brainstorming → Ideas get undervalued

Loss in the potential of brainstorming ← Less ideas get considered ← Members => Demotivation

Solution

- ThunderBrain
- Brainstorming WebApp
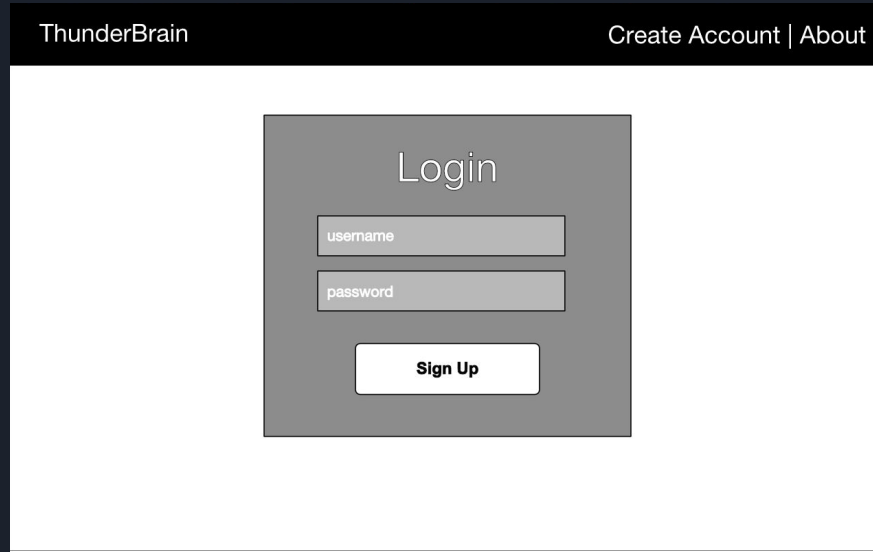- Anonymous ideas
- Video chat
- Voting

Paper Prototype design

- 3-4 people in control group, 3-4 in experimental group.
- Control:
  - Brainstorm ideas with no structure
- Experimental:
  - Collected written ideas
  - Lead voting and discussion for each of the ideas
- Recorded actions, and results

Wireframe

ThunderBrain   Create Account | About
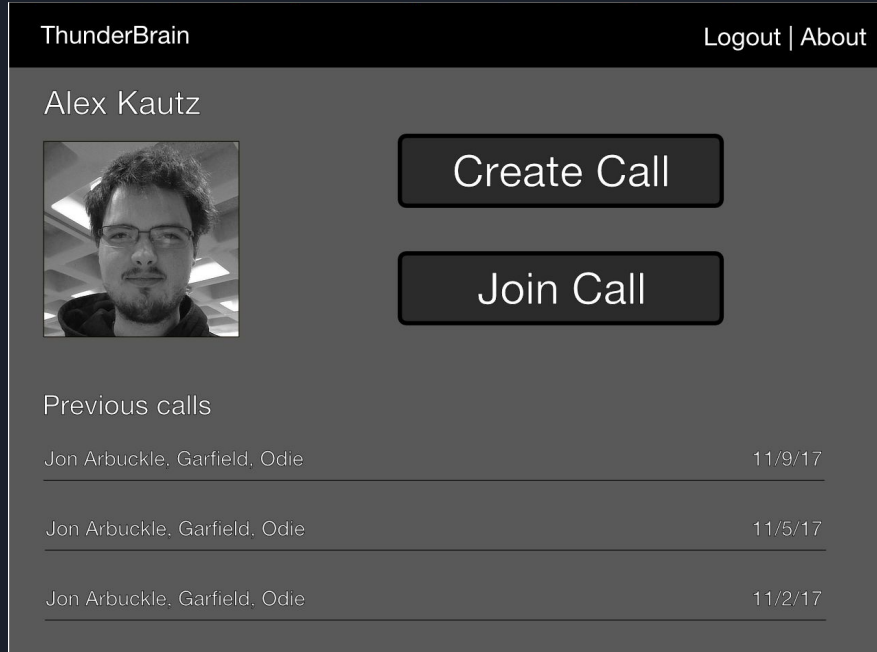
Login

username

password

Sign Up

Wireframe

Wireframe

ThunderBrain   Logout | About

Enter topic/question

topic

Enter Call

Wireframe

Wireframe

ThunderBrain   Logout | About

Enter as many ideas as you
can for the following question:

What are cool features to add
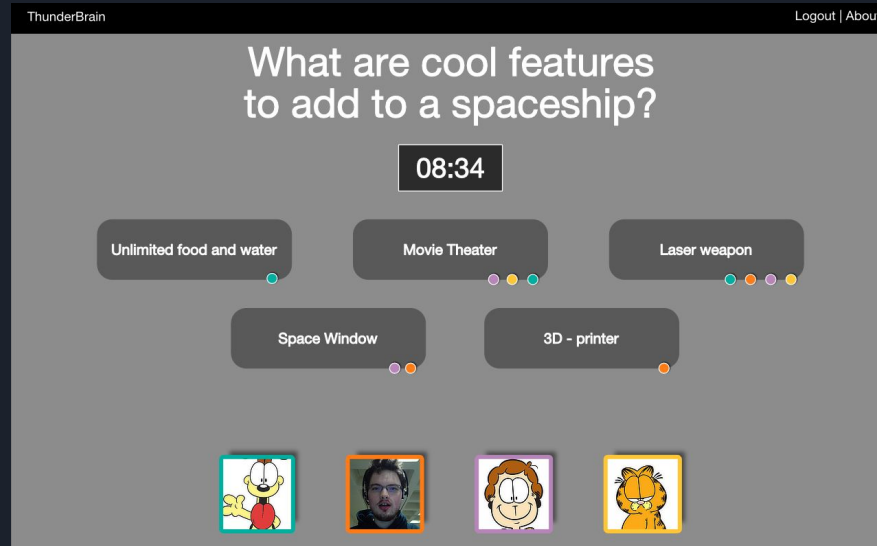to a spaceship?
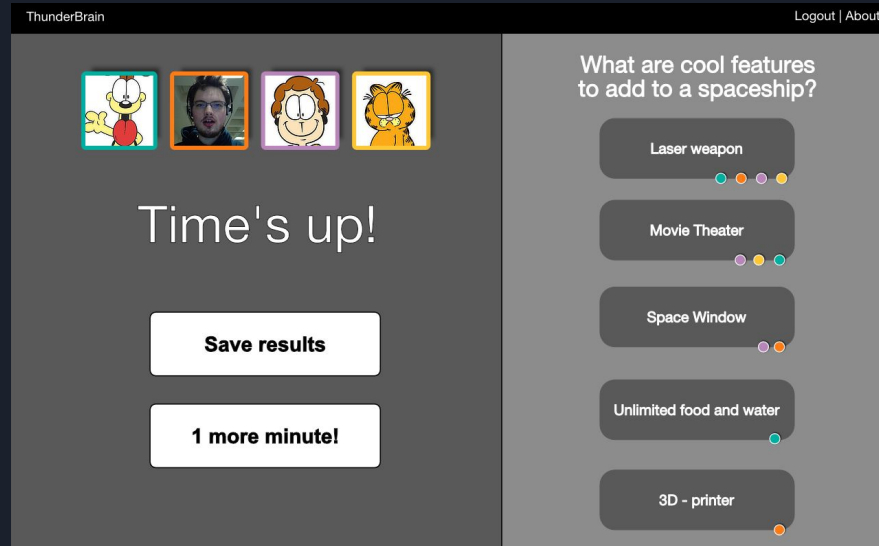
00:53

Unlimited food and water

0G Gym

Gravity-stat

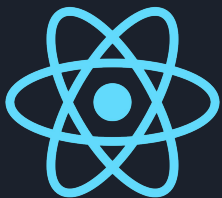idea   Submit

Wireframe

Wireframe

Tech Stack

Front-End

Back-End

Testing and Validation

Control and Experimental groups

- Two pairs of Control and Experimental groups, each pair given different topics
- Control: Put on Skype to brainstorm over ideas together
- Experimental: Put on Thunderbrain to brainstorm over ideas together

Testing and Validation

- Not enough data for a P-test
- Post-Session Survey Quotes:

"I felt pretty comfortable sharing my ideas anonymously, I think it was pretty easy going"

"It was super insightful to be able to collaborate with other people on a really nice interface that was incredibly clear. It was very nice to use! That and the video chat was super nice."

"I liked the anonymity, the way the voting worked in the end (clicking on as many options as you wanted) was also good"

Results and Conclusions

- We can't confirm that Thunderbrain eliminates personal bias
- Thunderbrain definitely gives users confidence in their ideas
  - "Bottom-up" versus "Top-down" brainstorming methods
    - Pros and Cons to each
- Thunderbrain is a tool for top down brainstorming
  - Eliminates need for a dedicated moderator

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