Discussion of Interaction Beyond the Individual

Discussion Leaders: Dennis, Vicki

Subjects of Discussion Papers

Grudin '88 - **Organizations**

Olson & Olson '00 - **Distributed Teams / Remote Work**

The discussion papers on Thursday build upon these in modern contexts:

Samrose et al '21 - **Distributed Teams** - Using AI to improve Video Conference meetings

Lampe et al '07 - **Social Networks -** Early piece on Facebook, the "Social Network Sites"

Yao et al '21 - **Social Networks** - Online Health Communities

MeetingCoach

Samiha Samrose, Daniel McDuff, Robert Sim, Jina Suh, Kael Rowan, Javier Hernandez, Sean Rintel, Kevin Moynihan, and Mary Czerwinski.
MeetingCoach: An Intelligent Dashboard for Supporting Effective & Inclusive Meetings. CHI (2021)

Introduction

MeetingCoach is an AI driven post-meeting feedback dashboard giving group and individual feedback to each participant.

Research undertaken by Microsoft leveraging their MS Teams video-conferencing software

Builds upon GroupWare type research first conducted in the 1990s.

Microsoft are heavily involved in this type of meeting related research e.g.

- Large scale analysis of Multitasking Behavior During Remote Meetings
- The effects of remote work on collaboration among information workers

Research Questions

1. What aspects of meetings do video-conference attendees need help with?
2. How can we leverage AI systems to make video-conferencing meetings more inclusive and effective?
3. How should AI-extracted meeting features (including content, behavioural measurements and sentiment) be categorized and visualized in a feedback dashboard?
4. What concerns exist regarding data privacy and accuracy for such systems?

Related Research

- Empirical research on meetings
  - Traits of "good" meetings (turn-taking, interaction, collaborative, verbal, non-verbal signals)
  - Online meeting effectiveness has positive correlation with meeting inclusiveness, participation and comfort in contributing
- Empirical research on feedback systems on meetings
  - Real-time vs. post meeting
  - Dashboard
  - Chat
  - Suggestion feedback
- Valence?
- Interface design on emotional or affective signaling
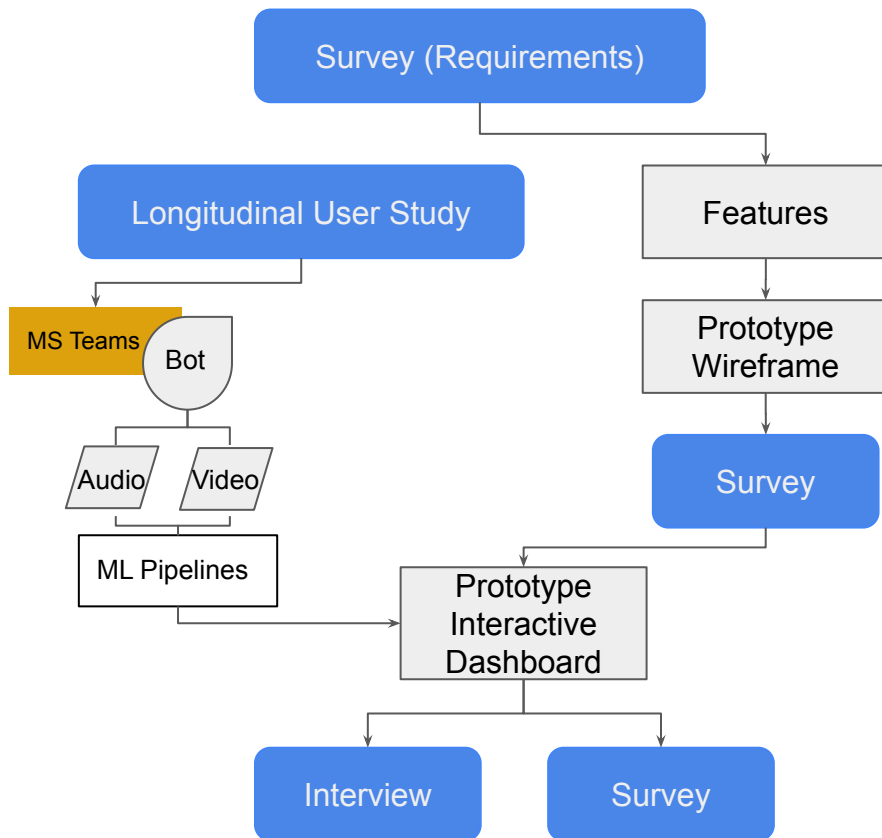- Matrix to a Model of Coordinated Action (MoCA)
- AI not explicitly discussed

Research Method

Q. Any thoughts on this approach?

Survey (Requirements)

120 responses

4 weeks,
8 teams, 49 PAID participants

Longitudinal User Study

Features

28 Meetings Recorded, all participants remote

MS Teams

Bot

Audio   Video

ML Pipelines

Prototype Wireframe

Survey

Same participants from user study
16 responses

Prototype Interactive Dashboard

Each participant received a unique dashboard with their data

9 participants at random from the 49

Interview

Survey

Same participants from user study
23 responses from the 49

Findings

"Unanimous agreement that attendees of video-conferencing meetings are in the need of feedback assistance to make their meetings more effective and inclusive"

Design Implications

- Actionable suggestions
- Modify feedback design based on its delivery timing
- Reminders before meetings
- Highlights after meetings
- Provide training opportunities based on feedback from a series of meetings
- Incorporate multi-modal signals to provide rich feedback

Research Contributions

Prototype so an Artifact contribution

- Shows how an AI driven dashboard can support meetings
- Highlights the potential such a dashboard can have to improve effectiveness and inclusivity of meetings
- Design guidelines for such dashboards in context of video conferencing tools

[Showcases MS Tech?]

Q. Are there other areas that could benefit from this research?

Q. What advantages do companies like MS have over academic researchers?

Q. Were the research participants from MS? If so, any ethic or moral issues?

A Familiar Face(book): Profile Elements as Signals in an Online Social Network

Cliff Lampe, Nicole Ellison, and Charles Steinfield. A Familiar Face(book): Profile Elements as Signals in an Online Social Network. CHI (2007).

Summary

Uses quantitative data from Facebook profiles to relate importance of profile data fields to number of friends in network

One of the first such pieces of research into social networks?

Research Questions:

1. What are the relationships between the various types of profile entries and the number of friends a user has on their social network site?
2. Are some types of profile entries more strongly associated with the number of friends listed?

Research Method

Empirical research, quantitative based on retrieving data from Facebook user accounts (30,773)

Draws upon three theories to explain results:

- Signalling theory
- Common Ground theory
- Transaction cost theory

One key assumption is the users know each other offline

Results

Populating profile fields on Facebook is positively related to the number of friends.

Uses the data, common ground theory and transaction cost theory to explain why completion of "common referent" fields leads to more friends

Preference data doesn't have much impact on number of friends

Research Contribution

Still being cited in social network research

Klassen, Shamika and Kingsley, Sara and McCall, Kalyn and Weinberg, Joy and Fiesler, Casey, More than a Modern Day Green Book: Exploring the Online Community of Black Twitter Proceedings of the ACM on Human-Computer Interaction Volume 5 Issue CSCW 2 October 2021 Article No.: 458pp 1–29

Join, Stay or Go? A Closer Look at Members' Life Cycles in Online Health Communities

Zheng Yao, Diyi Yang, John M. Levine, Carissa A. Low, Tenbroeck Smith, Haiyi Zhu, and Robert E. Kraut. 2021. [*Join, Stay or Go? A Closer Look at Members' Life Cycles in Online Health Communities*](#)*. CSCW (2021)*

Introduction

Retaining members is a key challenge faced by many types of online communities: Q&A sites, peer production platforms (e.g., Wikipedia), or OHCs

- Definition of a **"successful"** online communities: "*online communities need the people who participate in them to contribute the resources on which the group's existence is built*" (Kraut & Resnick, 2012)

The CMU team has been studying online community for ~20 years

Introduction

Online Health Community v.s. Face-to-Face Support Groups
"*OHCs are typically larger, and rely upon asynchronous communication among geographically dispersed people and on members to provide peer support*"

- obtain useful information sometimes not available from medical experts
- receive emotional support from people facing similar life-threatening crises
- immediate availability / the anonymity of OHCs

However, it is not clear **the extent to which conclusions from online communities research can be directly applied to OHCs.**

- OHC members' participation is often heavily dependent on their users' own health status and is mostly driven by temporary and intermittent needs

Research Questions

How do OHC members' **motivations and behavior** change as they **transition from newcomers to other roles**, or **when they ultimately leave the community**?

Related Research

Members' Life Cycles in Online Communities

- Reader-to-leader framework (Preece & Shneiderman, 2009)
    - lurker/reader -> contributor/collaborator -> community leader
- Group socialization framework (Moreland & Levine, 1982)
    - (three of) five phases of group membership: Investigation -> socialization -> maintenance

Online Health Communities

- Existing research on OHCs largely focused on benefit & support members receive from their participation (e.g., social support)

Methodology

Research site: Cancer Survivors Network (CSN) (>3 million unique visitors & >14000 new accounts per year)

Self-report (What they thought)

- **Interviewed** 20 long-time CSN participants
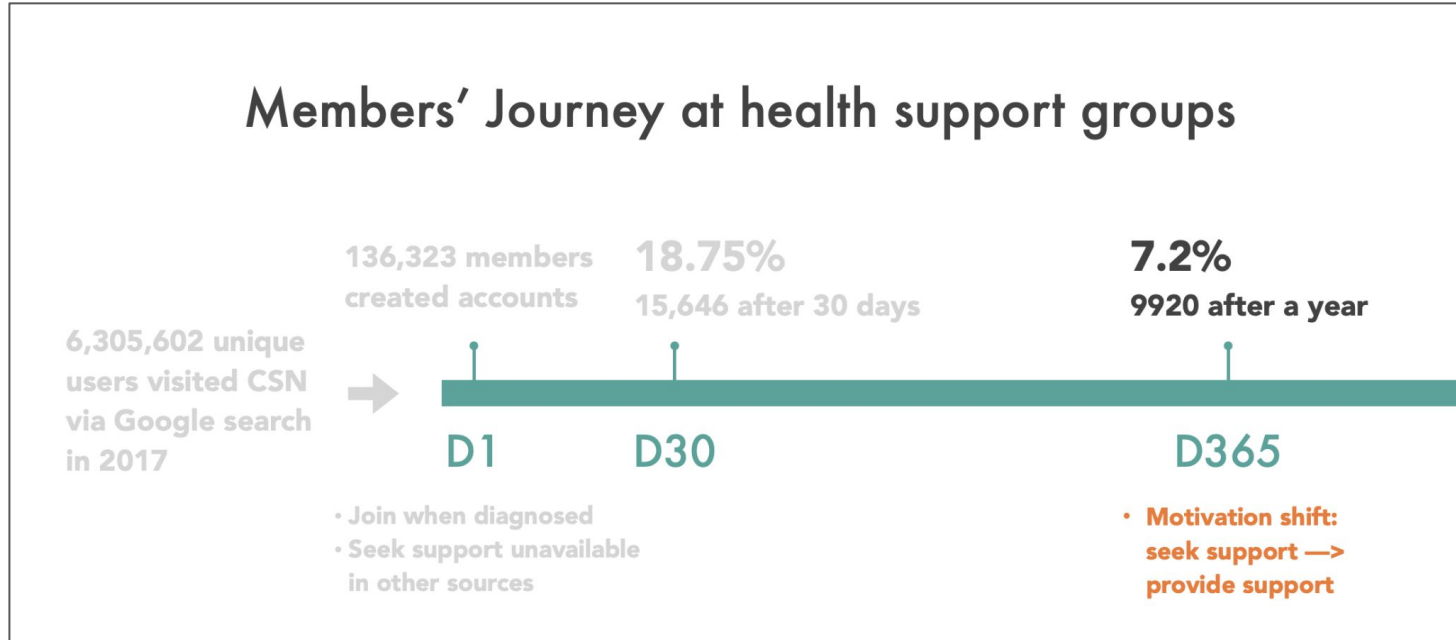- **Surveys** with over 5,000 CSN members

Behavior (What they did)

- Analyzed **behavioral logs** from over 130,000 + **NLP-based content analysis**

	Sample size	CSN tenure
Interviews	20	All participants except 1 stayed more than a year.
Surveys	5,426, answered all or part of the survey questions	Median tenure = 10 days, 1,648 (30.4%) participants stayed more than a year.
Behavioral logs	136,323	Median tenure = 1 day, 9,920 (7.2%) participants stayed more than a year.

Table 1. Sample size and characteristics of each data collection method

Findings

Members' Journey at health support groups

6,305,602 unique users visited CSN via Google search in 2017

136,323 members created accounts

18.75%
15,646 after 30 days

7.2%
9920 after a year

D1   D30   D365

- Join when diagnosed
- Seek support unavailable in other sources

- **Motivation shift: seek support —> provide support**

* Members who stayed in the community for a long time **were substantially more active even from the beginning compared to those who dropped out within a year**

Findings

(1) Members joined OHCs for **self-oriented goals** driven by the uncertainty generated by their disease state, especially their need to **get relevant information** and **conduct social comparisons**

(2) when members' disease-specific needs for support decreased or were satisfied, **most members quit the site**; the motivation of those who stayed shifted from obtaining support to **helping other members in the community**

(3) old-timers experienced challenges that seemed to **undermine their long-term commitment to the community**, including **strong negative emotions** brought on by other members' passing away and other signs of **burnout**.

Research Contributions

Empirical contributions

Members' **motivations and behavior** change in long term

- Most members of OHC left after their initial needs were met.
- For those who stays, motivations for participation shifted from receiving support to providing it to others in the community (for reciprocity)
- Experienced members (Old-timers) contributed the most and provide more emotional support
- Identified reasons for leaving / challenges that are unique to OHCs – the emotional toll of participation, especially from reading about the poor health and even death of fellow members

Design Implications

Highlight thread-starting posts that are seeking support in their areas of expertise, thus **making it easier for old-timers to help others needing their experience**.

Providing some degree of **training** to old-timers to help them be more effective support providers, to forewarn them about potential risks of participation and to provide them with strategies to better cope with the stress and anxiety brought about through participation.

Remind community members who registered earlier to briefly **come back and engage lightly with the community**.