Private Connections

Unique Privacy Provisions for a Neurodiverse Community

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Introduction

Connection: An in-development application from Western Washington University aims to accomplish the following:

- Function as a better platform for those self-identifying as Neurodiverse to forge relationships online
- Create an *inclusive* space that encourages
 Neurodiverse and Neurotypical
 membership and participation
- Facilitate both romantic relationships and friendships using the same networking platform [1]

Research Questions

- 1. What are (if any) particular privacy concerns of future Neurodiverse users of *Connection?*
- 2. Which existing social media and dating site privacy protocols/vulnerabilities would encourage or preclude users from using *Connection*?

Methodology

We performed separate literature reviews on each research question to address the above using the queries shown in figures 1 and 2:

Autism and Focus on Autism and Other

<u>Developmental Disabilities</u>

dating **AND** (priva* **OR** secur*) **AND** (internet **OR** online)

IEEE Xplore and ACM Library
(autis* **OR** asperger*) **AND**(priva* **OR** secur*)

Figure 1: Search strings used for research question 1

IEEE Xplore and ACM Library
dating **AND** (priva* **OR** secur*) **AND**(online **OR** relati* **OR** app)

Figure 2: Search strings used for research question 2

We compiled our results as exported citation lists in a Mendeley database with the following statistics:

- 486 articles returned from all databases
- 43 articles remaining after duplicates and excluded articles removed
- 13 articles cited in the ongoing paper so far.

Our criteria excluded articles pertaining to:

- Medical treatment
- Screening
- Intervention
- Neurotypical parents
- Children less than adolescent age
- Developer/marketing access to user information

Findings

A significant sample of Neurodiverse community members choose not to disclose their status. This population often identifies as female [2, 3]

A. Connection must protect the identities of these users to remain a viable platform.

But, Neurodiverse adolescents and young adults face online instances of cyber-bullying and harassment at greater rates [4]. So,

B. Connection must also avoid problems with anonymous online spaces which facilitate this type of negative online behavior.

How can *Connections* accomplish both goals on the same platform?

Implementations

- Recruit and encourage a large body of Neurotypical users to participate
- 'Group'-based visibility (ex. Google+, LinkedIn) enhance user privacy [5]
- Maintain a strict 1-user per account policy with registration verification for accountability
- Disable Location Based Services and Facebook connectivity which can create unwanted user-disclosures [6, 7]

References

- [1] C. Johnson and M. Sharmin. Connection: An autism-focused dating app. In *Grace Hopper 2018 Poster Submission*, GHC '18, pp.1–3, Bellingham, WA, 2018.
- [2] S. Cribb, L. Kenny, and E. Pellicano. 'I Definitely Feel More In Control of My Life': The Perspectives of Young Autistic People and Their Parents on Emerging Adulthood. *Autism*, pp.1362-3613, Feb 2019.
- [3] F. Sedgewick, V. Hill, and E. Pellicano. 'It's Different for Girls': Gender Differences in the Friendships and Conflict of Autistic and Neurotypical Adolescents. *Autism*, pp. 1362-3613, Oct 2018.
- [4] M. Spitters, S. Verbruggen, and M. v. Staalduinen. Towards a Comprehensive Insight into the Thematic Organization of the Tor Hidden Services. In 2014 *IEEE JISIC*, pp.220-223, 2014.
- [5] G. Misra and J. M. Such. How Socially Aware are Social Media Privacy Controls? *Social Computing*, 49(3): pp.96–99, Mar 2016.
- [6] R. Huang, Y. Lin, B. Ying, and A. Nayak. ACP: An Efficient User Location Privacy Pre-serving Protocol for Opportunistic mobile social networks. 2018 IEEE 42nd annual COMPSAC
- [7] N. Mata, N. Beebe, and K.-K. R. Choo. Are Your Neighbors Swingers or Kinksters? Feeld App Forensic Analysis. 2018 17th IEEE TrustCom/12th IEEE BigDataSE, pp.1433-1439, 2018.

