

Enhancing Customer Experience Through Cybersecurity Education:

The Cybersecurity Ambassador Program

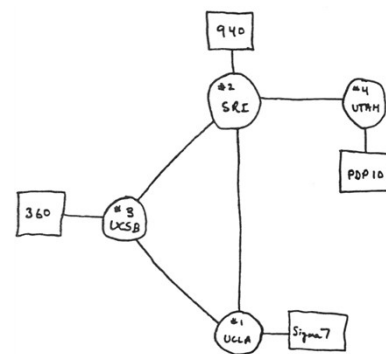
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Cybersecurity: The past

- Internet created in 1969
 - 4 nodes
- Firewalls in late 1980s
- IDS 1987
- Public Key encryption 1970s
- First large attack on the internet 1988
 - Only about 10,000 hosts and around 100,000 users.



THE ARPA NETWORK

DEC 1969

4 NODES

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Cybersecurity: The present

- Everyday there is another news headline
- Reported cyber crime netted over 12 Billion in 2023 (US)
- Estimated 30% of phishing emails are opened
- Estimated that over 90% of cyber attacks involve social engineering.



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After decades of technology, why are things worse?

- Defense is hard (must be perfect)
- More attackers, victims, devices
- Profitable (Over 12 Billion dollars)
- Attackers pick on the softest targets
 - As we deploy more technology and harden computer software the shift is to the people.
- Remember successful technology does not stop an attacker from attacking it just makes them change how they attack.
- We have spent decades telling the user that technology will save you.
- It is time to look at something different

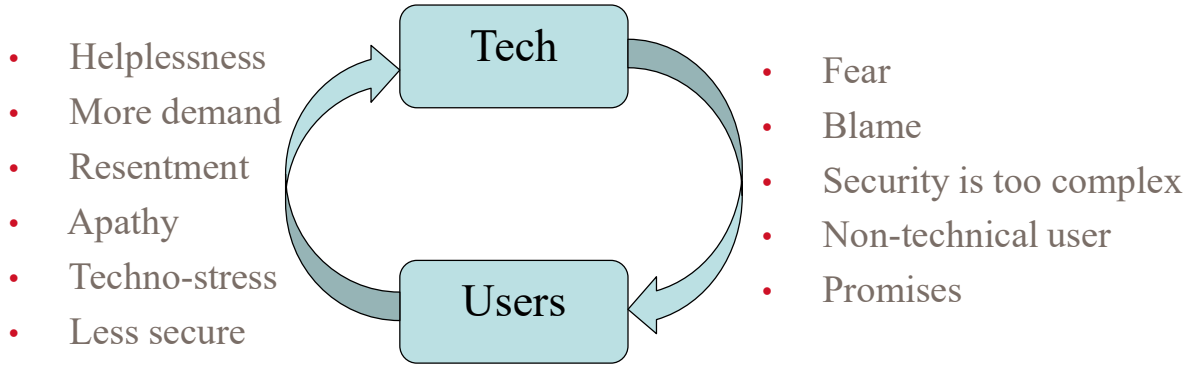


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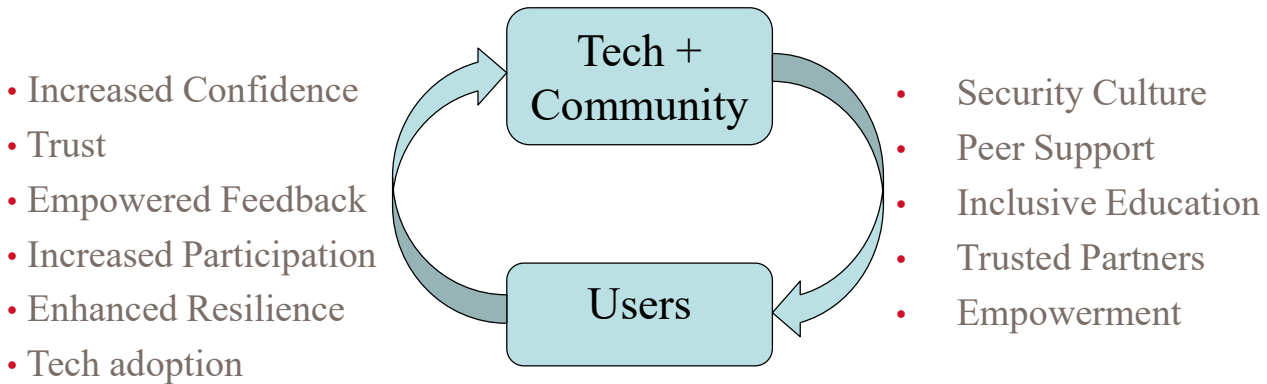
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Technology vs User Cycle



Technology plus Community and the User



Cybersecurity Literacy



- People are aware, they need to be literate
- Literacy is teaching Computer Security in terms the average user will understand
- If abstracted correctly (using analogies, metaphors, and common language) practical computer security is accessible to ALL
 - By relating computer security to everyday activities.
 - By helping users understand they have a role in their own safety
 - Teach the concepts
 - For example, instead of telling them what is a good password we get them to understand how a password is used, what a password protects, and how an attacker can compromise your password.



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The Cybersecurity Ambassador Program

- Long time goal to educate every Iowan about cybersecurity
 - 3 million >> 1
- This project aims to create a network of local chapters of Cybersecurity Ambassadors who can promote basic cybersecurity literacy in their communities and help prevent cyber threats such as identity theft, cyberbullying, and online scams.



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Mission & Vision



- To cultivate a community of well-informed and proactive cybersecurity ambassadors who, through education and advocacy, play a pivotal role in promoting a safer and more secure digital society.
- To establish a resilient digital ecosystem where individuals, empowered with cybersecurity knowledge, collaborate to protect and enhance the security and privacy of their communities.

Structure of the program



- **Management**
 - ISU Manages the program through the “Iowa Cyber Hub”
 - ISU creates, curates and manages the materials and supporting websites
 - ISU recruits and helps train the ambassadors
- **Dual Chapter System**
 - Student chapters (schools, 4H, community colleges, universities)
 - Community Ambassadors
- **Chapter Activities**
 - Workshops, seminars, and community events aimed at spreading cybersecurity knowledge.

Supporting Materials



- **Ambassador resources**
 - ISU hosted chapter pages
 - CyberEd website contains materials with teaching guides.
 - Slides, videos, infographics, etc.
 - Interactive examples (wireless security)
 - Working with CISA and other to use and enhance their content.
 - Student and community chapters also provide materials.
 - Held a showcase in the spring to solicit materials from schools

Current Status



- **Pilot schools:** 4 high schools last school year
 - Youth cyber summit in October
- **Funding**
 - \$50,000 private funding
 - Starting external fund-raising efforts
- **Material Development:**
 - Team of students working to create content.
 - Partnership with CISA

Plans



- **Continue Material Development:**
 - Crowd source
- **New student chapters:**
 - Working with 4H, and Iowa STEM council to recruit student chapters
- **On board Community Ambassadors**
 - Create a community
 - Share resources
 - Speakers portal
 - Provide training with micro credential (optional)

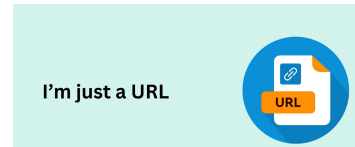
Additional Collaboration



- **ISU Extension:** Hosting events, 4H connection, community ambassadors
- **Local business and industry:** Community ambassadors, hosting events.
- **Security and IT groups:** Opportunities for IT professionals to contribute to the cybersecurity curriculum and outreach materials.
- **Cities, Counties, Libraries, and local ISPs:** Public service videos, hosting events, promoting events.
- **Connections:** Connect with a wide network of cybersecurity professionals and educators through program events and conferences.

Public facing Educational and Interactive Content:

- Cyber House Rock
- Ask Captain Cyber
- Adversarial News Network
- How things work
- Cyber Tales: Farmer Frankie, Alice in the Digital Wonderland (in design)
- All Creative Commons with attribution



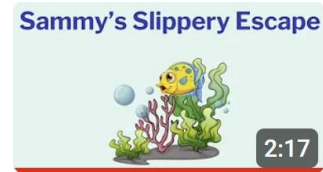
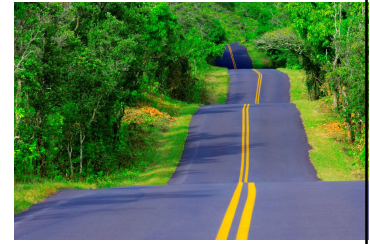
Cyber House Rock

- Fun videos
 - Personal Security Practices
 - Be a Good Cyber Citizen
 - How Things Work
 - Cyber Threats
 - Cyber Adventures (mini-series stories)
- Tip sheets
- We can provide you with the MP4 versions



Call to Action

- It is time to have a community conversation about security literacy
 - **You are a trusted source within your community.**
- Become a community ambassador
- Help support an ambassador student chapter
- Make security a culture in your community
- This is a long slow road
- Together we can reach all Iowans



Questions

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