

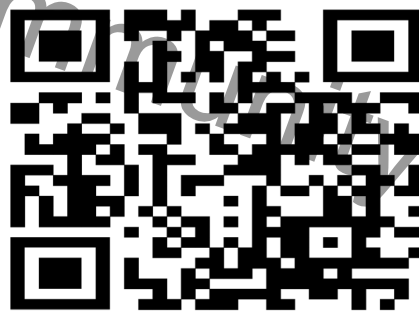


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# Innovating K-12 Cyber Education & Outreach Through A Visual Privacy Hands-On Lesson

<https://tinyurl.com/VPLesson>



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# Teaching Privacy At The K-12 Level

Symposium



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# Privacy Education Resources

- [Teaching Privacy |](#)
- [Resources for Educators – iKeepSafe](#)
- [Cybersecurity | NOVA Labs | PBS](#)
- <https://twitterdatadash.com/>
- [A Day in the Life of the Jos \(Grades 6-8\) | MediaSmarts](#)
- [Project of the Day: Friend Inspector | P2P Foundation](#)
- [Emerging & Future Privacy Issues in K-12 Learning](#)  
[Environments | Digital Citizenship+ Resource Platform](#)  
[\(harvard.edu\)](http://harvard.edu)
- [Student Privacy and Ed Tech \(K-12\) Research Briefing |](#)  
[Berkman Klein Center \(harvard.edu\)](http://berkmankleincenter.org)
- [Privacy | K-12 Blueprint \(k12blueprint.com\)](#)
- [Privacy Training Online | Short Courses | TeachPrivacy](#)
- [Home | Protecting Student Privacy \(ed.gov\)](#)
- [The Student Privacy Resource Center](#)  
[\(studentprivacycompass.org\)](http://studentprivacycompass.org)
- [Privacy In Education \(iapp.org\)](#)



# Core Concepts - Before Lesson

## Security:

- Being free from danger or threat \*
- Who has access to your information?

## Privacy:

- State of being free from being observed or disturbed by others \*
- Space away from public attention
- What is public vs private space
- What info do you want to share?
- How much info do you want to share?



∅ **Cybersecurity Concepts:**  
**Confidentiality**  
**\* Dictionary Data**  
**From Oxford Languages**



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# Data Privacy

Data privacy, or information privacy, is a part/branch of data security concerned with the proper handling of data - consent, notice, and regulatory obligations.







# Data Collection

## -> Where? Examples:

- Targeted Advertising
  - *Geographical, Placement-Based, Time-Based, Device-Based, Demographics*
- Identity Theft
  - *Access to personal accounts + private info*
- Tracking - Phone device, location
- Crime Prevention - Surveillance

## -> The Points Of Debate/Cases Of Argument

- Is it bad? The negatives/cons? Why?  
*Invasion of Privacy, Security Risk, Non-Consent, No Control*
- Is it good? The positives/pros? Why?  
*Shown individual interests, Personalized Service*





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# VISUAL PRIVACY

**Data  
Realm**

**Visual  
Realm**

# Visual Privacy

- The relationship between collection and dissemination of visual information, the public expectation of privacy, and the issues around them.
  - Visual information includes media with or without sound, such as images/pics, still photos, and video recordings.
  - Example of Visual Data: [www.earthcam.com/](http://www.earthcam.com/)
- *How to implement Visual Privacy?*

One Way: ***Privacy Through Visual Anonymity (PVA)***





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# Privacy In Visual Surveillance

Surveillance is the monitoring of behavior, activities, or other changing information for the purpose of influencing, managing, directing, or protecting people

- *How many times a day do you think that you are recorded on camera?*

So, how is visual privacy possible?

**PVA - VPET:**

**Visual Privacy Enhancing Tech**



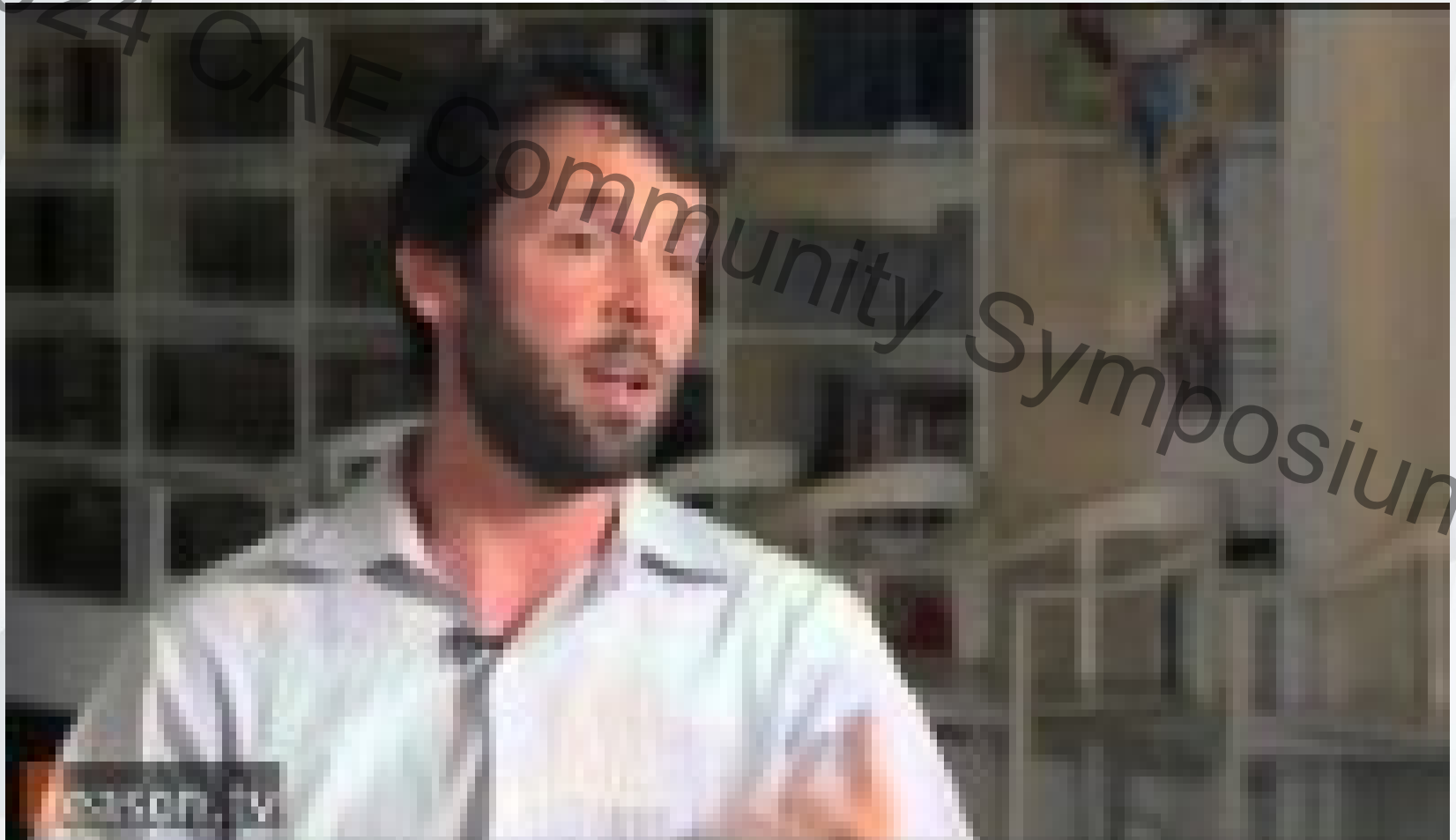


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# The Privacy Versus Security Debate

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**OBSCURACAM: VPET Instance 1  
Demo + Hands-On Activity 1**

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# OBSCURACAM

Obscura Cam is a free Android mobile app that helps keep visual media info (like pics) private by selective obscuration of regions of interest within the images (PVA - VPET)





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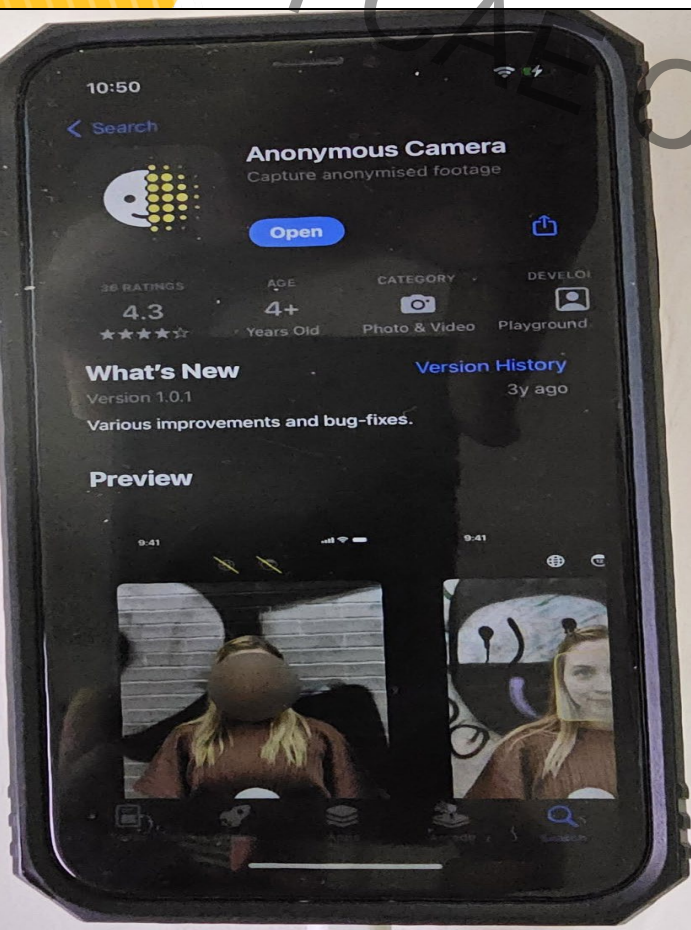
**Anonymous Camera:  
VPET Instance 2  
Demo + Hands-On Activity 2**

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# Anonymous Camera

Anonymous Camera is an iOS mobile app that helps keep visual data (like pics) private by info hiding within image regions (PVA - VPET)







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**YOUTUBE FACE BLUR:  
VPET Instance 3  
Demo + Hands-On Activity 3**

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## YOUTUBE VIDEO FACE BLUR





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# YOUTUBE FACE BLUR DEMO

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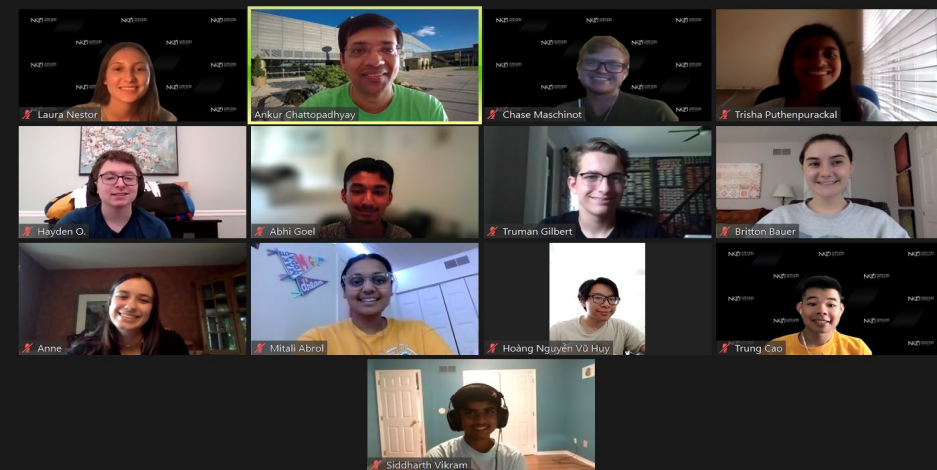
# Discussion Following Hands-On Exploration Of Each VPET App

- *What do you think about the VPET example?*
- *How well did it work?*
- *How effective was this as an example of VPET in context of visual privacy?*
- *What problems might there be? Are there scenarios in which the PVA tech won't work?*
- *Is the PVA tech full-proof? Can the de-identification/privacy enhancement be reversed?*





# Offered In GenCyber Teacher & Student Summer Camps



# References/Sources Cited

- [A Middle-School Case Study: Piloting A Novel Visual Privacy Themed Module for Teaching Societal and Human Security Topics Using Social Media Apps | IEEE Conference Publication | IEEE Xplore](#)
- [PVA \(privacy through visual anonymity\) lab for enhancing CS education and outreach \(abstract only\) | Proceedings of the 45th ACM technical symposium on Computer science education](#)
- [ObscuraCam: The Privacy Camera - Guardian Project](#)
- [ObscuraCam - Apps on Google Play](#)
- [Anonymous Camera on the App Store \(apple.com\)](#)
- [How to Blur Anything You Need to in Your YouTube Video \(vidiq.com\)](#)
- [Teaching Privacy |](#)
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**Thanks for attending this lightning talk  
and for listening!**

- **Any Questions and/or Comments?**  
**<Email: [chattopada1@nku.edu](mailto:chattopada1@nku.edu)>**



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# Extra Slide: Data Privacy Intro Video

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