

DR. JOSEPH MAGUIRE

PRESERVING PRIVACY AND  
RECONCEPTUALISING SHARING IN  
ACTIVE LEARNING SPACES

# OVERVIEW













































MOTIVATION



# MOTIVATION





# MOTIVATION



# MOTIVATION





ACTIVE LEARNING















TECHNOLOGY-ENHANCED  
ACTIVE LEARNING (TEAL)













# Benefits

# REQUIREMENTS

















100 years



3 to 20 years

PRIVACY













My Computer



# Settings



Joseph Maguire

Apple ID, iCloud, iTunes & App Store



Airplane Mode

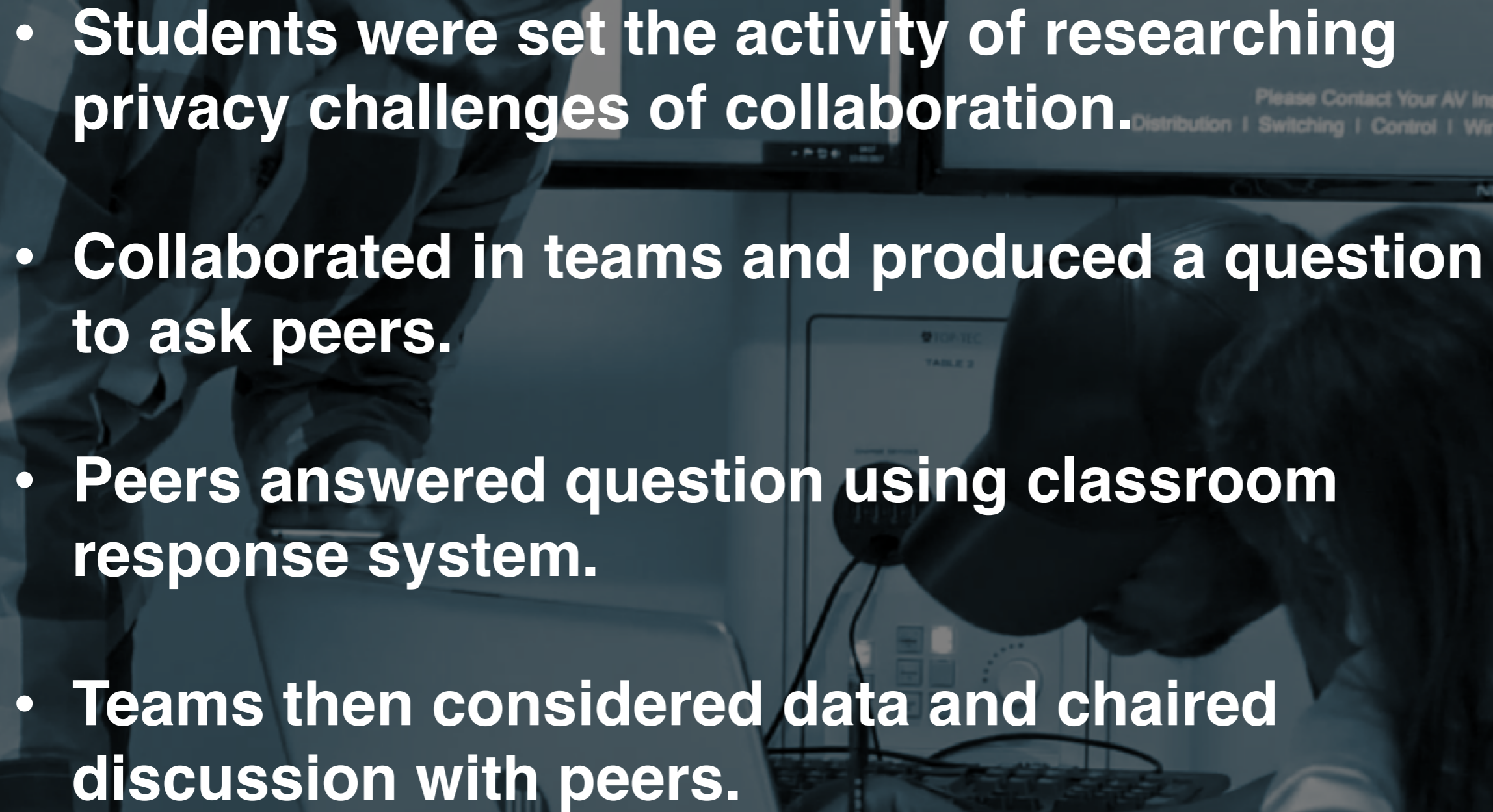


Wi-Fi

Not Connected >



PERCEPTIONS

- 
- **Students were set the activity of researching privacy challenges of collaboration.**
  - **Collaborated in teams and produced a question to ask peers.**
  - **Peers answered question using classroom response system.**
  - **Teams then considered data and chaired discussion with peers.**



**NO!**

depends, whether I trust him or not.

if I couldn't see the screen while they were working then I would be concerned...

my personal files are hidden and protected ;)

**Do you feel the need to shield the screen of your device from your team members?**

**Yes, you should know that you have to hide your personal data before connecting cables!**

**NO. YOU DON'T KNOW IF ITS GOING TO APPEAR ON THE SCREEN NEXT TO YOU, OR ON EVERY SCREEN IN THE ROOM.**

yes, since there is certain way to display a different screen when broadcast the desktop. this is available across operating system

**Do you feel the need to shield the screen of your device with the rest of the class?**



ENCRYPT THE DATA

YOU CANT BE  
100% SURE WHAT  
YOU'RE PLUGGING YOUR  
DEVICE INTO, SO THE ONLY  
WAY TO PROTECT YOUR  
DATA IS TO NOT PLUG  
IT IN AT ALL.

Create an app, that  
helps you connect to  
the screen casting app,  
and set rights on it.

**Do you worry about the cables you use to connect  
your devices?**

A group of people are gathered in a meeting room. A man in a plaid shirt is on the left, looking towards the center. A woman is in the foreground, looking towards the right. A man is in the background, looking towards the center. There are several speech bubbles overlaid on the image, each containing text. The background is a wood-paneled wall.

ACCOUNT  
NAMES AND EMAIL  
ADDRESSES

MESSAGES

FINANCE

DESKTOP  
BACKGROUND

THAT MY PERSONAL  
MESSAGES WOULD POP UP  
OVER THE CONTENT

**What information are you most concerned about other peers observing?**



YES BUT YOU MAY ONLY HAVE A REASONABLE EXPECTATION OF PRIVACY TO A CERTAIN EXTENT IN ANY PUBLIC SPACE

YES, THERE MIGHT BE PERSONAL DATA ON DEVICE OR SOME CONFIDENTIAL INFORMATION THAT SHOULD NOT BE SHARED.

NO, ITS NOT. I'VE ALREADY SOLD MY SOUL TO FACEBOOK

**Do concerns about privacy of personal data stop you from connecting your device?**



yes but i would  
turn off the  
notifications.

NO

**Would you connect your smartphone or tablet?**



RECONCEPTUALISING  
SHARING

# PROBLEMS

- **accidental sharing**, notifications, both the sounds and content may reveal information not intended.
- **misunderstanding**, concern the students may interpret messages as something else.
- **malicious attacks**, data and other information could be captured by malicious actors.



# SOLUTIONS

- accidental sharing could be combated in-part with physical infrastructure controls.
- misunderstanding could be resolved through dedicated applications provided by university.
- malicious attacks could be difficult to guard against and does raise questions about additional expense.

# CONCLUSIONS

- universities are unlikely to invest in bespoke solutions for TEAL spaces, considering the scope.
- equally universities can expect students to invest in secondary devices.
- invest in research and evaluation to determine the optimal solution to address the privacy concerns within TEAL spaces.



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QUESTIONS?