Teach Global Impact
A Resource for CSP (or Any CS Class!)

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Website: teachglobalimpact.org
Whose Idea Was This, Anyway?

A collaboration between seven projects to develop curricula and PD for AP Computer Science Principles:

BJC (Beauty and Joy of Computing)
CISS (Computing in Secondary Schools -- based on ComPASS)
Code.org CSP
CS Matters
CSP CS4HS (from CS4Alabama)
Mobile CSP
UTeach CSP

TeachGlobalImpact.org
Teach Global Impact Resources: Overview

Database of lesson plans, classroom materials, and PD materials for teaching CSP Big Idea 7: Global Impact, from the seven participating projects

New classroom resources to ensure a variety of ways to cover all the main points (or just follow through on some good ideas)

Classroom strategy guides for teaching this unusual-for-CS topic

Regular Computing in the News feed highlighting impact of new innovations

Additional Project Goals:

Promote cross-pollination of good ideas between major AP CSP curricula

Make resources accessible to any CS teacher (not just AP CSP)

TeachGlobalImpact.org
Website: http://www.TeachGlobalImpact.org
Highlight 1: Resources Database
Highlight 2: Computing in the News

Computing in the News

Why Use News?

Highlighting news items can make a great attention-getter at the beginning of classes, and provide handy concrete examples for delving into the global impacts of computing. (In fact, there’s a move to use news in all introductory CS classes at UC Berkeley)

Tips and Options for Using Computing News in Class

- Present a current news story about a computing innovation (including a video if there is one), then ask the students what they think about it, what computer science concepts are involved, and what the positive and negative implications are.
- Give the students the process several times, you can ask students to bring stories to the group.
- Can be used as a five-minute bellringer every day, or serve news for fridays and goumes.
- If the discussion is gotten well, let it continue.
- It can be easy — maybe a little too easy — to highlight the positive elements of a new innovation (especially when news stories are biased in that respect), so it’s important for students to see the negative (often unintended) implications as well.

Curated for CSP

This page curates current news stories that demonstrate the impact of computing innovations. Posted news stories include the CSP learning objectives and essential knowledge they demonstrate, along with discussion questions for a more extended activity.

News Highlights Curated by Teach Global Impact

Our RSS feed...

http://techglobalimpact.org/courses/news/rss/

A Chip Flaw Strips Away Hacking Protections for Millions of Devices

Published: 2/25/2017

Dutch researchers have discovered a method of attacking commonly used microprocessors. Operating systems randomly assign the location in memory where programs run, but this hack reveals where a program is running, making illegal.

Tech Companies Are Building Tiny, Personal AIs to Keep Your Messages Private

Published: 2/22/2017

Technology companies like Facebook and Google are developing artificial intelligence systems (AIs) for mobile devices to improve the privacy of messaging applications. New AI innovations allow algorithms that need less computing power and can therefore be implemented locally on mobile devices. This means that information would not be sent to and from the cloud, reducing potential security issues.

Extended Discussion Questions

- Besides security, what are some other potential benefits of having access to sophisticated apps that do not require network communication?
- What could be some drawbacks of having an AI system that runs only on your mobile device, rather than a more flexible cloud solution?
- One reason Facebook says they want to do this type of processing on your device is that encrypted messages can’t be processed in the cloud without decrypting them, which would create security vulnerabilities. If you currently use Facebook Messenger, do you encrypt your messages?
- If Facebook offered their suggestion service as a cloud-based service (that had to decrypt and then re-encrypt messages), would you use it?

Relating This Story to the CSP Curriculum Framework

Global Impact Learning Objectives:

- UC 7.1.2 Explains how computing innovations affect communication, interaction, and cognition.
- UC 7.2.1.2 Analyzes the beneficial and harmful effects of computing.

Global Impact Essential Knowledge:

- UC 7.1.2.1 The impact of computing innovations on communication, interaction, and cognition.
- UC 7.2.1.2 The positive and negative effects of computing innovations.
So What’s New?

Classroom materials supported by Teach Global Impact:

“Basics of Research and Technical Writing” lesson plan -- prep for Explore PT!
“Diversity Makes for Better Solutions” -- unintended bias in automated systems
“Net Neutrality” classroom simulation -- students act as the major players
“Association Rule Mining” activity -- how marketers use consumer data

In progress:

Video series: Impact of computing on scientific innovations
A classroom simulation focusing on the impact of encryption
“Computers Everywhere” journaling activity

TeachGlobalImpact.org
The Pitch

Use the site to find new resources!
Begin your classes with Computing in the News!
Participate in the TGI discussion forum!
Give us feedback!
Teachers: Participate in our site review! (Stipends available.)

contact@teachglobalimpact.org
Many thanks to our Teach Global Impact collaborators:

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