



CS 106S

3/8/2017

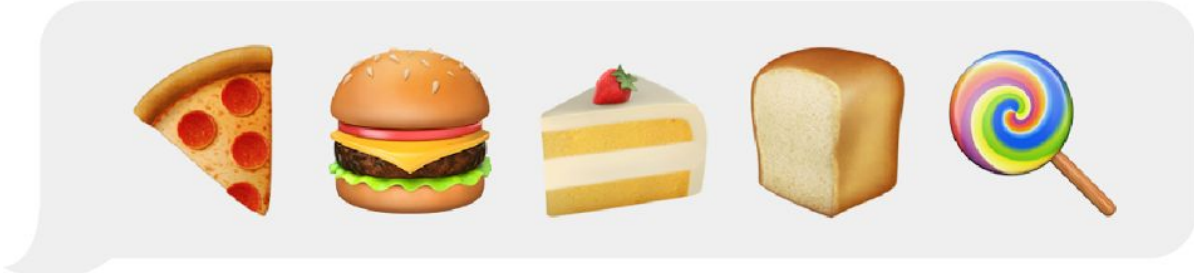
CS+SOCIAL GOOD MIXER

Black Community Services Center

March 8th, 6:30-8:00pm

Mingle with your fellow students and faculty for a night of conversation about social good issues.

Tasty snacks & light refreshments will be served!





Today's Workshop:
Accessibility
By Kartik Sawhney

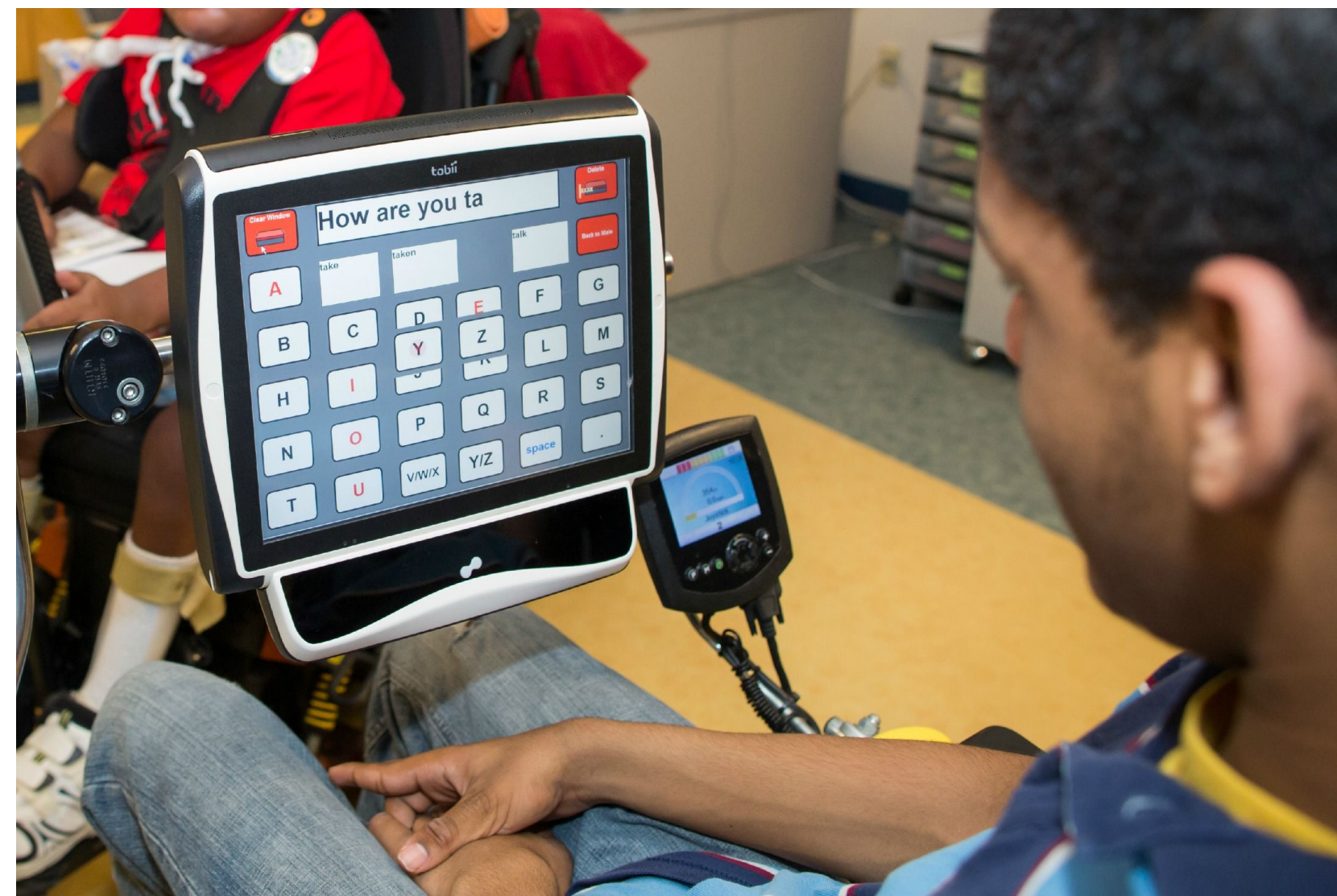


One in five people around the world have a disability.



What is accessibility?

- Accessibility refers to the design of products, devices, services, or environments for people who experience disabilities.





Class activity: what assistive devices
can you think of?



Assistive technologies

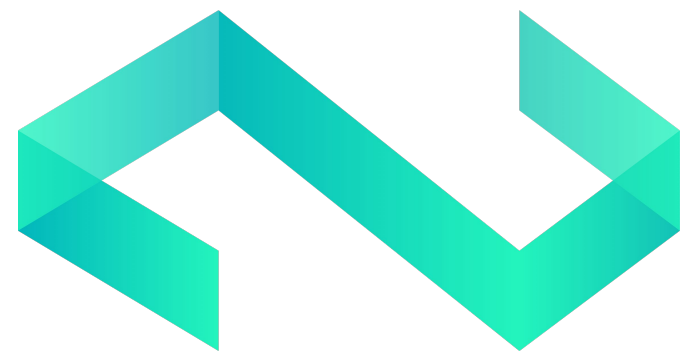
- Screen readers
- Mobility aids, such as wheelchairs, scooters, walkers, canes, crutches, prosthetic devices, and orthotic devices
- Hearing aids, cart and captioning services
- Voice recognition software
- Automatic page-turners, book holders, and adapted pencil grip



My technologies

- Screen reader (JAWS)
- VoiceOver on the iPhone
- Apps: Seeing Eye, Be My Eyes, Seeing AI





Seeing AI





Why is this important?

- Over 90% of websites and apps are inaccessible.
- Engineers do not know what accessibility really means
- "Accessibility" for most engineers is a requirement that should be checked at the end of a spec



Inaccessible website examples

- When2meet

[About When2meet](#) [Plan a New Event](#)

Event

To invite people to this event, you can [email them](#), send them a [Facebook message](#), or just direct them to <https://when2meet.com/?6080843-LVZV4>

Sign In

Your Name:

Password (optional):

Sign In

Name/Password are only for this event.

New to this event? [Make up a password.](#)

Returning? Use the same name/password.

Group's Availability

0/0 Available

0/0 Available

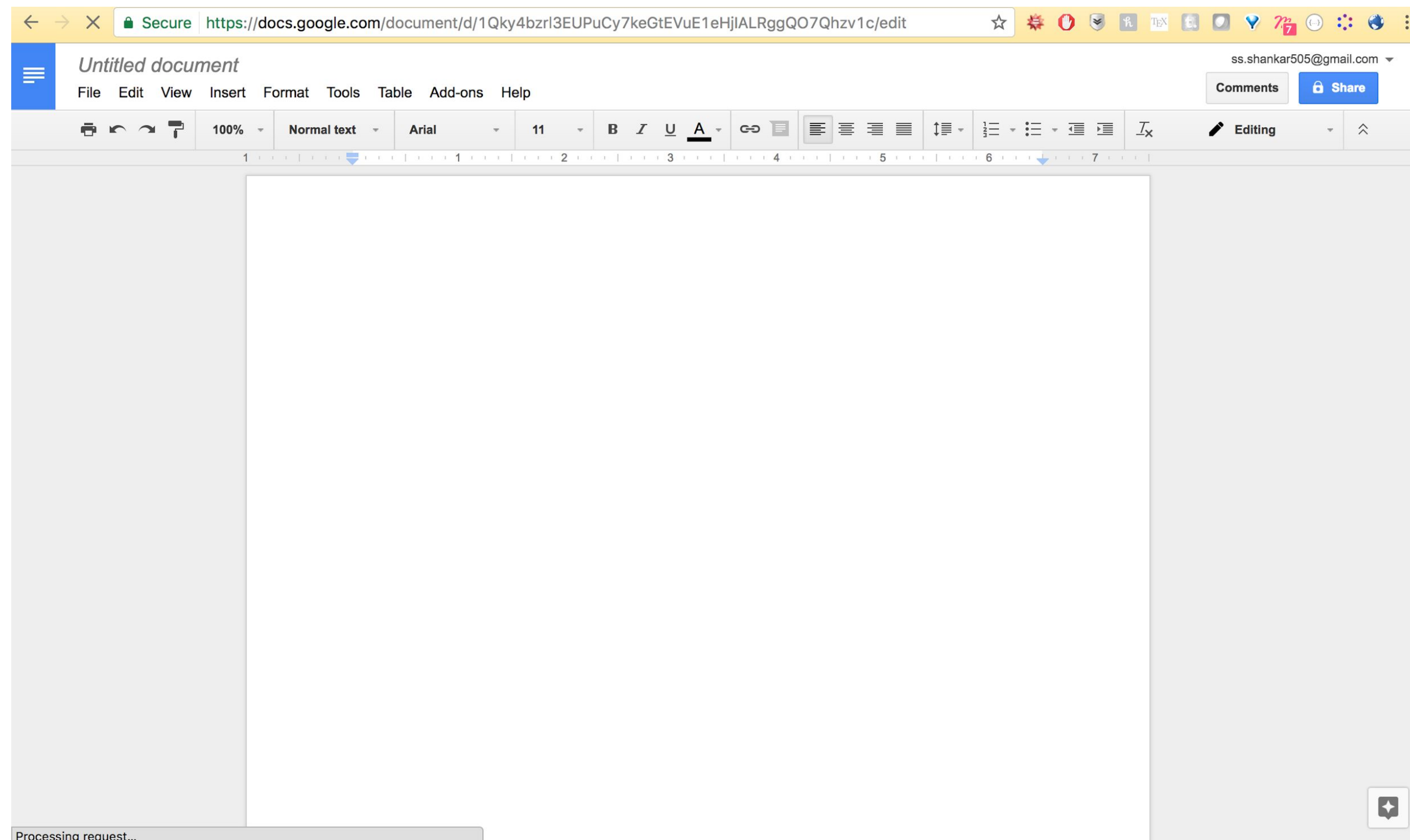
Mouseover the Calendar to See Who Is Available

	Mar 13 Mon	Mar 14 Tue	Mar 15 Wed
9 AM			
10 AM			
11 AM			
Noon			
1 PM			
2 PM			
3 PM			
4 PM			
5 PM			



Inaccessible website examples

- Google docs





Accessible website examples

- Wells Fargo (<http://www.wellsfargo.com>)

- [Online and mobile accessibility](#)

We want everyone to be able to use, navigate, and interact with our website, regardless of circumstance.

Accessibility features on wellsfargo.com

- Invisible skip links that lead screen reader users directly to the main content on a page
- Keyboard accessible navigation and forms
- Headers that help define page organization
- Videos that are captioned and include transcripts
- Color contrast that assists reading for people who are color blind or have vision impairments

For the best experience, please keep your technology up to date

- Use the latest version of your web browser.
- Use the latest version of your assistive technology.
- Download our latest smartphone or tablet apps for iOS or Android devices that have built-in screen readers and other accessibility features.



Web accessibility tips

- Add proper alt text to images.
- Use alt text to provide access to the content of images for individuals who cannot see them, including people using screen readers or Braille output devices. Alt text is supported by most document formats, including HTML, Microsoft Word, and Adobe PDF.



Web accessibility tips

- Use headings properly.
- Use headings and subheadings to form an outline of the page. They help non-visual users (including search engines) to understand how the page is organized, and make it easy for screen reader users to navigate.



Web accessibility tips

- Add labels to form fields.
- In HTML, use the `<label>` and in PDF, use tooltips so that non-visual users will know which labels or prompts are associated with form fields.



Web accessibility tips

- Use a color contrast checker.
- Be sure foreground and background have adequate contrast. There are many free tools that can help with this (such as Contrast Analyser from The Paciello Group).



Web accessibility tips

- Use text instead of pictures of text, and control its appearance using CSS. Pictures of text become blurry when enlarged, take longer to download, and are inefficient for the website author to edit.



Web accessibility tips

- Consider captioning and describing videos.



Web accessibility tips

- Keyboard support
- Ensure that your website can be accessed with a keyboard alone.



Accessibility and CS106

- Assignment extensions
- Accessible maze game



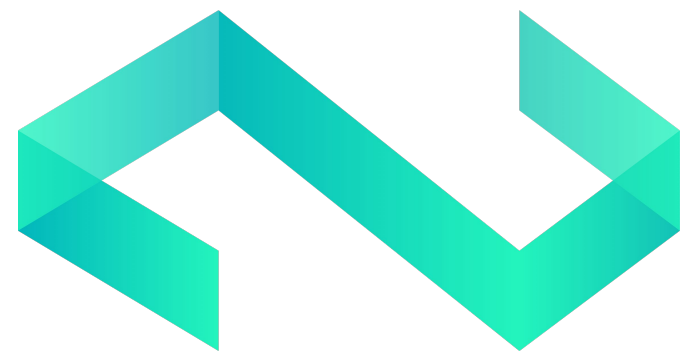
Accessibility and CS106

- Assignment extensions
- Huffman Encoding with accessible content generator



Accessibility and CS106

- Assignment extensions
- Accessible Stanford1-2-3



On-campus accessibility and disability resources

- Stanford Online Accessibility Program (soap.stanford.edu)
- Office of Accessible Education (oae.stanford.edu)
- Power To Act (power2act.stanford.edu)
- ENGR110/210 (engr110.stanford.edu)
- Humbio25SI
- TeachAccess coming soon
- Universal design pop-out from the D. school
(<https://dschool.stanford.edu/events/#universal-design>)



External Resources

- Deque University (<https://dequeuniversity.com/>)



Questions?



CS 106S

Priya Ganesan
Sasha Harrison
Shreya Shankar