



CS 26SI Syllabus

German Enik - german@cs.stanford.edu

T/Th 4:30-5:20pm in STLC 105

1 unit

** Topics below will be intermixed **

Writing Systems and their Encodings

- In-depth review of alphabets, abjads, abugidas, syllabaries, alphasyllabaries, logosyllabaries, ideographic systems. Which languages use them and why?
- History of encoding text into computers: bits, ASCII, UTF-8.
- What is Unicode?
- The 'international' writing system: emojis. How are they encoded, and how are they created/approved?

Text Entry

- How do hardware and software keyboards work, and what are the limitations & advantages of each (clicking sounds, haptics, (in)ability to use all 10 fingers, flexible layouts)?
- Layouts and habits: why do we use qwerty? Alternatives like Dvorak, stenotype, flick keyboard, etc.
- Autocorrect: where does one draw the line between help and intrusion?
- Candidates for Chinese/Japanese: what are they / how do they work / why do we need them?
- Glide Typing, Voice Dictation, Handwriting: how do they work?

- Transliteration, transcription: which scripts does it work for and which ones — not so much?
- Accessibility in text input: screen readers, eye-gaze typing.
- Future of text entry: multimodal typing assistant; beyond keys: touch bars, joysticks, sliders.

Internationalized Products for the International World

- What is locale: language code, country/region code, number formatting, date-time formatting, calendar setting (i.e. Lunar).
- Case study on Chinese WeChat vs. American Messenger, Whatsapp, Facebook, etc. How are they similar and different?

Typography and Type Design

- Typeface categories: font vs. typeface, character vs. glyph.
- Spacing: kerning (and visual illusions that come with it – characters aren't actually evenly spaced), tracking, x-height.
- Anatomy of a letter: ligature, swash, aperture, stroke.
- Evolution of typography over the years.
- Typography x i18n: adjustments to type size/kerning when switching from one writing system to another.

How to Pass

This class is a 1-unit, so it's mostly showing up to class.

- Attend all classes in person Week 2-10.
 - 1 unexcused absence is allowed, else must be excused (e.g. sick).
 - Subject to change based on COVID-19.
- Complete the class-wide project for SEI.

- More concrete details will be announced in class; each student will write a short description of at most 10 unencoded scripts.
- Some class time will be allotted.
- If any of this is confusing / concerning, please talk to German! 😊