CS 428 Creating Requirements

WINTER 2023

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The hard truth of requirements

- ▶ Organize in terms of explicit features that define what you want to present for the prototype demo (03/06), work-in-progress demo (03/27) and final demo (04/17)

- ▶ Focus on output, user interface, results – that will define both internal processing and necessary input.

- ▶ Core goal: your requirements should form the project baseline that defines what you're building

  - ▶ Bob Millar at ARINC: "If you don't know what you're building, how will you know when you're done?"

- ▶ It is as important to define what you are **not** building as what you *are* building (cf. Pages spreadsheet)

- ▶ Watch Dr. Knutson's podcast on software requirements [here]

- ▶ You should be revising this document constantly throughout the semester

- ▶ **Look at prior semester wikis for both ideas and actual document formats**

Why requirements?

- ► You're writing them before you (fully) know what you want to build

- ► You're writing them before you know for sure if you can build it

- ► The wrong people are often involved writing them

  - ► Managers who don't know or understand what's technically feasible in the desired time-frame

  - ► Engineers who are more interested in building something cool rather than what the customer will pay for

  - ► Marketers who want the impossible

The Many Challenges of Requirements

- ▶ Customers usually don't know what they really want until they see something working

- ▶ General simple requirements explode into large numbers of detailed design and implementation requirements

- ▶ Failure to formally manage requirements (change control) leads to massive scope creep

- ▶ Strengths & weaknesses of waterfall-ish vs. agile-like approaches

  - ▶ Waterfall: risk of 'analysis paralysis'

  - ▶ Agile: risk of blind canyon/stuck on a local maximum

Requirements Challenges (cont.)

- Due by **midnight on Saturday** (02/11)
  - Your team's **requirements document** via your project wiki page
    - Suggestion: look at projects from prior semesters to see what they did
    - Feel free to use their document format
  - Your team's next **status report** (#2) via your project wiki page
  - Individually, you need to watch and pass off **podcast #2**

- Reading due **by start of class next Monday** (02/13)
  - *Peopleware*, Part II (**chapters 7-13**)
  - Webster readings **#3**
  - **Can count up to 2 hours of reading/podcast as billable**
- Topic for next week: project estimation and scheduling

For the coming week