Software Engineering for Web Application Development

- What is Software Engineering?
  - https://en.wikipedia.org/wiki/Software_engineering#Subdisciplines
- Why Software Engineering?
  - HealthCare.gov
  - The Mythical Man-Month
    - https://en.wikipedia.org/wiki/The_Mythical_Man-Month
- How does it apply to Web Development?
  - https://en.wikipedia.org/wiki/Web_design
- Application lifecycle management
  - https://en.wikipedia.org/wiki/Application_lifecycle_management
  - It encompasses requirements management, software architecture, computer programming, software testing, software maintenance, change management, continuous integration, project management, and release management.
- Design
  - Business purpose — goals!
    - Stakeholders?
    - Business model?
    - Telling?
    - Public relations?
    - Selling?
    - Customer relations?
      - Support?
      - Entertaining?
      - Advertising?
      - Service vs product?
  - Requirements analysis/engineering/management
    - https://en.wikipedia.org/wiki/Requirements_management
    - https://en.wikipedia.org/wiki/Requirements_analysis
  - Use cases
- Actors / Roles
- User stories
- Software Requirements Specification
  - The Software Requirements Specification (SRS) is a communication tool between stakeholders and software designers.
  - Cost
  - Contract?
    - Service Level Agreement (SLA)
    - https://en.wikipedia.org/wiki/Software_requirements_specification#Structure
  - Features, feature creep, etc.
    - But ... can customer understand the system well enough to agree to a specification?
      - Replacement system? Maybe?
      - New innovative system? Maybe not?
      - Need for agile approaches.
- Development
  - Project management
    - https://en.wikipedia.org/wiki/Software_project_management
    - https://en.wikipedia.org/wiki/Software_project_management#Software_development_process
    - https://en.wikipedia.org/wiki/Software_project_management#Project_planning,_monitoring_and_control
    - Gantt charts
      - https://en.wikipedia.org/wiki/Gantt_chart
  - Models, frameworks, and methodologies (many!!!)
    - Agile
      - https://en.wikipedia.org/wiki/Agile_software_development
    - Spiral
    - Waterfall
    - RAD
    - Test-driven development
    - Scrum
    - DevOps

- Standards
  - W3C Markup Validation
    - https://en.wikipedia.org/wiki/W3C_Markup_Verification_Service
  - W3C CSS validation
  - Documentation standards

- Development components
  - Graphic design
  - Content
    - Text
    - Images
    - Video
    - Advertising
  - Web design
    - Information/data
      - https://en.wikipedia.org/wiki/Information_design
    - Mockups/wireframes
      - https://en.wikipedia.org/wiki/Website_wireframe
    - User experience (UX)
  - Technology stack
  - Testing
    - https://en.wikipedia.org/wiki/Software_testing
  - Quality assurance

- Deployment
  - Continuous Integration / Continuous Deployment

- Operations
  - Documentation
  - Configuration Management
  - Change management

- End of life