Software Engineering for Web Application Development

- What is Software Engineering?
  - https://en.wikipedia.org/wiki/Software_engineering
  - https://en.wikipedia.org/wiki/Software_engineering#Subdisciplines
  - Why Software Engineering?
    - https://en.wikipedia.org/wiki/List_of_failed_and_overbudget_custom_software_projects
    - 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_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.
  - https://en.wikipedia.org/wiki/Systems_development_life_cycle
- 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
    - https://en.wikipedia.org/wiki/Requirements_engineering
    - Use cases

- - - Actors / Roles
    - https://en.wikipedia.org/wiki/Use_case
  - User stories
    - https://en.wikipedia.org/wiki/User_story
  - Software Requirements Specification
    - The Software Requirements Specification (SRS) is a communication tool between stakeholders and software designers.
    - Cost
      - https://en.wikipedia.org/wiki/Software_development_effort_estimation
    - Contract?
      - Service Level Agreement (SLA)
    - https://en.wikipedia.org/wiki/Software_requirements_specification
      - 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.2C_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
      - https://en.wikipedia.org/wiki/Spiral_model
    - Waterfall
      - https://en.wikipedia.org/wiki/Waterfall_model
    - RAD
      - https://en.wikipedia.org/wiki/Rapid_application_development
    - Test-driven development
      - https://en.wikipedia.org/wiki/Test-driven_development
    - Scrum
      - https://en.wikipedia.org/wiki/Scrum_(software_development)
    - DevOps

- https://en.wikipedia.org/wiki/DevOps
- https://en.wikipedia.org/wiki/DevOps#DevOps_toolchain
  - Standards
    - W3C Markup Validation
      - https://en.wikipedia.org/wiki/W3C_Markup_Validation_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
        - https://en.wikipedia.org/wiki/Data_visualization
      - Mockups/wireframes
        - https://en.wikipedia.org/wiki/Website_wireframe
      - User experience (UX)
        - https://en.wikipedia.org/wiki/User_experience
    - Technology stack
    - Testing
      - https://en.wikipedia.org/wiki/Software_testing
    - Quality assurance
- Deployment
  - Continuous Integration / Continuous Deployment
    - https://en.wikipedia.org/wiki/Continuous_integration
    - https://en.wikipedia.org/wiki/Continuous_delivery
    - https://en.wikipedia.org/wiki/Release_management
- Operations
  - Documentation
    - https://en.wikipedia.org/wiki/Software_documentation
  - Configuration Managment
    - https://en.wikipedia.org/wiki/Software_configuration_management
  - Change managment
    - https://en.wikipedia.org/wiki/Change_management_(engineering)
- End of life