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When should we emphasize WebApp design?

- when content and function are complex
- when the size of the WebApp encompasses hundreds of content objects, functions, and analysis classes
- when the success of the WebApp will have a direct impact on the success of the business

Design & WebApp Quality : (Security , Availability , Scalability , Time to Market)

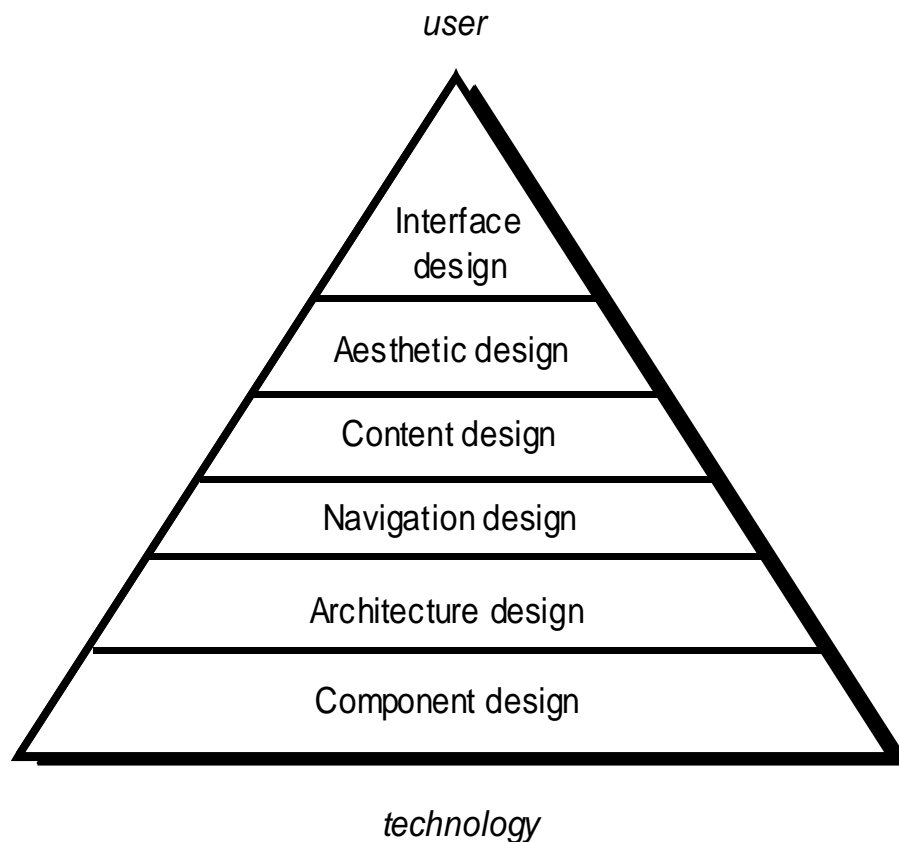
Quality Dimensions for End-Users : (Time , Structural , Content , Accuracy and Consistency , Response Time and Latency , Performance)

WebApp Design Goals :

1-Consistency : (Content , Graphic design (aesthetics) , Architectural design , Interface design , Navigation mechanisms)

- 2-Identity 3- Robustness 4- Navigability 5- Visual appeal 6- Compatibility

WebE Design Pyramid:



Effective WebApp Interfaces :

- Effective interfaces are visually apparent and forgiving
- Effective interfaces do not concern the user with the inner workings of the system
- Effective applications and services perform a maximum of work

Interface Design Principles: (Anticipation , Communication , Consistency , Controlled autonomy , Efficiency , Focus , Fitt's Law , Human interface objects , Latency reduction , Learnability , Maintain work product integrity , Readability , Track state , Visible navigation)

Aesthetic Design :

- Don't be afraid of white space.
- Emphasize content.
- Organize layout elements from top-left to bottom right.
- Group navigation, content, and function geographically within the page.
- Don't extend your real estate with the scrolling bar.
- Consider resolution and browser window size when designing layout.

Content Design:

- Develops a design representation for content objects
- Represents the mechanisms required to instantiate their relationships to one another.
- A content object has attributes that include content-specific information and implementation-specific attributes that are specified as part of design

Architectural Design :

- 1- Content architecture : **focuses on which objects are structured for presentation**
- 2- software must be placed into context
- 3- set of architectural archetypes should be identified (**archetype : is an abstraction “ similar to a class “**) .
- 4- designer specifies the structure of the system by defining and refining software components that implement each archetype.
- 5- WebApp architecture addresses in which the application is structured to manage user interaction
- 6- Architecture design is conducted in parallel with interface design

MVC Architecture:

- The model contains all application specific content and processing logic, including (**all content objects , access to external data , all processing functionality that are application specific**)
- The view contains all interface specific functions and enables (**processing logic , access to external data , all processing functionality required by the end-user**)
- The controller manages access to the model and the view and coordinates the flow of data between them

Navigation semantic units (NSUs) : set of information and related navigation structures that collaborate in the fulfillment of a subset of related user requirements

1- Ways of navigation (WoN)—represents the best navigation way or path for users with certain profiles to achieve their desired goal or sub-goal

2- Navigation nodes (NN) connected by Navigation links

Navigation Design :

- Begins with a consideration of the user hierarchy and related use-cases
- each user interacts with the WebApp, she encounters a series of navigation semantic units (NSUs)

Navigation Syntax :

- **Individual navigation link** : text-based links, icons, buttons
- **Horizontal navigation bar** : lists major content or functional categories in a bar containing appropriate links. In general, between 4 and 7 categories are listed.
- **Vertical navigation column** : lists major content categories , lists virtually all major content objects within the WebApp.
- **Tabs** : a metaphor that is nothing more than a variation of the navigation bar or column, representing content or functional categories as tab sheets that are selected when a link is required.
- **Site maps** : provide an all-inclusive tab of contents for navigation to all content objects and functionality contained within the WebApp.

Component-Level Design :

- perform localized processing to generate content and navigation capability in a dynamic fashion
- provide computation or data processing capability that are appropriate for the WebApp's business domain
- provide sophisticated database query and access
- establish data interfaces with external corporate systems.