IxD210: Systems

2014 Course Rubric

# System Theory

## Gain an understanding of the basic concepts and vocabulary of classical system theory and how it can be applied to real world situations through models.

### Fail

Cannot give a definition of a system, or explain how it differs from a collection.

### Low

Given a description of a system can identify its purpose, objects, relationships, currency, and boundary.

### Standard

Low + Given a set of events and context, can find patterns and use them to develop a model for the underlying system. Understands how feedback controls systems.

### High

Standard + Grasps the concept of point of view and uses it as an analytical tool. Can explain the difference between hard and soft system methodology. Understands how leverage points relate to system change.

# Software Application

## Learn to apply system concepts to the design of software experiences through a specific modeling framework, The Digital Machine.

### Fail

Cannot describe the Digital Machine, any of its models or how this concept links system thinking to the design of software.

### Low

Can describe a concise conceptual model for a system that provides value for a specific persona. Can organize the key elements of the system into a hierarchical data model.

### Standard

Low + Can describe an object model for a given system in terms of objects, attributes and actions. Can demonstrate how the objects support an interaction model expressed in terms workflows, states, transformations, transitions, and feedback.

### High

Standard + Understands the model-view-controller paradigm, and how it relates to system models. Can identify several archetypical workflows and some of the more common interaction model challenges. Interaction model includes an error model.

# Expression

## Develop skills for communicating system thinking concepts through diagrams, wireframes and software prototypes.

### Fail

Does not effectively use visualizations to convey systems ideas.

### Low

Can use concept diagrams to describe the important system elements and their static relationships and flow diagrams to represent the dynamics of the system.

### Standard

Low + Can express the interaction, object and data model for a software system as workflows rendered as a linear set of wireframes. Can use web technologies to produce simple interactive prototypes of software experiences.

### High

Standard + Understands how to read line, scatter, bar and histogram charts and use them appropriately to represent measured or simulated system behavior.