Design Methods

The design methods described in this diagram are used and taught at the Institute of Design for projects in design planning as well as for the design of products, services, and communications.

Horizontal bands indicate the level of focus that a design project takes. They correspond roughly to the nature of the design problem that the project addresses. Early research and objectives for design planning projects tend to target the high levels of the industry or organization in addressing problems of competitive response, while problems of user productivity, performance, understanding, or satisfaction more often call for research focused on particular user activity domains. Rigorous investigations of any design problem will expand and contract through all levels of focus.

These human-centered design research methods may also be applied to common problems of application – which begin with some element of a design solution: a technology or material, a target market segment, or an existing product in need of simple enhancement.

Design methods are here mapped onto a schematic representation of the iterative process of design. The four phases or modes are artificial partitions of a complex and simultaneous activity. They describe a process of design in terms of the basic, human cognitive ability to move fluidly back and forth between the abstract or conceptual, and the real, physical world of activities, objects and signs. In addition, they distinguish between analytic modes of describing and understanding a problem space, and synthetic phases in which new solutions, new forms, and new realities are conceived and implemented.

Not all methods fall cleanly into one or another phase of the process. Some formalized design methods span all four operational phases and are more properly described as processes or procedures.

examination
- up-front research
- both primary and secondary
- results in collection of raw data or “observations”

terature search
ce materials
n and pictorial
unding
an historical
s.

benchmarking
identification of competitive products providing standards to be met or surpassed.

relationship decomposition
analysis and quantification of rel
among elements of a study (REL

nterviews
ws with individuals who are
miliar with the project's
domain or are expert users
eing developed.

surveys / questionnaires
targeted questions used to ascertain particular characteristics of a sample population; usually used for quantitative statistical analysis.

observations

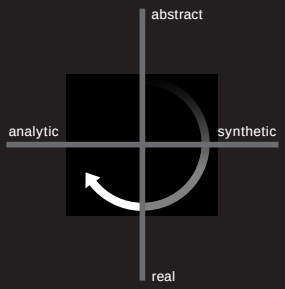
user interviews
interviews with users or potential users; used to establish current attitudes, behaviors, or problems.

task, workflow, activity
detailed decomposition an
of all component tasks, ac
performers, interactions, a
involved in the execution
process or a specific task.

graphy
situated (usually
observed) human behavior
g video cameras.

visual storytelling
a participatory design technique used to deepen understanding of a population's environments, activities and motivations; disposable camera are distributed to subjects who are asked to document some aspect of their daily lives.

talk aloud
protocol used to deepen understanding of user actions; while performing a process or executing a specific task, the user/performer describes aloud to an observer what s/he is doing.



interpretation
- identification of trends, p
- formulation of design crit
- results in "insights," mat
  speculations with recogn

industry trend analysis
analysis, and often projection, of historical and recent developments in markets, human behaviors, or other large scale social forces.

hip decomposition
d quantification of relationships
ments of a study (RELATN).

problem structure condensation
identification and representation of the structure of significantly related elements involved in the design problem under study (VTCON).

era analysis
historical analysis of salient features of an industry, organization, group, market segment or practice used to identify trends, developments and cycles and to project those patterns into the future.

application of analytic business frameworks
7Ss, 3Cs, SWOT, etc.; used to describe an organization's assets and weaknesses.

affinity diagramming
intuitive clustering; arranging and categorizing elements based on perceived relationships (similarity, proximity, dependence, etc.); usually done manually on a wall with Post-it Notes.

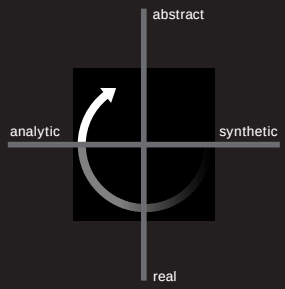
insights

, workflow, activity analysis
led decomposition and representation
component tasks, actions, objects,
ormers, interactions, and/or exchanges
ved in the execution of a distributed
ess or a specific task.

a e i o u
an analytic framework for decomposing behavioral practices and interactions into significant component parts (activities, environments, interactions, objects, users).

information flow analysis
detailed decomposition and representation of the flow of information through all phases of a system or process; used to identify bottlenecks and alternative routings.

n
of trends, patterns, opportunities
f design criteria or requirements
ights," matching design
with recognized patterns



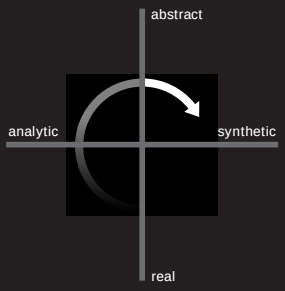
scenario planning
multidisciplinary session in which a variety of possible future scenarios are identified and described; used to formulate strategy decisions and prepare for all likely eventualities.

framework development
development and representation of a conceptual structure that helps to clarify problems or inter-relationships of elements of a system, organization, process, etc.

insights

scenario development
description of potential scenarios of use of product, service, or system; usually generated according to user profiles and/or situations of use.

projection
- development of a new perspective, reframing or redefinition of the problem
- creation of stories exploring possibilities, opportunities
- results in “design concepts”



design concepts

visual project room
ongoing collection, annotation of mostly visual materials related to the development of a project; usually maintained in a shared workspace and used to share progress.

concept prototyping
realization of a design concept in some prototypical form; usually used primarily for demonstrating concept or particular characteristics of a proposed product, including its appearance.

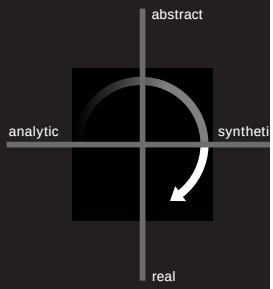
storyboarding
visually planning or describing a video, animated, or slide presentation with a series of key frames; used to succinctly communicate concepts.

sketching
active, visual exploration of concepts, usually done privately by an individual.

paper prototyping
a rapid prototyping technique usually used to test software interface designs for basic behavioral function recognition and workflow fit.

behavioral prototyping
using a product prototype or prop to ascertain users' reactions to, and interactions with, the form, feel, affordances, or some other aspect of the proposed product.

realization
- rapid, iterative prototype development
- creation and introduction of new realities
- results in "prototypes," the testing of which leads to new observations, new insights, and new design concepts



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prototypes

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