Position Paper for CHI 2010 Artifacts in Design Workshop

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Abstract
As part of an artifact-centric process like Contextual Design, artifacts have a wide variety of representations that are maximized to achieve specific intents. Primarily, they support five key areas in the collaborative design process: research, analysis, design, evaluation & testing, and presentation.

Keywords
design artifact, representation, ideation, process

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
The Contextual Design process [1] is a front-end design process that uses design artifacts in almost every step of the process. Various artifacts with different representations are used to support a wide variety of intents in every design project. The key areas of the design process that use artifacts are research, analysis, design, evaluation, and presentation.

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As the Design Chair at InContext Design I’ve used the Contextual Design process for almost 10 years. I have experience with every aspect of the process, including
coaching and training people in the design aspects of the process. I've also helped to define new artifacts and modify existing ones to better support the design phase of our projects.

This position paper will not go into the details of the Contextual Design process or try to describe every artifact used throughout the process. Because so many artifacts are used in the process, it will instead focus on some of the main types and provide a more general understanding of how they are used. It will examine how they support different aspects of the design process, how the different representations and processes support specific intents, how different artifacts are used together, and the role they play in supporting collaboration.

**Language of an artifact drives focus**

In the Contextual Design process, every design artifact has its own language.[1] The language is defined by the specific form or graphical representation of the artifact and the rules used to govern its creation and usage. This is no different than any language used by a specialized profession, like a doctor or a mechanic.

The language itself tells you what to pay attention to, what to focus on. If an artifact is useful for design, then its language will also include concepts that are relevant to design. Artifacts can support so many different activities in the design process because they are specialized. They have a language that focuses the design team on the concepts that are important to that activity.

A good example in Contextual Design is the data models that are captured during interpretation sessions.[1] A lot of data is gathered during a two hour field interview and data models help the design team focus on the important aspects of people's work and life. Each model helps the design team focus on a different aspect: the flow model captures people's responsibilities and how they communicate and coordinate; the sequence model focuses on the steps and intents in tasks and activities; the physical model deals with issues arising from the user's physical environment; the cultural model captures values and influences; and the artifact model focuses on the use of physical items or other devices.

**figure 1. Artifact model**

**Used as a thinking tool**

Another benefit of design artifacts is that they can be used as a tool to drive design thinking. This type of artifact is often temporary and can be disposed of once
its purpose is fulfilled. It is either a two-step process with one artifact or a sequential process with two separate artifacts.

The first part of this process is what we call the “make it messy” step. It’s analogous to creating a rough draft before writing the final copy or creating a compositional study before the final painting. It’s an explicit step that separates creativity and insight from the final finished work. Design is no different than other creative endeavors and it too benefits when space is created to allow for the messiness of thought. This idea of “make it messy” and “make it neat” is used throughout Contextual Design.

Storyboards are one of several artifacts that illustrate this point. In Contextual Design, storyboards are used to work out the next level of detail after “visioning” new concepts to redesign the work practice or life practice.[1] The vision describes what is possible, but a storyboard provides the details of exactly how the user will perform a primary task.

Storyboarding is comprised of two separate artifacts. The first is a low-level vision, which work out the lower level of detail, but is still rough and sketched quickly with low fidelity and no polish. This step allows the designers to explore different ideas because it is purposely intended to stay messy. The artifact is used as a thinking tool. In fact, once the next step is completed, this artifact is thrown away. The low-level vision serves only as a blueprint for creating the actual cleaned up storyboard panels that will be shared with the entire design team.

Support different levels of design

The process of creating a design is admittedly a complex one. It requires “design” at many levels—from high-level design of the work/life practice down to the low-level design of interface screens. Each level of design has its own priorities and constraints and most importantly is dependent upon the level above it. It makes no sense to spend time designing individual screens before you have worked out the design of the overall system.

Design artifacts offer a perfect way to support this complex interrelated process. They can be used to keep the design team focused on the appropriate level of detail and they can be used to drive the creation of the next artifact and guide the process.
Support collaborative design

Many design processes, including Contextual Design, value collaboration as a key aspect of design. Luckily, every design artifact can easily be constructed to encourage and support collaboration. Most artifacts already lend themselves to collaboration because, as already discussed, they focus thought and support design thinking. In addition to these qualities, the form of the artifact can also be easily adapted to further support collaboration.

The key to fostering design collaboration is to make the artifact viewable by everyone on the design team. This allows everyone to see the artifact and for everyone to have a shared understanding of what it represents. One of the easiest ways to do this is to just draw on a flip chart. It allows everyone on the design team to see it and it also allows everyone to contribute to its creation. Some examples of artifacts created in this way are individual data models, consolidated data models, visions, and interaction sketches.

If a flip chart is too small, the artifact can be created on the wall, like an affinity diagram. Or it can be printed on large format paper and hung on the wall, as is often the case with consolidated models that are used to drive idea generation. For text-based artifacts, like the user environment design, the pieces of paper can be

<table>
<thead>
<tr>
<th>Level of Design</th>
<th>Design Artifact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work/Life practice</td>
<td>Consolidated data</td>
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<tr>
<td>Task</td>
<td>Storyboards</td>
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<tr>
<td>System</td>
<td>User Environment</td>
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<tr>
<td>Interaction design</td>
<td>Interaction Design</td>
</tr>
<tr>
<td>Screen</td>
<td>Interaction sketch, paper prototype</td>
</tr>
</tbody>
</table>

Evaluate existing designs

While most design artifacts are used to support research and design, they can also be used to help evaluate design. At InContext Design, I helped create an artifact and associated process that we use to evaluate existing designs.

Interaction design patterns are used to understand the interaction design of an existing system or product by evaluating the high-level structure of the system and its screens. They should not be confused with what is typically referred to as “design patterns”. The language of the artifact is used to make the structure and the interaction methods explicit. The process of sketching the artifact provides benefits beyond the actual artifact itself. By focusing on the design at this level, issues and insights are revealed that would not normally be visible. They can be used to evaluate your existing products, but we typically use them to evaluate designs from other domains. The act of creating the artifact provides fresh insight and understanding to the design team and helps open up their design thinking before they start sketching screen designs.
Finally, design artifacts are also used to present the fruits of design: research findings, functional requirements, design concepts, specifications, and final designs. One of the main differences in this type of artifact is the level of finish or “polish” applied to the artifact. Instead of being rough, sketchy, and hand-drawn like most other artifacts, they need more “polish” because they are presenting information to others. They need to be clear and easy to understand because they are communicating design information to clients and project stakeholders.

They can take several distinct forms. When presenting design artifacts to a room full of people, the artifacts can be cleaned up and then printed in large format and hung on the walls. We find these large printouts to be a good way of presenting thinks like data findings. For presenting actual designs or design concepts, a slideshow format is preferred because it allows for more control over how the information is presented.

If artifacts instead need to be disseminated, an online format makes more sense. This can often be in the form of PDF files, but it can also be an interactive web-based format.

**Conclusion**

In an artifact-centric process, artifacts can take many different forms and they can be used to support many different intents. They support practically every step in a front-end design process and each artifact has its own specialized language to help focus design thinking. Each one uses a form and process that will best support that step. Because they naturally provide focus and shared understanding, they can easily be adapted to support and foster collaboration in design.

Learning how language, representation, process, and format define a design artifact would benefit any design team—no matter what process they are using.

**Citations**