

The Design Patterns Research Group (Fall 2011)

David Knapp, Rebecca Shore, and Suneetha Sivasankaran

David K. Farkas, *instructor*



Design patterns are guidelines that provide more context than regular guidelines. For this reason, users can more easily determine when and how a guideline applies (or does not apply) to the user's design project. Design patterns, often in the form of web-hosted pattern libraries, have become prevalent in many domains including web design, UX, and software engineering.

The Design Patterns Research Group began by looking closely at a numerous design pattern libraries and the patterns that comprise them. Then, each group member set out to design and build a pattern library for an area of his/her professional interest. Week by week we shared experiences and insights. Below David Knapp, Rebecca Shore, and Suneetha Sivasankaran explain their patterns libraries.

Design Patterns for Enterprise Applications

David Knapp

I am building a design pattern library as an employee of a large company (referred to here as Northwind). Northwind has many business-to-business applications across several market verticals. A design pattern library will allow Northwind to leverage reusable components across these various applications. The audience of this library is internal to the organization and includes product managers, development managers and UX professionals. The organization will benefit from the pattern library by assuring cross market continuity and increased efficiency when ramping-up new markets. Below is an example design pattern that is part of Order Management Services. Issues to consider when applying a design pattern library to an enterprise development process are highlighted.

Access Rights for sharing read and write access privileges throughout the working team are handled through WordPress.

Placed within larger UX Library to provide a single reference that includes UI Style Guide, Copy Style Guide, Brand Guidelines, etc.

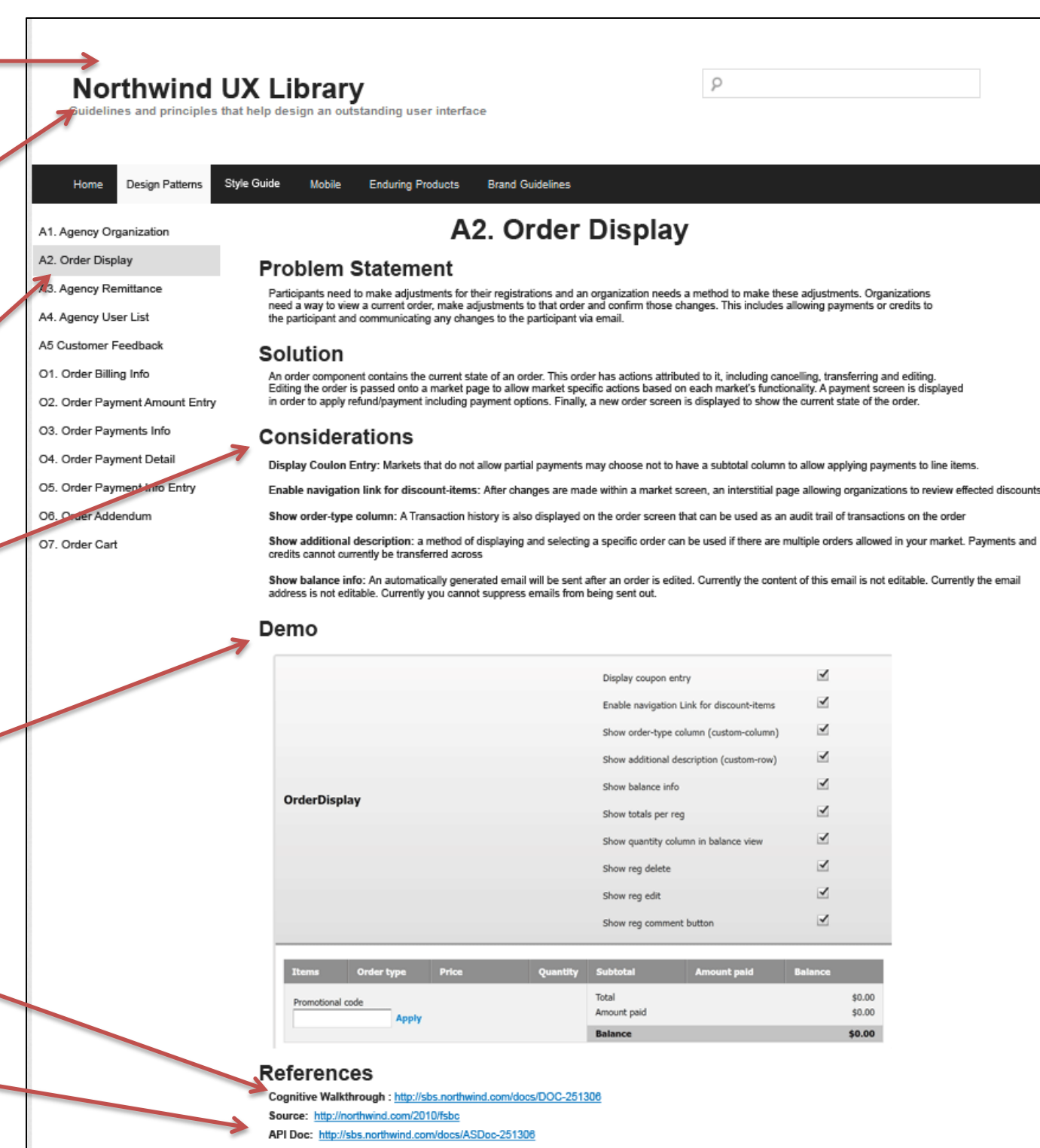
Enumerate Pattern Titles for easy reference across team members.

Describe Pattern Variations to articulate the different ways to apply the pattern.

Demonstrate Pattern Variations to show the different ways to apply the pattern.

Refer to Research Artifacts that informed the design pattern.

Refer Directly to Code whenever possible to direct developers to source code.



Approach: the first task when creating this pattern library was to get buy-in from the organization. This included coordinating stakeholders in Product, Development, and UX from several teams. It also included coming up with a plan to implement the pattern library from existing documentation across several technology stacks. In addition, this included evolving UX documentation into a single resource using an enterprise version of WordPress.

Next Steps: Northwind is currently going through a round of re-organization which has put the pattern library on hold. Once the new organization charts are completed, I will re-engage with the new platform and market teams to continue building out the pattern library for organization use.

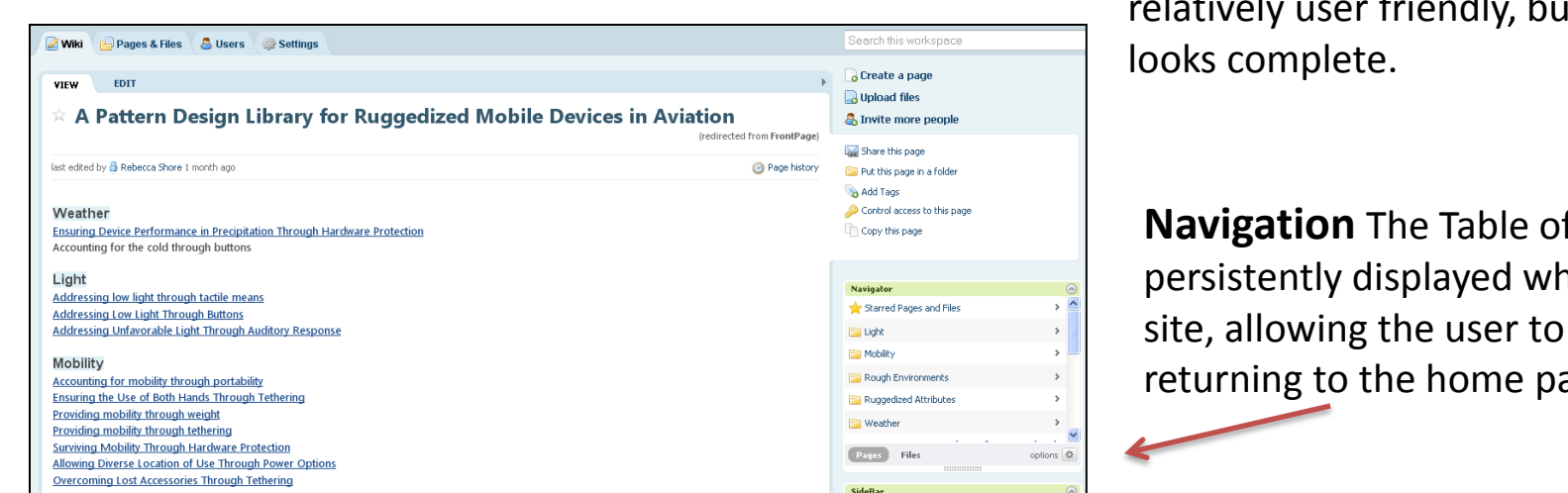
Locked Participation



A Design Pattern Library For Ruggedized Mobile Devices in Aviation

Rebecca Shore

The Ruggedized Design Pattern Library is intended to help hardware manufacturers improve the design of handheld devices used in the aviation industry. It shows how devices can be built to withstand harsh conditions while still being ergonomically designed and user friendly. Although intended for the airline manufacturing and line maintenance environment, this pattern library is open to the public and may find uses I have not anticipated.



Context, Problem, and Solution are the standard components used to explain each pattern in the library.

Page Includes allow for components to be re-used across topics.

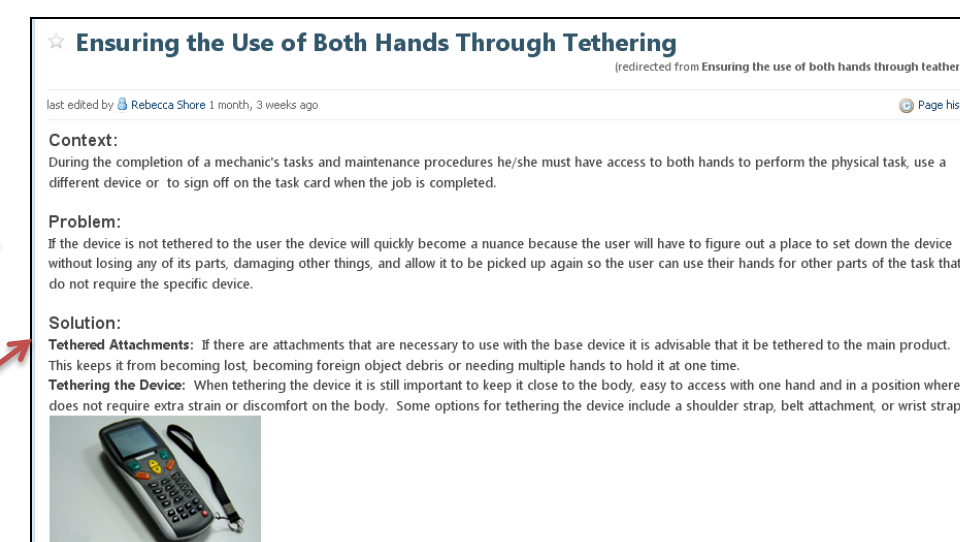
Approach: To create the pattern library, I first identified the unique environments where aviation mechanics and other aviation workers do their work. I then looked at what aspects of these environments added challenges, and I identified the basic problems that make hardware unusable in these environments. Often parts of one solution could work for several problems.

User Testing: Once the pattern library was in draft form, airline mechanics provided feedback about the usefulness of the solutions offered by the patterns and the way they were presented. They also commented on the grouping of the patterns, and the navigation of the website. This feedback guided a redesign. Airline personnel now use and contribute to the library.

Next Steps: I'm planning to have hardware manufacturers participate in a new round of user testing. Manufacturers with an interest in entering the ruggedized field will also be included. With the ongoing encouragement of my managers, I plan to publicize the site and build a community of users and contributors.

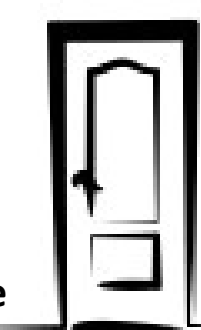
PB Works was used to create the site. It is relatively user friendly, but the site never looks complete.

Navigation The Table of Contents is persistently displayed while navigating the site, allowing the user to navigate without returning to the home page.



<http://ruggedizationdesignpatterns.pbworks.com/w/page/47612873/FrontPage>

Specialized Audience



Design Pattern Library for Mobile Devices with Touch Interface

Suneetha Sivasankaran

The Mobile Devices Pattern Library is a wiki that hosts a library of design patterns for mobile devices with a touch interface. Design patterns are "known solutions to common design problems." They provide an ideal starting point for newcomers to design and are an excellent reference for more experienced designers. Design patterns are particularly useful in the mobile context as they challenge designers to re-examine and adapt common desktop patterns with the mobile experience in mind.

WikiSpaces, an online wiki site, was used to create the pattern library. This pattern library is public. Anyone can contribute to the library or can submit requests for patterns they are interested in.

Navigation. The wiki can be navigated by searching for a specific topic or by browsing through the categories.

Problem, Solution. Each pattern follows a problem-solution structure.

How to Use. Many concrete examples are included.

Considerations. This section enables pattern users to determine whether and how the pattern applies to their specific situation.

Need. Designing mobile user interfaces grows more interesting due to the rapid changes in technology. Device and network capabilities are improving, platforms are providing more features to help the user, privacy and security are becoming more important, and device proliferation is increasing. This wiki is a resource for designers of mobile interfaces and, more broadly, for anyone interested in UX. The wiki draws upon a variety of published sources on mobile UX.

Nature. The nature of the pattern library is open and in the form of a wiki so that anyone can contribute to the library and can submit requests for patterns that they are interested in. This pattern library is not meant to be a comprehensive list of mobile design patterns, but rather a list of design patterns that were interesting to me and more relevant now due to the changing trend in technology. The wiki can be navigated by searching for a specific topic or by browsing through the categories.

Next Steps. I plan to add more patterns based on user requests and changes in technology. I also plan to publicize this pattern library to build a wider audience and gain more community participation.



<https://mobilepatterns.wikispaces.com>

Public

