



# EHR Usability Style Guide

An interactive eBook

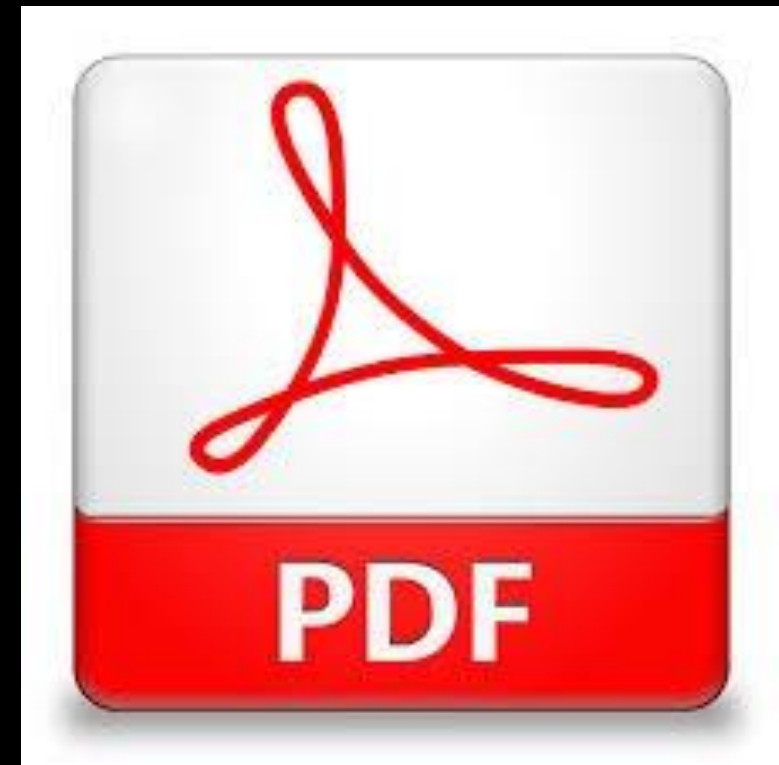
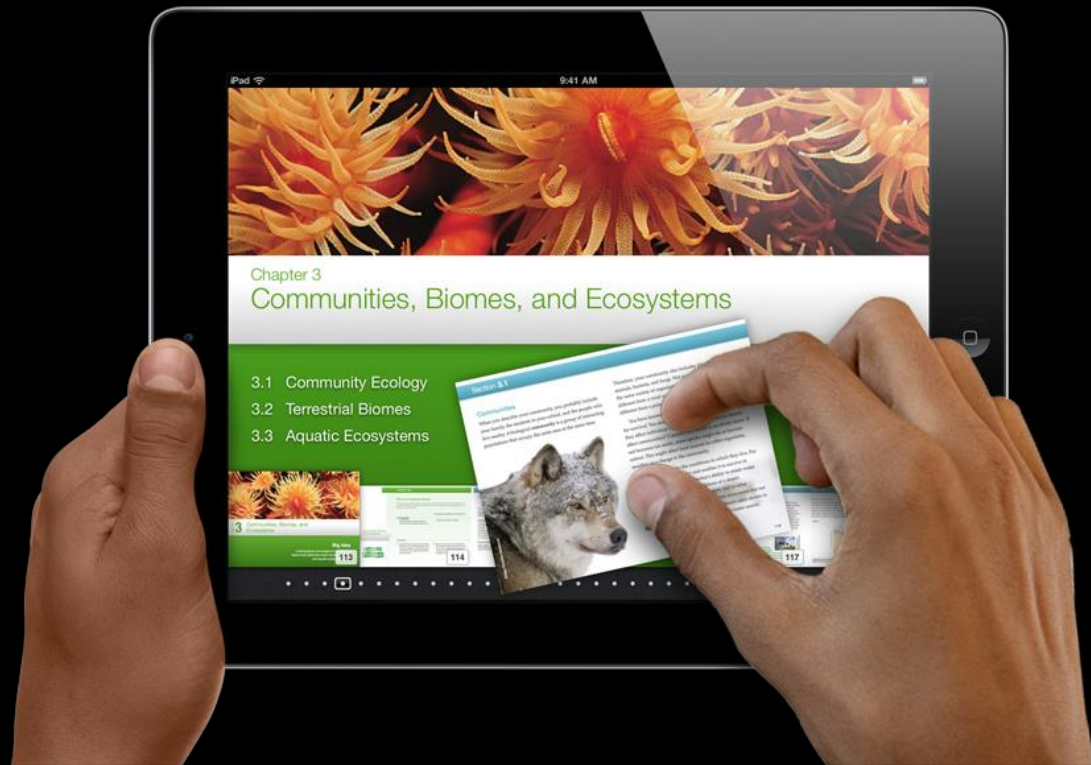
Jeff Belden MD

# EHR Usability Style Guide

Early edition



iBook



# iBook & PDF

Suggest

Illustrate

Inspire



EHR  
Vendors





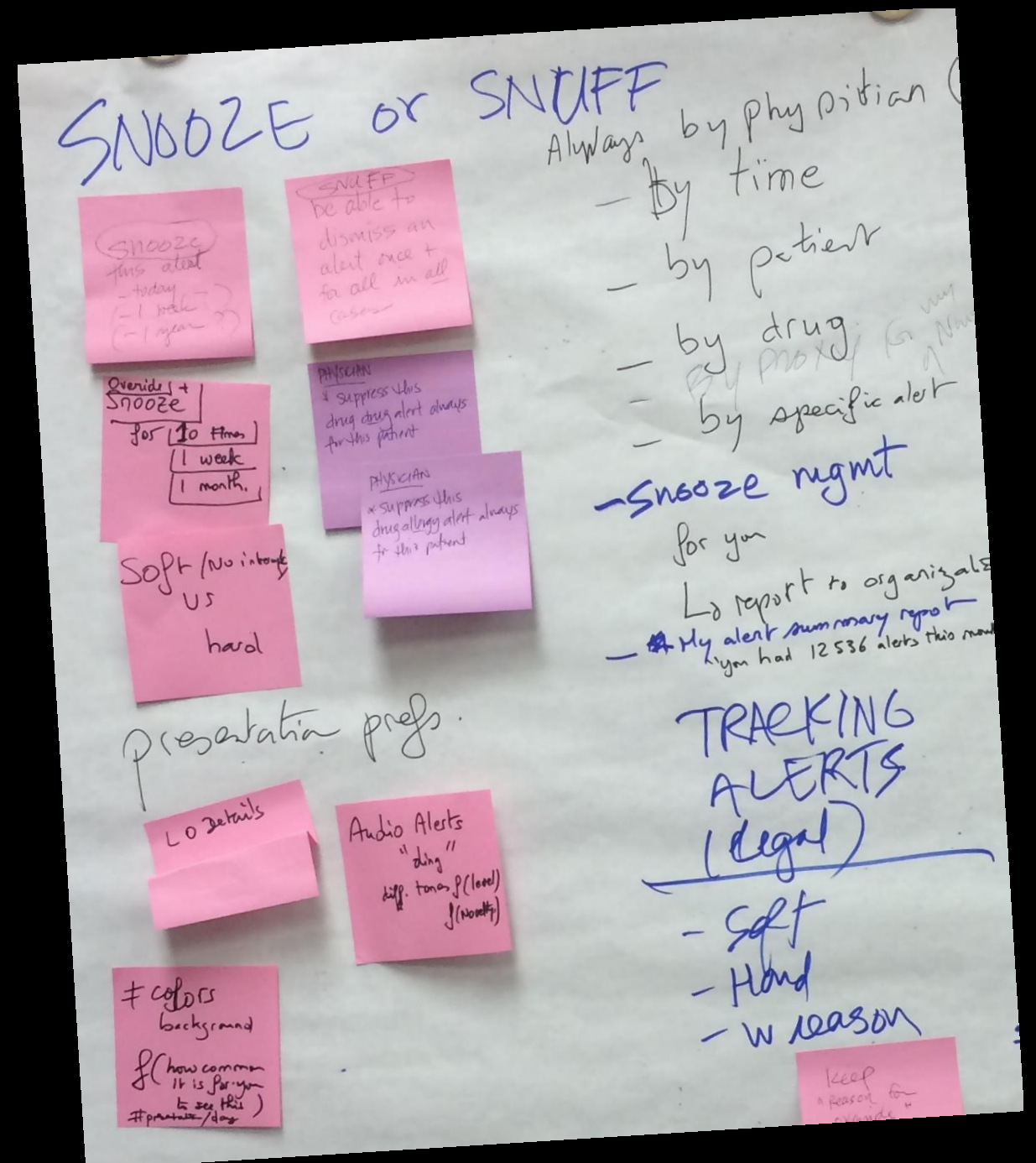
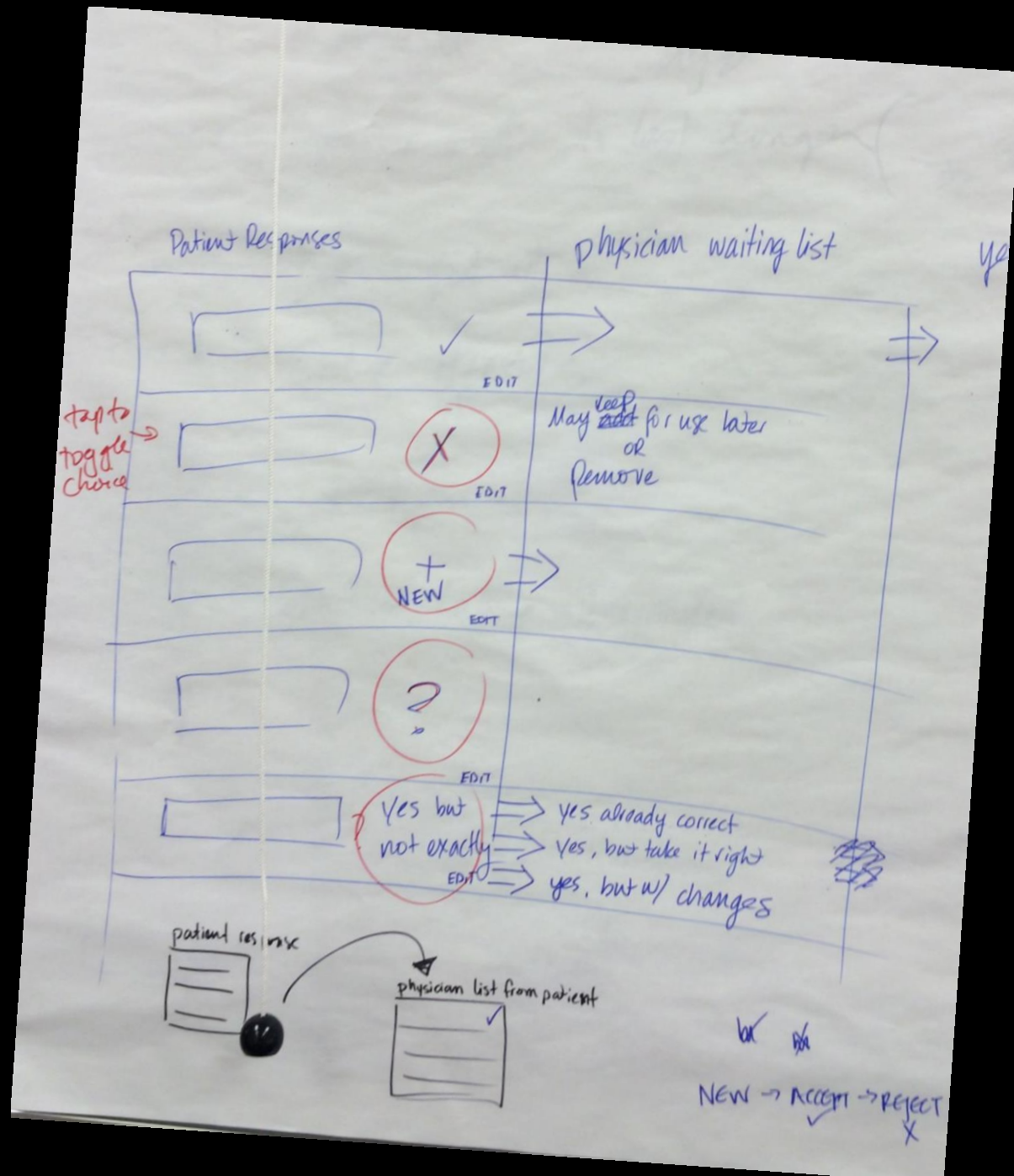
any HIT developer



Usability  
Pros

# Our Process

# On-site design workshops



# Vendor participation in workshops





# Our Team

2 physician UX geeks

3 HCI Experts

3 Designers (Involution Studios)

3+ Vendors (at workshops)

# Medication List

released Oct 2013



Preview

# Writing Style

Science Journalism

for example...

You can reduce the risk of error (missing one in the list) and lighten the mental effort (cognitive load) quite a bit by smart design features.

In order of complexity, here are some solutions:

Allow sorting the medication list by associated diagnosis. This groups them together and makes for far less reading, searching, and relying on humans' limited working memory (which can only hold 3 to 4 items).

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# Clinical scenarios

**Returning to the clinical scenario:  
What happened before today?**

The physician had determined that the blood pressure was too high, and an additional drug would be necessary. He wondered why lisinopril had not been chosen. So, turning to the timeline view, he toggles for “Active Medications” to “Active + Inactive Medications” view. He sees that lisinopril had been prescribed, but only for a few months. He wonders, “Why was it stopped?”

## Returning to the clinical scenario: What happened before today?

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# Demo of iBook

# Live Widget Demo

# Coming Attractions

ePrescribing (&  
Medication Management & Reconciliation)  
CPOE)

Feedback

I reviewed the medication list chapter in:

iBook

☐

PDF

☐

Both

☐

The Medication List chapter represents the principles that I would communicate to EHR designers.

NA

☐

Strongly Disagree

☐

Disagree

☐

Neutral

☐

Agree

☐

Strongly Agree

☐

Feedback

This guide, if implemented by EHR designers, could help improve the work of EHR users.

NA

☐

Strongly Disagree

☐

Disagree

☐

Neutral

☐

Agree

☐

Strongly Agree

☐

# Survey tool



# Expert Review

Human factors researchers  
Data visualization researchers  
Physician usability experts  
Nursing informaticist  
Pharmacist

# Target Audience Review

Praise for the first draft



It looks really good.

Janet Campbell | **Epic**

...it's terrific.

...strikes a good balance .... both immediate practical and more advanced.

...the visual examples clearly communicate key points and reinforces the narrative.

Glen Moy | **California HealthCare Foundation**

I really like the interactive list demo you're working on!

Integrating a mini-timeline within the list of meds is brilliant!

Jon Duke MD | **Regenstrief Institute**

Thanks for the opportunity to participate in this – it is really great.

John Beasley MD | **U of Wisconsin**

This would be great for any of our associates, whether  
C-suite, mid-level managers, or engineers!

Megan Jacoby | **Cerner**

... and Constructive criticism

# Thanks

## **Funding sponsors**

California HealthCare Foundation  
SHARP-C project of ONC

## **In-kind sponsorship**

EHRA Clinician Experience Workgroup  
EHRA Board  
Participating vendors at design workshops

# Thanks

## **Workshop 1 vendors**

NextGen

athenahealth

## **Workshop 2 vendors**

Cerner

MedSocket

PDS Cortex

# Questions

**University of Missouri-Columbia** Jeff Belden (Leader)

Richelle Koopman

Joi Moore

Nathan Lowrance

**Involution Studios** Juhan Sonin

Jen Patel

Shreeya Gangwal

**University of Maryland** Catherine Plaisant

**University of Texas-Houston** Todd Johnson

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