Beth Olarsch

Think Create Grow

Hewlett Packard– QA Made Easy

Implemented May 2015

* I performed this project as a contractor with Mphasis Corp. Because of a non-disclosure agreement I am unable to provide certain details of the project.

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Overview

My client, was **developing a new product** under a tight deadline. The engineers needed to determine potential defects by **evaluating results** of quality assurance (QA) testing.

- The Issue: **information** received from QA was **unreliable**. The data were untimely, didn't include all of the points the engineers needed and sometimes contained errors.
  - The **root cause** was an inefficient QA process – testing results recorded multiple times, manual recordkeeping, high turnover.

- The Proposal: **Overhaul** the entire QA testing **process** and provide test results in real-time.

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Solution

Project XYZ - a complete overall of QA, with the help of **two user-facing applications**:

- **Desktop App**: for testers to record QA test results
- **Web Site:** for engineers to review data in a usable format

- Minimal manual input
- Faster testing performed
- Data/results transmitted to engineers in real-time, in a usable format

Approach

My role

Information Architect

- Worked with a team of developers and stakeholders in an Agile environment
- Performed user research & testing, user flows, wireframe and rapid prototypes
- Created effective user interface with a team of developers and a visual designer.

Tools

- Axure: wireframing & prototyping
- Whiteboards & markers
- Sticky notes, paper, pencils, rubber bands, paper clips, staplers, chewing gum, a beer now and then, and a lot of Diet Coke.

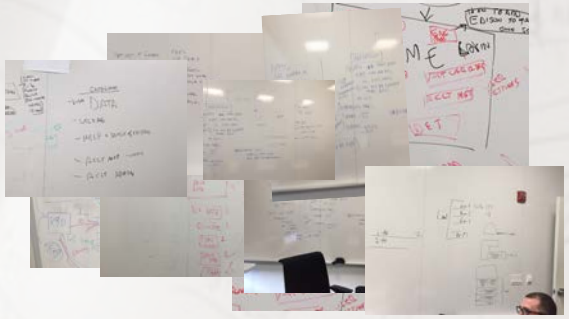
Activities

- User research, understanding pain points
- White-boarding meetings, prioritizing design features
- User flows, task analysis
- Sketching/iterating, wireframing, rapid prototyping
- Iterative usability testing, adjusting design to meet users' needs

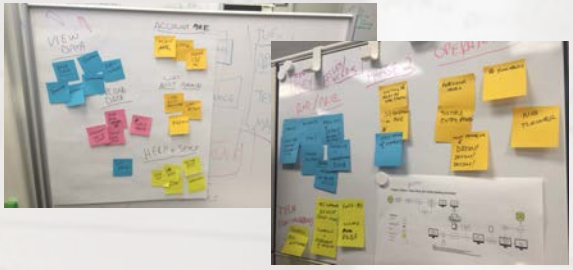
Approach

There were **two user groups involved** in the process: QA testers and engineers.

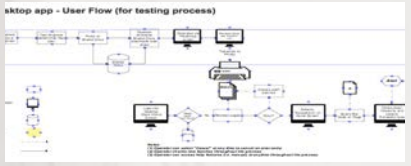
I determined user requirements based on stakeholder expectations …



…. gathered my thoughts…..

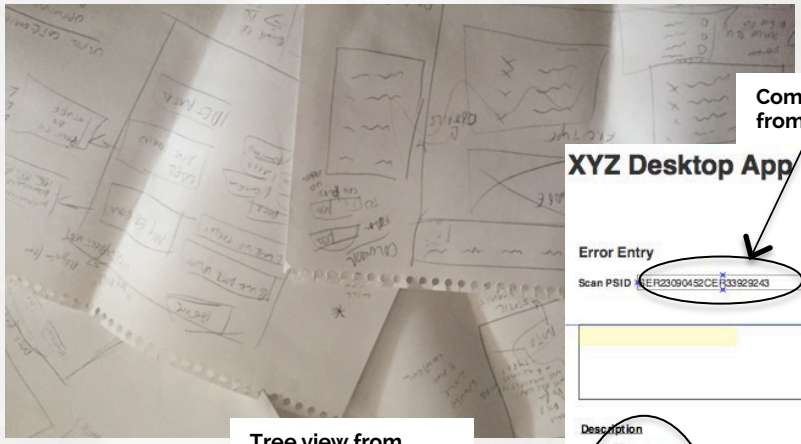


…. then developed a flow and scenarios to get a sense of the users' processes.

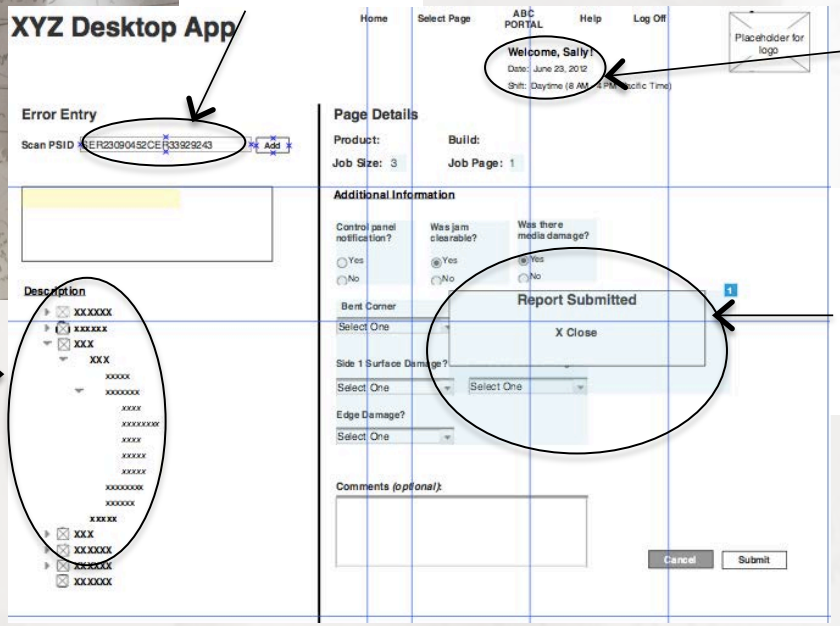


Desktop App

For the Desktop App I sketched out ideas and formulated into a set of wireframes. Because of the way the app was coded, a set of visual controls were used that limited the scope of the design; yet there were opportunities through the use of icons, colors, function to create an effective tool.



Component number from bar scan



Product tested, sequence, tester name, etc.

Drop-down menus to provide further details.

Window pops up when report is complete or submitted

Tree view from which user can select defect type

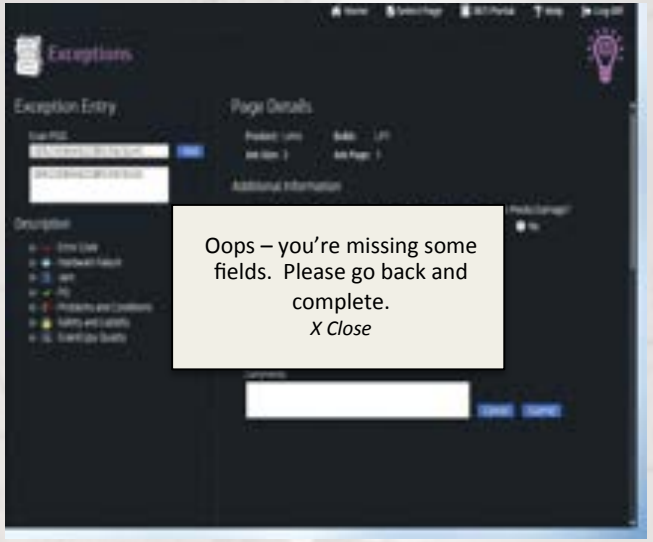
Each category had its own icon associated with the topic, for easy viewing.

Defect with a crack

Desktop App - Usability Testing

I **coordinated** with a visual designer and developer to **produce a user interface (UI)**. I then performed **Iterative user testing**. Some findings –

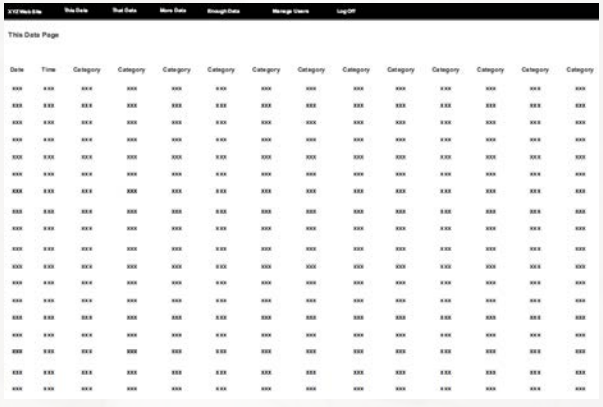
- **Preference for black screen** over white. Easier for user to find amid multiple screens open.
- List categories alphabetically? No, instead **group by category**. Testers usually focused on one section and found it more intuitive to locate by icon within that section group together
- **"Missing Items" warning** should identify missing fields, and produce "beep" to make it more apparent.
- **Screen should clear after** item is submitted; this wasn't the case and user had type over or erase.



Web Site Application

Once testing results could be reported in real-time, **the developers produced a screen to display data**. I then **collaborated** with the users (engineers) to organize the information that **would work better for their needs**.

Original Screen



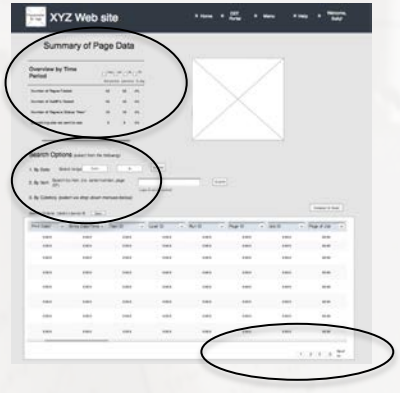
(1) New Home Page

User can customize page with widgets and data based on preference

Select icon to review page showing each data category

(2) Sample Data Page

User can view summary by time period,. and key stats such as average, mean, etc.



Multiple search options – allows user to grab only what (s)he needs.

Responsive screen design, and bottom scroll bar for flexible viewing.

Result

The client's key objectives were satisfied.

- Testers were able to perform more tests within a shorter period of time and with little manual intervention – bar codes, easy recognition of categories, and click, click, click.
- Engineers were able to get data on which they felt they could rely – and in real-time, sorted in a format they would find usable.

Next Steps

- Enable design to provide more sophisticated analysis for engineers, i.e. regression
- Eventually automate the process further – test execution and use of more bar codes (or other technology) to record defects.
- Enable engineers to personalize their home pages via widgets. The goal is to have this portal as a main resource throughout their workdays.