

INTRODUCTION

- ◆ Vistakon uses the Global Finite Planning System (gFPS) to manage the manufacturing and production of contact lenses.
- ◆ Engineers are often unable to obtain information necessary to efficiently and effectively manage the production process due to gFPS's poor mobile experience.
- ◆ In order to determine the best approach to improving the mobile experience, we compare two approaches: developing either a native mobile application, or a web application.
- ◆ gFPS consists of three distinct layers: the Data Storage layer, the Business Logic layer, and the Presentation layer.

COMPARISON

- ◆ A native mobile application would typically possess a more responsive interface than a web application, and uses fewer network resources.
- ◆ Developing a native mobile application introduces an entirely new software layer to the existing architecture. This new software introduces increased maintenance, security concern, and general support.
- ◆ Adding a mobile interface to the existing application increases cross-platform compatibility, reducing the need to migrate the native application if a change is made to the hardware infrastructure.

RESULT

- ◆ Developing a mobile experience via a web application results in reduced development time, and reduced long-term maintenance time. These benefits outweigh the benefits of developing a native application.

Global Finite Planning System: Mobile Experience for Contact Lens Production Lines

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MOBILE INTERFACE PROTOTYPE



DEVELOPMENT

- ◆ Development began by identifying the core features necessary for the mobile experience to benefit production. By reducing the feature set, we were able to declutter the interface to fit in a smaller screen resolution.
- ◆ A set of wireframes were created in order to obtain feedback engineers and management on the direction of the project. By identifying potential issues on static diagrams, less time was spent making changes directly to the prototype.
- ◆ A static prototype was developed to provide the "feel" of the mobile experience.
- ◆ CSS3 media queries provide the static prototype with the ability to adjust to a wide variety of screen sizes. It achieves this by adjusting document properties such as font sizes and container dimensions within different ranges of screen resolutions.
- ◆ An additional prototype was created for the Vistakon lot management system, eDHR2.

FUTURE WORK

- ◆ Integration of the prototype with a development copy of the production data layer is necessary in order to achieve a proper testing environment for engineers and management.
- ◆ The mobile experience is decoupled from the existing interface, and therefore would only be accessible via mobile devices. This may result in increased maintenance times to keep the mobile interface up to date with any changes of the full-featured desktop interface. One future task may be to fully integrate the responsive nature of the mobile interface into the entire application creating one cohesive presentation layer.

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