ItemFlo Product Information Management System

Kobe Taylor
Bachelor of Information and Communication Technologies
kobe.taylor@gmail.com

Caleb Wenborn
Breezy Software, Technical Director
caleb@breezysoftware.com

Amit Sarkar
Ara Course Lecturer, Academic supervisor
Amit.Sarkar@ara.ac.nz

ABSTRACT

In this paper, I describe the processes and tools used throughout my Work Integrated Learning capstone project that was conducted over the last few months. The project consisted of two major aspects, the Academic and Industry. The Academic component comprised the reports and documentation of the process, whereas the Industry component comprised the work conducted in-industry and development throughout the project.

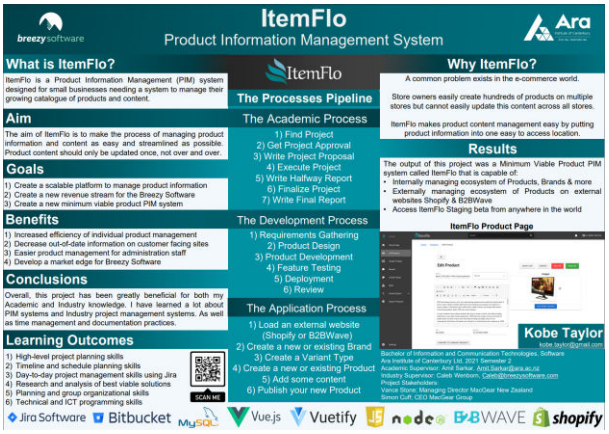
Keywords: Software Development Project, Product Information Management (PIM) System, Jira Software, BitBucket

1. INTRODUCTION

Throughout the Work Integrated Learning Project, I have invested a total of 450 hours into this work. This is comprised of 300 hours of Industry-based development time and 150 hours of Academic-based reporting time.

In terms of the Industry work done throughout this project, I have developed and delivered a minimum viable product (MVP) of a product information management (PIM) system, called ItemFlo. The concept of ItemFlo is to create a platform from which product information can be centralized and changes can be propagated to external websites.

In terms of the Academic work done throughout this project, I have produced three major milestone documents with minor supporting documents. The major documents outline the project before it started, progress made at the halfway point, and final results at the closing point of the project, these are the initial proposal, halfway report, and final reports respectively.



2. BACKGROUND

This project was conducted for the primary industry client, Breezy Software. Breezy Software is a software development company in partnership with MacGear Group and Rewarding Concepts, the primary target audience and key stakeholders.

The current business problem for MacGear and Rewarding Concepts is that they sell many products on multiple B2BWave and Shopify stores. Meaning, product information changes must be performed manually for each site. They want a single source of truth for their product content so they can update a product's details in one location and propagate that information to multiple sites automatically, resulting in accurate, reliable, and up-to-date product information and content.

3. METHODOLOGY

Throughout this project, I implemented a relatively new Agile methodology known as Scrumban. Scrumban is a hybrid Agile work methodology comprising of elements from both Scrum and Kanban methodologies, respectively. Scrumban is best described as a methodology for small self-driven teams that want the flexibility to work at their own pace.

Scrumban features the benefits of using a pull system through the implementation of the Kanban board, but with more of the structure and regular ceremonies of Scrum with the implementation of reoccurring Sprints, Sprint reviews, and sprint retrospectives.

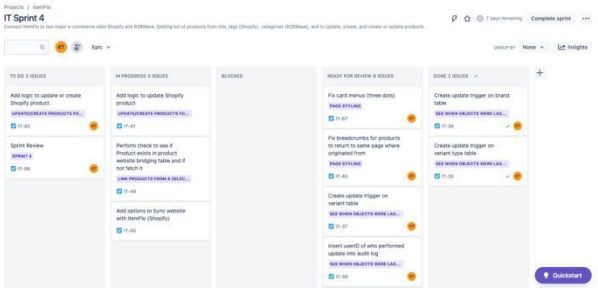


Figure 1: Jira Kanban Board

4. TOOLS

Several different tools were use throughout this project for managing different aspects such as project management, to software development.

The primary tool for project management that was employed for this project was the Jira Software package. Jira allowed me to setup Sprint dates, track individual tasks, manage a Kanban board, and manage my software development branches from one location. Another tool used for project management was Clockify. Clockify is an enhanced stopwatch time tracking tool that allowed me to accurately track my time spent of tasks and work throughout the project.

Figure 2: Clockify Time Entries

The primary tools for software development employed for this project were BitBucket for repository management, and Node.js for developing the software package. Additional tools for software development were JavaScript for backend code, Vue and Vuetify framework for frontend pages, and MySQL for the backend database.

Figure 3: BitBucket Branch Management

5. OUTCOMES

One of the major outcomes of this project is the result of my Industry work, ItemFlo. The purpose of the ItemFlo application is to reduce administration time for staff whose job is to manually manage and update product information across multiple external locations.

One of the major aspects of the ItemFlo MVP is full internal create, read, update, and delete (CRUD) functionality. This means that within the ItemFlo system users can modify products, variants, images, brands, variant types, and websites according to the CRUD model. As such, products comprise a major component of the system, this is where users can store information about products such as the name, variants, images, brand, description, SKU, barcode, and so on.

Another major aspect of ItemFlo is its ability to update and create products on two major external websites, Shopify and B2BWave. Shopify is an e-commerce platform for online stores, whereas B2BWave is a business-to-business platform for product distributors, resellers and wholesalers. Each platform has its unique idiosyncrasies but regardless, ItemFlo integrates seamlessly with the two platforms with the capacity to push product changes to both sites simultaneously.

The other major outcome of this project is the result of my Academic work, the project reports. Before the project began, I first had to find a project. Through my community work for the Creative Trust, I was able to find a project with a local software development company called Breezy Software.

I then had to confirm the project with the company and Ara through the signing of the Work Integrated Learning agreement. Once the WIL agreement was finalized, I then began writing the Initial Project Proposal to outline the structure and overall scope of the project.

The Project Proposal was the first major milestone document that I produced and was the basis for the next two major documents. Throughout the project lifecycle, I regularly produced weekly reports which were sent to my Academic supervisors for review to ensure that I was progressing appropriately.

The next major milestone document I produced was the Project Halfway Report, this document built upon the work I had done in the initial proposal. The halfway report includes updates and changes to each section at the halfway point in the project, this includes what when well, what didn't go well, and improvements to action for the remainder of the project.

Finally, the last major milestone document that I produced was the Project Final Report. This report builds further upon the initial and halfway reports and documents the entire process from start to finish. This includes further updates to each section including a final summary, what went well, what didn't go well, and overall learnings for the future.

6. CONCLUSION

Through the completion of this project, I have learned many valuable project management, business, technical, and personal skills that I will carry with me into future employment.

The most valuable technical skill I learnt is that you don't need to know everything about everything when it comes to system development. Every industry-standard system in the world is well documented and help is easily accessible.

The most valuable personal skill I learnt is time management. Time management was one of the biggest struggles throughout the project and if I had not developed time management skills and used tools to help manage my time, then I would not have completed the project before the deadline.

The most valuable project management skills I learnt include performing research and analysis to make informed decisions on tools and processes such as work methodologies and

project management tools, such as the Scrumban methodology and Jira. Another skill I learnt was planning of a project's timeline.

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