Running Portfolio Workbook

Mama Mia’s Accounts Payable

John Wensink

MIS350 Information Systems Analysis and Design

Colorado State University-Global Campus

Dr. William Willette

August 14, 2018

Mamma Mia’s Pasta Company

Mamma Mia is a consumer staples company known for its dry goods specifically pasta. The company operates 20 processing facilities and logistics hubs throughout the United States with its headquarters in Denver, Colorado. Mamma Mia uses these facilities to distribute its product nationwide to grocery stores and other retail establishments. Today, Mamma Mia uses a business information system developed in-house that satisfies its needs for the most part. The two exceptions are the system for purchasing, as well as the system for accounts payable. These systems utilize MS Access, set up as a “client/server system on HP-Unix server racks.

**Requirements**

Mamma Mia’s physical servers are all based at the company’s Denver, Colorado headquarters. The systems perform generally well, with historical uptimes of 99.8% and downtime event duration averaging 33.5 minutes. (CSU-Global, n.d.). Because of these highly advantageous figures, we are not examining alternatives with cloud-based architectures. Instead, our company has decided an iterative, incremental upgrade to our existing network will stand to deliver the greatest gain for the least amount of risk. My team will focus on modernizing the “Accounts Payable Information System” (APIS) adhering to agile methodologies (specifically SCRUM) with the following baseline requirements:

* The APIS must be a “standalone, independent system.” capable of disbursing payments to all vendors for goods and services.
* The APIS “will be integrated with other information systems already used in Mamma Mia.” This will be accomplished through heavy use of “Application Programming Interface” (API) infrastructure,
* Vendor invoices must include “specifications of the goods or services delivered, the prices, terms of payment, and all other related information.”
* Ability to limit the total number of outgoing payments processed as a derivative of cash outflow forecasts.

(CSU-Global, n.d.)

**Feasibility Analysis**

The goal of feasibility analysis is to determine if a project makes economic, temporal, technological, and legal sense before a large sum of manpower and capital is invested. Let’s break down the APIS feasibility analysis into its constituent categories. First the economic perspective. The Board has decided that in order to meet the changing needs of our business, an upgrade is required that will allow Mamma Mia to operate its accounts payable efficiently in today’s modern business environment. For this project to justify the cost of implementing such an upgrade, a solid return on investment must be both tangible, and realistic. One of the main benefits of this upgrade where the immediate financial benefit will be realized exists in the upgrade’s function to eliminate undercapitalization occurrences due to lack of funds to pay for invoices. The company will see benefits as soon as the upgrade is implemented by avoiding interest and fees, as well as the cost of short-term capitalization fixes such as loans.

From the scheduling perspective, I have complete faith in our IT department, as well as the “Systems Development Life-Cycle” (SDLC) we will be using. That system is SCRUM, a type of SDLC that focuses on breaking up large projects into more manageable components. SCRUM values consistent small gains, learning and failing fast, and close integration with the project’s stakeholders. We will be discussing SCRUM in more detail later in the proposal, but in my opinion, it will provide a practical roadmap in which our skilled team of systems engineers will thrive.

From the technological standpoint, it is a bit of a relief that we will be upgrading our current network rather than migrating all data to cloud-based servers. One of the showcase technologies that will bring our company substantial efficiency will come from new API scripting. The ability to forge new robust communication links with our vendors is something that our company does not take advantage of today, which when implemented, will virtually eliminate man-hours from having to log in to each and every vendor’s website and compile data manually. Our proposed API will work to scour the information needed from these companies in the background and present the data in an organized, logical way that is intuitively displayed for the end user. This is not simple coding, and security threats here are very real, it is my recommendation that the committee allows a consulting budget to successfully integrate this technology into our APIS. I imagine the APIS program to be functionally similar to the mobile application “[Mint](https://www.mint.com/how-mint-works)” by Intuit in how one program will gather information from many sources and present the data logically and intuitively to maximize efficiency.

From a legal standpoint, the landscape looks similar to the existing system. Mismanaged and overdue payments have occupied the bulk of legal’s time and our goal is to ease that pressure so that they can focus on more advantageous uses of their time like pursuing litigation against debtors who have defaulted on their payment arrangements in our Accounts Receivable department. The system upgrades will now allow the system to prioritize aged balances ahead of fresh balances to avoid vendor credit implications when we are resting vendor balances, removing time time-consuming tasks for our accounts payable legal team.

**SCRUM Structure**

We briefly touched on some of the merits of SCRUM earlier in the proposal, now let us break this broad topic down into more manageable pieces in much of the same style that SCRUM breaks down large projects into their constituent themes. One key aspect of SCRUM is a daily meeting lasting not longer than fifteen minutes. In that meeting, the SCRUM developers gather at thier whiteboard, facilitated by the SCRUM Master, the development team discusses the same three items every day. What did you do yesterday? What will you do today? What obstacles are getting in your way of completing your work? The role of the SCRUM Master is to remove those obsticles, and if unable, get the “Product Owner” (P.O.) liaison involved until the problem is solved.

As we have said, in the Agile Methodology SCRUM, a large project is broken down into smaller, more manageable pieces. “The Vision” is the overarching roadmap that tells all involved where the project is headed. The Vision is about developing a “Minimum Viable Product” (MVP) for early adopters to start working on generating the highly useful QA feedback loops on which our success is hinged. Decomposing The Vision is done by breaking it down into “Themes” which are tasks that share similar characteristics. This helps us develop ideas towards a MVP efficiently and in a logical order. Themes can be decomposed into features which are smaller yet overviews of program functions such as pay invoice, or order supplies. Functions can be broken down even smaller into working packets we call “User Stories.”

A user story will follow the same general format:

* A ( ) wants to ( ) so that ( )
* An employee wants to order flour so that our stock remains full.
* A manager wants to see aged invoices so that we avoid high interest.
* A developer wants to elicit feedback from a user to improve the “Graphical User Interface” (GUI)

(McConnell, 2018)

User stories are of a small enough level of detail to be worked on by the SCRUM team. This is the tactical level where the day-to-day work will be accomplished. User stories are flexible until they are added to the backlog. Once the SCRUM Master, Developers, and P.O. agree on user stories as well as acceptance criteria, they can be added to the backlog of work to be completed by the developers.

**Project Structure**

SCRUM prescribes development teams of seven skilled individuals of various backgrounds to maximize communications efficiency. Tolerances of plus or minus two individuals are permitted. The use of consultants is encouraged for any sufficiently technically advanced work that is outside the development team’s skillset. The team will be lead by a SCRUM Master whose job it is to remove roadblocks for the team and facilitate the SCRUM meetings. The Product Owner liaison is a mission-critical full-time team member who is representing the interests of the stakeholders. This setup is useful for maintaining good working relationships for all involved parties and allows close coordination with project stakeholders.

The project will run for an amount of time commensurate with the budget allotted by the Steering Committee. Time overruns will be allocated for in advance of the project starting, and work-hours will be stored in a “communal time bucket” which developers may draw from should the need arise. Upon completion, the end deliverable must go through network penetration testing by a team of independent information security analysts to ensure for the safety of our organization, our vendors, and our customers. This is an important step when introducing new API’s that will be communicating constantly with our vendors over a secure background connection.

**Initialization Activities**

To initialize this project I request we immediately begin filling positions for project members so that these individuals can start to prepare for this project. An ideal team will consist of one expert in accounts receivable, three or four software developers, one software tester, and one elicitation analyst. We will want to get a P.O. liaison as soon as practical to start developing functions and user stories and generate a work backlog. Finally, a SCRUM Master must be selected preferably with significant systems design experience, although a can-do attitude and strong interpersonal skills should be weighed alongside resume experience. The team will need to be allocated a workspace so that they are working in close proximity of each other, ideally in the same row of an office. If this is not possible, virtualization software will allow for the acquisition of the most talented individuals for this project, regardless of geographical location.

**Proposed Intermediate Deliverables**

Proposed intermediate deliverables for our APIS program ought to be composed of the functions determined to be essential to the project’s success. Themes such as “Inventory Management, Account Management, Payments, and Invoices and will be further broken down into functions. In the case of Inventory Management, some useful functions might be “Inventory Remaining, Days til Expiration, Cost to Resupply, and Comparision of Vendors.” For the theme of Account Management, some useful functions might include “Show Balance, Sort Balance By, Aged Accounts Payable, and Accrued Interest/Fees. This is where much of the work with API’s will be done. The Payments theme ought to include functions like “Send Payment, Void Payment, Send Voucher, Allocate Payment, and Pay Balance” Finally the Invoices theme would have features consisting of “Sort By, Search, Print, Link to Pay, and Mark as Paid.

References:

CSU-Global. (n.d.). MIS350 - Portfolio Project Description. Retrieved April 14, 2019, from <https://csuglobal.instructure.com/courses/8785/modules/items/417466>

FreeCodeCamp. (2016, August 13). What is an API? In English, please. Retrieved April 14, 2019, from <https://medium.freecodecamp.org/what-is-an-api-in-english-please-b880a3214a82>

Hewlett-Packard. (2019, January). HP-UX Support Matrix. Retrieved April 14, 2019, from <https://h20195.www2.hpe.com/v2/getpdf.aspx/4AA4-7673ENW.pdf>

Intuit. (n.d.). Mint - How it works. Retrieved April 14, 2019, from <https://www.mint.com/how-mint-works>

Kenton, W. (2019, March 12). Feasibility Study. Retrieved April 14, 2019, from <https://www.investopedia.com/terms/f/feasibility-study.asp>

O’Connell, K. (2017, March 23). SCRUM: The Basics. Retrieved April 7, 2019, from <https://www.lynda.com/Business-Skills-tutorials/Scrum-Basics/550619-2.html?org=csuglobal.edu>

Swords, S. (2017, November 20). Software Development Project Roles and Responsibilities. Retrieved April 14, 2019, from <https://www.atlascode.com/blog/software-development-project-roles-and-responsibilities/>

Trapani, K. (2019, April 01). What is AGILE? | What is SCRUM? | Agile FAQ. Retrieved April 14, 2019, from <https://www.cprime.com/resources/what-is-agile-what-is-scrum/>

US Legal, Inc. (n.d.). Accounts Payable Law and Legal Definition. Retrieved April 14, 2019, from <https://definitions.uslegal.com/a/accounts-payable/>