Module 3: Critical Thinking

Scope Management - Webpage Development

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Module 2: Critical Thinking

3D Printing has been operating in Brick-and-mortar stores across the USA, but decided they wanted to provide their services online. I have been hired to their project management team to manage this project to make their goal of having an online store a reality. According to the Project Management Institute, Plan Scope Management “is the process of creating a scope management plan that documents how the project and product scope will be defined, validated, and controlled” (Project Management Institute, 2017, pg. 134). Including plan scope management in the beginning of the project is important so that all the associated parties who are contributing to the project know exactly what this project is, the developmental approach, the scope of the project, and it helps us ensure that we can accomplish this project while sticking to our budget and deploying the website in a timely manner. Below is the Scope Management Deployment diagram that gives a high-level overview of the data flow that is needed to complete the Project Management Plan.

Diagram

Description automatically generated

Observing the diagram above, you can see the inputs that are required for Plan Scope Management, the tools and techniques used for planning the scope, and as a result, our output is a full Project Management plan to be utilized to develop the new web site. This paper goes into more detail of the inputs, the tools and techniques used for plan scope management, and the outputs in reference to the Scope Management Deployment Diagram above.

**Inputs**

Before we begin scope management, the inputs that are required are the Project Charter, initial details of out project management plan, and the Enterprise and Organizational factors. The project charter “documents the project purpose, high-level project description, assumptions, constraints, and high-level requirements that the project is intended to satisfy” (Project Management Institute, 2017, pg. 135). We also need to consider the enterprise environmental factors, and the organizational process assets. Knowing who we are and what we have is needed so that we plan our project keeping our companies’ standards in mind, as well as utilizing any organizational process assets that we already have. Although the output of the plan scope management process is the Project Management Plan, we do need to have some of the details of our project management plan decided, such as the project life cycle description, and the developmental approach we are going to take when developing the website.

For the project charter, we must state the purpose, project description, assumptions, and the high-level requirements. The purpose of this project is to provide 3D printing hobbyists a resource to purchase the 3D printing products that we offer, which includes the best 3D printers on the market for beginners up to experts, as well as printing supplies. Our assumptions are that pricing and availability of different 3D printing products will vary month to month, so we need to have the site content easily manageable to adjust. At a high level, this website must be customer facing, fast and easy to use, with the ability to adjust the products and pricing, and utilizing cybersecurity best practices.

The Project Management Plan includes the Developmental Approach, as well as the project life cycle description (Project Management Institute, 2017). Since we are developing a customer-facing website, we will be going through an Agile approach. Eby (2016) lists the agile process flow to have the Concept, Inception, Iteration, Release, Production, and Retirement phases, which is what we will use for the lifecycle of our website. For this customer-facing website, our market and UI/UX team have an idea on how they want the website to look, however, as the site is built, the vision might not turn out as practical as they want it to be when they are using the created site. Because of this, we will run in 2-week sprints during the Iteration phase, to make sure that the website we are creating goes along with the vision of the marketing and UI/UX team, while keeping the website practical.

To address our Enterprise Environmental Factors (EEF), we are a 3D printing company that sells 3D printers and accessories across the USA. With our Code of Conduct, we always strive to do the right thing, and do our best to keep our customers happy by only selling the best products on the market and delivering the best customer service to our customers.

For our Organizational Process Assets (OPA), We have a $1000 monthly budget for web hosting to start. We also have a marketing, Full Stack Development, UI/UX, and Cybersecurity team at our disposal. Our OPA’s are important to consider so we know what we have, and helps to identify any limitations we may have in developing the website.

**Plan Scope Management Tools & Techniques**

According to Siegel (2019), when creating the requirements, we need to have a risk check on the project where we identify what could go wrong and come up with solutions to resolve the vulnerabilities. We will have Cyber Security experts weigh in on what could go wrong with our website and the best cyber security practices that we need to utilize to prevent the issues from occurring. With their input, we will be able to plan features of the website that will significantly reduce the risk of a cyber-attack. Some of the inputs they would be able to provide is how to prevent SQL injection from occurring from the front end, keeping rate limits to prevent bots and DDOS attacks from occurring, and keeping customer information secure.

We will also have scheduled meetings with the Marketing and UI/UX team to come up with an initial mockup of the website, to give us an idea on how we would want the website to look, as well as the features of the website that our customers would expect.

Data analysis will be performed to help gauge the amount of expected traffic that we should expect to have when the website goes live, the projected growth of traffic, and website hosting services. Data analysis on the different options for web site hosting is also necessary, as we will need to find the right service to fit our needs and our budget.

**Outputs**

The outputs of plan scope management include the scope management plan, and the requirements management plan. The Scope management plan details “how the scope will be defined, developed, monitored, controlled, and validated” (Project Management Institute, pg. 137). Having the scope management plan reduces the risk of scope creep, overspending our resources, and not completing the project in time. The requirements management plan’s primary purpose “is to ensure that all stakeholder and business requirements are captured, analyzed, managed, and addressed by the project plan.” (Stobierski, 2021, para. 3). The requirements management plan will include details on how we will manage changes to the project. Without a protocol on how we will manage changes to the requirements of the project, we could be inviting additional features of the website that are unnecessary, and frequent design changes that could lead to bickering on how the final product will look, as well as more time needed to complete the project.

**Conclusion**

Having a scope management plan is critical for us to have as it defines what is in scope for this project, which in turn prevents scope creep from occurring, and helps to keep all parties involved on the same page in terms of the requirements that are needed to be fulfilled to complete this project. The Project Charter, details on the developmental approach, and Environmental Factors are inputs to the scope management process, which provide context on what we are working to accomplish, how we plan on developing the project, and other key factors that we need to consider when establishing the scope of the project. We will use tools and techniques such as meetings, data analysis, and obtaining expert judgement to help us with plan management, so we can come up with a scope management plan and requirements management plan which dictates the full scope of the project, and how we will handle changes to the requirements. Having the scope management plan will ensure that we meet our deadlines, stay within our budget, and have a completed website that our consumers can use to view and purchase our 3D printing products online.

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