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Final Project Objective 2. - Project Management Plan

Analysis of Software Systems

11/30/20

This document will be an all-encompassing project management plan for the HIPA application and its related hardware and software that is necessary for the completion of HIPA (Holographic Interface Personal Assistant) as the project sponsor defines. This document will detail all aspects of this project that the project manager will be considering, working with, and all requirements they must meet, as well as require all other members of the different business and IT teams to meet in order to accomplish this project and properly change the industry just how the sponsor/company sees it possible to do so. The different sections of project management will be broken down into a bulleted list, with bullet points under each main section detailing the specifics of project management under the HIPA project.

* Project Identification
  + This project is and until its deployment and subsequent success will be a massive risk, and the large risk factor associated with this project will be mentioned and further analyzed in future steps of this project management plan as well. However, despite the massive risk for this project, both the business and IT sides of the company sponsoring and developing this project (since this project is being entirely funded, sponsored, analyzed, and developed in house by a company known as Seventeen Solutions, LLC) recognize what this project is capable of, especially the tangible and intangible business values (mentioned below), and therefore believe in it wholeheartedly.
  + The necessity for this project can be identified from a strictly business perspective by understanding what kind of innovation this project comes with. This is uncharted territory from a business perspective, since the contents of this project have never been successfully implemented on a commercially affordable and easy-to-use scale. Therefore, there is an opportunity to create an entirely new market in the technology sector, and capitalize on it, and establish control of it to achieve extremely high profit. This business aspect is a need and is highly needed by Seventeen Solutions, as their previous project they spearheaded (some drone army for a college to attack its students) failed and cost them millions of dollars in legal fees. This project would bring the company back on its feet, give itself a much better name, and put it on the map as one of the leaders in the technology industry.
  + The need for this project can uniquely be identified from an IT perspective as well. Since this project deals with a topic that has no professional experience being successful, this is a time for developers and analysts alike to tread new ground in the world of technology from a development perspective. The IT staff members that work for Seventeen Solutions that were chosen for this project specifically are passionate about their industry as a whole and pushing it to new heights. Not only is this an IT need because the IT team at Seventeen Solutions understands the business need behind it as well, but they also understand the technological implications behind the success of this project, and want to achieve it “because they can,” and because they hope to propel their company toward the future in the best way possible, so the company can hopefully adopt a holographic interface for many other technology aspects within their company, again putting them ahead of their competitors, and paving the way for future developers and technologies to make holographic interface the future of design.
  + Overall, the business and IT teams at Seventeen Solutions have a very large and expansive understanding of the little need there truly is for this project to be the next one to be completed by the company and respective teams. There is an extreme amount of risk associated with it, especially given the vulnerable state of the company right now. However, the potential rewards and business value from assembling and completing this project together successfully could be the savior and safety of the company for years to come, potentially even decades. They understand what is at risk, and the different teams designed to tackle different sections of the work plan were intentionally assembled so that they understood what was truly at stake for the company and what is needed and expected from them, and they are just as bought-in and passionate about their ability to change the industry and their company in a monumental way as their leadership and corporate sponsor.
* Business Value
  + Tangible Values
    - While we cannot know exact numbers and prices until after launch, Seventeen Solutions stands to make an extreme amount of profit by selling developer kits for the holographic interface after Seventeen Solutions develops the technology for it and obtains a patent for it. The company also stands to sell their products that are capable of displaying the holographic interface to phone companies (Apple, Samsung, etc.) so that they can be built into any and all of their upcoming phones depending on demand for the holographic interface going forward. If the interface were integrated into different phone designs, this would involve a separate, large-scale project between Seventeen Solutions and whichever phone company or companies that wanted to incorporate the interface, so that proper changes to their hardware and potentially even operating system can be made. Again the monetary value cannot be determined for this yet, but a specific increase in sales and company profits is of tangible value
    - Seventeen Solutions also stands to gain a great deal of data surrounding use, ease of use, and convenience of certain aspects of the holographic interface. By tracking the specific uses of the holographic interface in the application, the amount of use it receives, and utilizing other forms of feedback such as customer reviews, different surveys, and by gauging success levels of different email and marketing campaigns, Seventeen Solutions can achieve results, or learn from the results of hard, tangible data associated and collected within the application itself.
  + Intangible Values
    - One of, if not the most extensive, and largest intangible value to gain from this project is to change the technology industry as a whole. Should this project be completed successfully and succeed, then users would again be forced to question what exactly is normal when it comes to consuming technology. Some of the inspiration from this project came from a science-fiction movie about superheroes, a great deal of which contains content that today's technology users find other-worldly and vastly ahead of our time right now. With this advancement in technology, Seventeen Solutions can garner a fanbase and loyalty similar to Apple long term, because of how innovative they are by performing this project.
    - Seventeen Solutions also stands to create a name brand for themselves. They may be able to have fantastic recognition and priority in the industry going forward after this project due to how well-known they can become if this application and its technology become successful
    - One of the final intangibles that stands to be gained from this application and project is the ability for customers to experience different, and potentially more enjoyable forms of technology. By experiencing technology differently, customers can better understand what they expect and desire out of technology, and make more informed decisions based on their preferences. While this specifically may not benefit Seventeen Solutions depending on how each individual prefers to experience technology, it does allow for more balance and a greater way to experience this industry in a unique way, which is better for the customer, and therefore invites more people to consume technology, which is better for the industry as a whole.
* System Request
  + The system request document for the HIPA project will exist to iron out many of the details regarding the business dealings surrounding this project, and as such, the project manager should closely work with all business leaders, experts, and/or analysts across Seventeen Solutions that have been selected to work on this project to accurately complete this document and its five sections in the best way possible.
  + Project Sponsor
    - Since this project is being developed entirely in-house and has been brought about by corporate leadership as potentially the best way for Seventeen Solutions to bounce back financially and achieve massive success in the process, the sponsor for this project is the board of directors at Seventeen Solutions. Many of them have contributed to the funding for this project with their own money, and they have even taken pay-cuts going forward until HIPA can turn the significant profit that they have been anticipating. The largest contributor to this project who believes in it and its massive potential, and the one who has the final say from this group sponsor is president of Seventeen Solutions, Brad Messner. Brad has sacrificed an incredible amount for this company, both financially and and in his personal life, and this project can be thought of as his “baby” that can change this industry and its culture, including the same changes for the company itself.
  + Business Need
    - The business need that prompted this project is the lack of success that Seventeen Solutions has been having in recent years. They have not been able to find projects or sponsors that pay well, or have had the projects that have been contracted to develop perform well (such as the Seton Hill University drone army, known as project Hazard Yet Forward). Their in-house projects have all progressed in similar ways, with the proper resources being allocated to develop and release different types of hardware and software that can be used in different ways across the industry, they just have not been able to make the estimated amount of profits back that matched all of their analysis and prediction statistics. Due to this extreme lack of success, the leadership at Seventeen Solutions has decided that this is their last chance to succeed and financially be able to support their company and stay afloat. If this project fails as well, they will need to go through extreme layoffs and most likely sell the company, potentially resulting in corporate leadership losing their jobs as well. Since this company was self-made in the “American dream” style, the leadership of Seventeen Solutions do not want this awful fate to befall their company in any way. Therefore, the large risk associated with this project prompted the potential large reward, along with the extreme support from the board of directors for this project. The company needs saved financially, and from a reputation perspective so that they can continue to hopefully thrive in the future, and this project has the greatest potential to do all of this, despite its large amount of risks as well. HIPA is the last chance for Seventeen Solutions, LLC.
  + Business Requirements
    - While the result of this project will be a relatively simple to-do list and schedule application, the main draw, and source that the majority of resources that this project will go toward, is the development of the holographic interface for the to-do list and schedule application. When this entire project is finished, proper changes will be made to an iPhones screen and projection capabilities (if necessary) to allow for a holographic interface to be displayed from the phone when laid in a screen-up position. The maximum amount of space that this interface can take up in this first version of the application will be a 20” long, 35” wide area, with an extra 5” on the z axis for depth of the 3-dimensional holographic models that the interface allows for as well. If the iPhone operating system cannot handle the necessary programs to display this, all of the necessary software to allow for HIPA’s display will be contained in the HIPA mobile app. This may mean that it is an extremely large application to start, but we anticipate working with phone companies to integrate the proper systems requirements into new versions of (at least iPhone) operating systems. This initial application is to be developed with the intent to change the iPhone as little as possible to work, so that the technology used can take off and become popular, with performance enhancements being anticipated down the road. With the holographic display, users will be able to interact with it and utilize the changing and updating of their schedule and to-do list with the help of a the HIPA Grip, a two-piece sleeve for a users index-finger and thumb on the hand of their choosing. The HIPA Grip will interact with the software inside the application via bluetooth to determine what pieces of the holographic interface are being manipulated and therefore will change them real-time in the interface itself. Within the holographic interface and the mobile-only interface, users will be able to interact with their schedule, creating, updating, completing, and assigning and changing times and notifications for their scheduled events. The same can all be done through the to-do list portion, except the user manipulates, creates, deletes, snoozes, completes, assigns and changes times and notifications for tasks. Within the watchOS version, users can see their progress for their tasks and events based on the current day through their watchface, and can add tasks and events through voice commands. The holographic interface will only allow users to edit certain aspects of their events and tasks through voice commands as well. This is due to the fact that no holographic keyboard is available for the application yet.
  + Business Value
    - Seventeen Solutions stands to gain everything from this project. The success of holographic interface technology has not occurred yet on a large scale throughout the technology world, let alone in mobile. This allows for Seventeen Solutions to set precedents for this type of technology that includes the ability to sell it at whatever price they deem necessary as long as they are the only ones who have developed the technology still. Since mobile is one of, if not the easiest platform to access users through, this project has a very high likelihood of taking off commercially, and if there are technology specifications that need to change with the iPhone for proper holographic display, or even changes to iOS as a whole for processing it in the most efficient way possible, Seventeen Solutions can potentially be contracted by Apple to update their hardware and software, allowing for massive profit and financial gain. This project can also open the door for a myriad of other holographic-interface applications, each one more advanced than the next, and the originality and uniqueness of this type of technology invites interest and use, which can also allow for a great deal of financial gain. By financially gaining and becoming the first player in holographic interface technology, Seventeen Solutions can become a top player in the technology world, highly respected, and back to being very self-sufficient financially.
  + Special Issues
    - With the creations and development of holographic interface technology, there are a great deal of potential risks that need to be overcome. For example, the lack of experience that we anticipate all of our business and IT staff having with this project means that this will take an extreme amount of time. We anticipate allocating 2 years minimum to this project, and are open to more. This project also may require a lot of processing power to properly work, so there is also a massive budget associated with this project. We would like to keep it under $1 million total, but if more is needed, then that is possible. This project also will deal with a unique blend of hardware and software, since the projection technology of the iPhone needs to be up to par for this project or updated accordingly, and the HIPA Grip also needs to accurately interact with the interface, and all of the software that is controlling it in the backend. These will be the largest obstacles going forward in the foreseeable future.
* Feasibility Analysis
  + Technical Feasibility
    - This technology has never been designed or created to the level we are attempting to nor with the hardware we are trying to. This is the cold hard truth. This is uncharted territory in technology, and there are no experts to rely on or senior developers that have more experience with this technology than others. Despite this, our developers at Seventeen Solution are some of the best and brightest in the industry. They are capable of creating amazing things with amazing code thanks to our documentation standard, and they have made great applications in the past, which adds even more to the misfortune of how unsuccessful those applications were. This is also a massive project, which points to massive risk with it as well. In the most blatant and honest form for this analysis, this project should not be built. A lack of experience and the large scale of it all are both very bad omens. However, the people believe in this project and in themselves, their superiors, and their subordinates up and down the entire company, and even I believe that this can succeed, partially because it has to for this company.
  + Economic Feasibility
    - Cost-benefit analysis
      * A great deal of the numbers for this analysis will be carried out by our financial teams, and they can give the proper numbers in a very accurate sense that will allow for all people to understand what the economic feasibility behind this project is. I have a list of costs and benefits below, and it is up to the financial departments to assign accurate numbers to them so we can see a legitimate cost-benefit analysis. I can almost guarantee that it will say that this project should be done, but I can also guarantee that the financial upside for this project will have no true ceiling. I find this to outweigh any and all costs.
        + Costs

Company is poor

Lack of familiarity with employees

Large project invites hiccups and risk

Financial support is out of pocket from directors and president

* + - * + Benefits

Unknown financial potential and upside

New section within the industry is uncharted

Cash-flow support is not being taken away from what little the company already has

Universal positive vision for this project across the company

* + Organizational Feasibility
    - It is true that not all people choose to invest themselves in new technology when it is released, or even enjoy it either. Some new forms of technology are even not accepted upon release in pop-culture and the industry as a whole. This is very possible with holographic interface technology once HIPA is released. While all of these risks have an extremely legitimate possibility of coming to fruition and ending Seventeen Solutions as it stands today, these risk need to be understood and addressed so that proper marketing and design goes into making the technology as appealing as possible, so that people can give into the positives and reasons as to why users will accept, enjoy, and even prefer this new type of technology. The up-side to it is just as large, if not larger than risks from this point of feasibility, so if the proper steps are taken, then this product seems to be very likely to be enjoyed by massive amounts of people, even if it is not guaranteed.
  + Stakeholder Analysis
    - This specific analysis is going to be of paramount importance so that all of the stakeholders in this project are known, and all of the stakeholders that are selected for certain positions are going to be able to drive this project and its vision to completion, even if that means years down the line.
      * Project Champions - Careful consideration must be taken by the board of directors for Seventeen Solutions when deciding who to give the reins to in terms of large-scale management, such as the project manager. A potential hierarchy within the board may need to be established as well, since they are a group of sponsors, and not an individual one (outside of Brad Messner being at the top). These champions need to have experience in failure, and know precisely what it takes to make the most difficult and grueling projects successful, and be willing to sacrifice a great deal for it.
      * Organizational Management - This group of small team leaders within the Seventeen Solutions that are deemed able enough to lead teams for the HIPA project must meet every particular criteria that the board, and especially Brad, determines. Nothing can be left up to chance when staffing this project. There are too many risks, and one of the best ways to minimize this is to have an air-tight plan going forward for every aspect of the SDLC (System Development Life Cycle). The analysts must have experience, know failure and success, and be just as invested as everyone else involved, including their team members.
      * System Users - Testing across potential users throughout every solitary step of the SDLC process for project HIPA is crucial to adhering to the success of organizational feasibility. By understanding and working with what users want, all team members can slowly learn the best strategy to turn this project into a multi-million dollar user experience.
      * Others - This many include any personnel that is not included in the previously mentioned groups. These people can be of little to no interest or effect, or of massive impact. They can potentially be the “elusive dependent variable” according to MIS personnel. All people involved need to be properly analyzed to see what they can and will contribute to this project, positively and negatively.
* Project Selection
  + This is THE project. This is the only project that Seventeen Solutions will be working on, as they have not received contracts recently, given their track record and the poor state of the company. This project is what determines if the company survives or not. Since this project was brought forward and is being sponsored by corporate leadership, this project was automatically approved and will have no troubles with corporate interference and stalling.
* Project Management Tools
  + Due to the massive nature of this project, Seventeen Solutions has tried to make this project as simple, and cost effective as possible when applicable (the company is not afraid to spend money wherever it has to - but it is open to saving money if it will not have a large effect on time or quality of HIPA’s release). In order to save money and keep project management of HIPA easy to understand and track, Seventeen Solutions will employ a simple Microsoft Excel Spreadsheet to track the tasks, deadlines, dependencies, and more associated with the workflow of this project. When possible, it will be broken down into separate spreadsheets across the same document.
* Project Effort Estimation
  + The full-length project effort estimation will entirely be tracked using different mathematical calculations by associated qualified teams within Seventeen Solutions. Use cases will be put together with an extreme amount of detail, including spots within the use cases where errors are the most likely to occur. These use cases will each have an associated cost of time, and effort assigned to them. Each specific feature will also have final time and effort values assigned to them based on the complexity and possibilities showcased within each features use case. The result will be a master list of everything that needs to be built and assembled, ordered by how much time it is being estimated to take, and how much effort will be needed as well. These numbers will help us determine the long-term financial cost of the project as well. There will also be a margin of 15% of time added to each buildable feature of this master list in order to account for any unforeseen time constraints and to create a comfortable cushion for the teams to work with. Lastly, this time-management determination will be incorporated into the work plan itself, and will assist in creating the most accurate and feasible deadlines possible so that the company has ample time to work, but still is not wasting valuable resources.
* Creating and Managing the Work Plan
  + As previously mentioned, the work plan will be created and monitored on Microsoft Excel across multiple spreadsheets within the same document. This will be carried out and updated by the project manager at all times. An iterative and incremental approach will be applied to the work plan, with a KISS (“Keep It Simple, Stupid”) mindset being applied to the description and simplicity of each task. This will allow for ease of understanding and reading the work plan no matter what the role is of the person looking into it. The simplicity can allow for teams to communicate with each other better as well, so they can understand what other teams have expected of them when they need to work together on dependent tasks and adhere to the proper timelines previously made by the project manager. This is also accomplished through Evolutionary Work Breakdown Structures. By continuously updating the work plan as tasks are completed and new ones are added, the project as a whole can seem very possible over time. Simple, iterative tasks allow for confidence to build, and failures can be seen as small road bumps, independent of the large lists of tasks independent of it. Failures will also inspire different ways that the work plan is updated going forward, as work culture can shift over time during a project as large and time consuming as this one. The Evolutionary Work Breakdown Structures will invite and encourage proper work flow to achieve maximum productivity and quality from the resulting work.
* Scope Management
  + Scope management will be a topic that is very important to keep in constant analysis. Creating new technology such as a holographic interface can invite so many possibilities, especially as time goes on and the project nears completion. New features for this project specifically can seem like science fiction come to life, and potentially simple to achieve as well. However, the purpose of this project is to showcase Seventeen Solutions LLC’s ability to transform the industry and establish holographic interface technology as the new norm within mobile consumption and development. There are very exciting future plans that will capitalize on the possibilities that will present themselves due to scope creep. However, those plans will be acted upon after the completion of HIPA version 1.0. Scope creep may add a significant amount of time and financial costs to the project as a whole, so it must be monitored as often as weekly or even daily, so that the end goal of simplicity with this project is achieved first. Once that is completed, Seventeen Solutions will have earned the right to have fun with their new creation.
* Staffing the Project
  + As mentioned before, due to the nature of this project being sponsored, contracted, and developed entirely in-house, the staff for this project will entirely consist of employees of Seventeen Solutions. A rigorous process is planned to select which employees are truly qualified from an experiential and qualification standpoint to be on any role in this project, even roles as small as junior developers. This selection process will also ensure that all of the employees selected are of strong mental health and fortitude, and not only believe in this project long-term, but also believe in Seventeen Solutions as a company and are highly emotionally invested in its success. This project must have as much passion and drive put into it as possible if it is going to work and succeed despite the risks, therefore every individual that is working on it must have the proper vision and drive to do everything necessary to make it succeed.
* Creating a “Jelled” Team
  + Since almost all members of the teams working on HIPA will have worked together for very long periods of time, a great deal of them will already understand each other and how they operate, and will already be very “jelled”. Since each member of the teams are being handpicked however, certain team members may not have one-on-one experience with each other. In this case, team and even company wide retreats are being planned every 6 months of the development process to ensure that shared experiences continue to bring the workers together outside of work.
* Handling Conflict
  + Conflict will be dealt with smoothly and quickly. There is no room for conflict in this project, and everyone must understand the extreme patience and fortitude that is necessary to accomplish this. If individuals present themselves to be a problem, new personnel will take their place, and it will be ensured that they are even more motivated than the previous employee. This may require bribes or offers of incentives upon completion of a certain feature, task, or the project itself. This may seem like too much, however conflict can make this project nosedive extremely quickly, and it requires swift and decisive action.
* Environmental & Infrastructure Management
  + By manipulating the proper infrastructure and environment for development, the process by which tasks are accomplished can be increased in productivity exponentially. If possible, certain pieces of infrastructure will remain the same as it has in the past for Seventeen Solutions, such as using SourceTree for version control. Seventeen Solutions will also use its contract with JetBrains in order to utilize all of their programming IDEs for the software development portion of this project. Other changes, or new forms of environmental and infrastructure management may need to be decided upon as time goes on, such as the proper workstation(s) to produce the HIPA Grip, any upgrades to the iPhone projection hardware, or any other hardware in general, among others.