**Assignment 1.3 – The Principles Underpinning DevOps**

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The DevOps method which started out small as a way to find a better process than Agile and then grow in popularity for so many reasons. These reasons consist on several things such as the work limits process where you try to limit multitasking, eliminating waste in a project, and also, ways to improve communication and project sharing just to name a few. I will go into further detail as to why you should consider using the DevOps principles for you company and teams.

DevOps work in process limits (WIP) helps with limiting the amount of work that has been start but not yet finished. This method helps to increase the throughput of software being developed and put through the pipeline. (Wentzel, D.) The theory behind this method is that even though people believe they are good at multi-tasking they are however, not. (Wentzel, D.) So, while you might be working on several projects at once your still only really context switching between projects. (Wentzel, D.) Meaning that your working on one project at a time just switching back and forth. It also allows for focus on completing a small number of high-priority tasks. By limiting the number of projects to one at a time it should help to improve the amount of time you spend on each project because you are focused solely on it. (Wentzel, D.)

Another great thing to work on is eliminating hardships and waste in the valve stream. What this means is that anything that causes any sort of delay for the client such as items that can be skipped without affecting the outcome of the project. (Verma, P.) A few other types of waste that we come across as developers are projects that are part of the way done, projects having more features than they need, having to wait on QA testing or acceptance testing as well as having defects or bugs in the project as well as several others. (Verma, P.) There can be several ways to solve the issues with different parts of the waste. With waiting on the QA testing and acceptance of testing the process can be automated so that the test starts as soon as something is passed to it and then once it passes it then gets passed on for acceptance. (Shukla, A. ) However, if it fails the automated testing someone is then notified so that the code can be corrected quicker. Another way to help with waste is by only implementing the features that the program/application needs. Many times, developers try to go above and beyond what their clients are asking for but its not always necessary and really causes a lot of extra time (waste) on a project. (Shukla, A.)

One thing that I found to be fairly important within the DevOps method was the way we transform local discoveries into a global improvement. What this is talking about is how information is shared through out teams when something is either discovered such as a bug and how different tools can assist in this process. Many companies have started using chat programs such as Slack that helps all of the different teams communicate with one another and different departments being able to communicate with other departments. (Kim, G., Debois, P., Willis, J., Humble, J., & Allspaw, J.) With Slack also comes several automation tools that can help speed up different things as well such as sending it a command and having it deploy part of an application. Another tool that helps with local discoveries is having a GitHub repository that everyone has access to so they can see when someone pushes their code and what changes they have made. There are several other tools that are available to help developers and teams share and talk as well. You just want to make sure that whatever your business chooses that it helps achieve the goals and doesn’t cause more issues. (Kim, G. et al.)

To sum it up DevOps has many different tools for us as software developers to make our jobs a little easier. The different methods that DevOps lays out for developers really helps to improve the project as a whole and cut down on waste throughout the project. The tools that can be used come in many different forms such as a chat program, or a site where all the code for the project is shared. While implementing DevOps might be a little time consuming at the start in the long run it should really help to improve the team’s productivity when creating, testing and deploying the software.

**Bibliography**

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