Virtual Case File Report

CSIT 416-02 IT Project Management

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Due Date

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The FBI’s Virtual Case File was one of the most public software design failures. The goal of the project was to design a computer system that would help FBI agents communicate and gain access to information. Larry Depew’s knowledge of database systems led to him managing the Virtual Case File project and Science Applications International Corp(SAIC) was contracted to write the software. SAIC delivered the VCF, but ultimately was found to be unusable and had to be scrapped, despite the project costing $170 million. A major reason that the VCF failed is because its development was plagued by common software design mistakes.

One major flaw in the planning of the Virtual Case File was that there was no blueprint for the final product. Bob E Dies, the FBI’s assistant director who managed the FBI’s information resources, wanted to provide agents with the Virtual Case Software as soon as possible. Because of this, he chose not to construct and use a blueprint for this project, which ultimately led to more problems than it fixed. Blueprints help guide software development by focusing on how to accomplish required tasks and how to build the software itself. This lack of guidance made other phases of the project much more difficult due to each phase having unclear goals. Developers are often most successful when they have material they can refer back to in order to check if they are on task. For example, at a very low level, this is why Software Engineering at Montclair State has all the dates predetermined for each milestone for the course’s main project. This aids students with developing their final project. On a more mature level, developers would ideally take time to determine when and how each phase of the project should be done in order to determine if they are on task instead of solely having a delivery date for the project. Having a blueprint would have helped guide developing the VCF, and its absence harmed the VCF.

The requirements documents were both bloated and vague, which led to the VCF being poorly designed. The requirements document was 800 pages long and was more complicated than it needed to be, rather remaining as simple as possible. The requirements document was also primarily about the exact implementation of each component rather than explaining what functions the system will perform. An effective requirements document is supposed to clarify how the system will work in plain language and later documents are meant to focus on implementation. It is about the what rather than the how. Instead, the requirements document was overly precise, which made the VCF’s development more difficult. The requirements focused on writing individual units of code rather than unifying a complete prevented SAIC from optimally unifying the VCF’s components. The VCF needed to have a unified, precise requirements document, but instead it was harmed by a splintered and clunky requirements document.

The VCF project also lacked acceptance or rejection criteria and milestone deliveries, which meant that SAIC could not compare their system against any criteria and the FBI would not be able to provide feedback before the final version of the system was delivered. This meant that if the system ended up not matching up with the FBI’s criteria, SAIC would remain unaware of this. SAIC would also remain unaware of what exactly the FBI wanted since they could not use the criteria to guide the VCF’s development. This was proven to be problematic since an audit done by Glenn A Fine, the US Department of Justice’s Inspector General, found that poorly defined and slowly evolving design requirements are one of the factors that led to the system’s failure. The lack of feedback reduced the chances of the VCF fulfilling the FBI’s requirements.

Lastly, the FBI’s deadlines caused development to be rushed, which harmed the VCF’s development. Sherry Higgins, who managed the VCF along with two other IT projects for the FBI, felt that Robert Mueller should have been better informed that either the time required, cost, or quality were going to suffer, which is known as the project management triangle. The project began in March 2001 and had a deadline of December 2003, meaning there would only be 22 months to develop the system. This decision led to massive consequences. In order to reach the deadline, the BAIC divided the system into eight parts in order to finish each part more quickly, but they ultimately were unable to combine the eight parts. In addition, the frenetic schedule caused teams to make changes to the system in disparate manners, which led to some modules in VCF handling data differently. This caused errors to occur intermittently when different modules communicated. When the system was finally finished in December 2003, the FBI was displeased with it. A report by the US House of Representatives showed that there were major errors, such as being unable to search for individuals by specialty or job title, and minor errors, where a button was labeled with the text “State” rather than “State/Providence/Territory.” The number of these errors could have been exacerbated by the inordinately tight deadline and therefore, the project was worse due to its delivery date.

In conclusion, the development of the VCF was marred by poor software development practices. Rushing the project by not developing a blueprint and then aiming for a release date only two years after the commencement of the project led to many errors. The absence of any criteria kept the developers from reviewing what the FBI wanted and the absence of any milestones prevented the FBI from seeing what the developers were working on. This isolation led to the FBI being dissatisfied with the final version of the VCF they received. The developers when designing the requirements documents misconstrued the goal of those documents and focused on individual parts and code rather than the whole system. Though there were other factors that affected the VCF’s development, the project management did its part in sealing the fate of the VCF.