

## **Architectures:**

1. Layered
2. Event-Driven

## **Reasoning for why we chose these:**

We selected layered and event-driven architectures because they focus on the areas that are prioritized by the Grant Tracking system. The layered architecture provides abstraction in the responsibilities, which simplifies both the development process and the management of information, creating a much more streamline process. Moreover, the layered architecture provides a simple and robust solution for controlling who has access to what data by restricting the user's access to only certain layers. The event-driven architecture provides a simple and very clean design in managing the entire workflow. For example, once a new grant application is received, the system knows the procedure it must execute and provides all the data to the necessary personnel. This design will create a very optimized solution without adding additional complexity.

We've decided to use a web application for interactions with the system as that provides uniform access from any platform, desktop to mobile, without compromises of any features. Furthermore we have chosen to encompass this entire system with a proprietary license and denying any community access as we believe the information involved is personal, so in order to minimize possible exposure we have closed this off entirely. In addition we did not want to have any actual desktop or mobile applications as that would increase development complexity without a significant performance or usability advantage, for that reason we found web access to be the optimal solution.

## **Why other architectures don't work:**

We dismissed microkernel, microservices and space-based architectures because they focus on different things than this system. The Grant Tracking System will not need any modularity or expenditure via small modules, as the system will be added to and regulate its external access. Microkernel, microservices, and space-based architectures are designed to be more flexible and extendable within multiple coordinating branches/teams; however, the Grant Tracking system does not require the additional overhead and complexity.