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CS-449 Computer Science Capstone

Southern New Hampshire University

Professor Bryant

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Enhancement One: Software Design/Engineering

The Calendar Tracker app, a unique creation developed through Android studios using Kotlin, Jetpack, and numerous XML files, stands out with its distinctive features. These include different views upon user interaction, a notification system, and a theme change that offers light and dark modes. Each screen is designed with special features to enhance user experience. The app was designed to help users keep track of events and stay on top of their schedules with timely notifications. This artifact was brought to life in April of 2024.

I selected the Calendar Tracker app because it was one of the best projects I have completed and enjoyed working on. I believe the features I added to the app are impressive and are used within many real-life applications, so my ability to replicate their designs shows that I am working to become a solid developer. My functions, class files, and features stand out the most as they are organized and run perfectly. This artifact was improved by taking pieces from my prior artifact to build a whole new piece. I spent a long time trying to debug my old project and was not a fan of it, so I decided to start fresh. Unlike my original artifact, a significant improvement was that the artifact could run. Now, users can navigate within the app and do what the app intended to do. I also added many comments throughout my code to explain what code blocks do and how they handle specific functions. Overall, this was a much better work, and I am proud of what I accomplished.

While I achieved the course outcomes with this artifact, I also see significant potential for future improvements. I enhanced the UI/UX design to ensure users can stay engaged and interact within the app. I followed coding best practices, such as making comments throughout my code, and provided the app's security by ensuring no bugs were populated, ensuring less corruption. One area for future improvement is to allow users to enter events and update the calendar with their events. This potential for growth sets the stage for future work and demonstrates a forward-thinking approach.

While enhancing my artifact, I learned many skills and lessons. The skills that I learned were making better designs and enhancing theme management. I also learned more about improving user experience and precise lighting conditions, which allowed me to create a light and dark mode. A lesson learned was ensuring I save my work on a trusted computer and save more artifacts to a cloud or even GitHub. I was lucky to pull some work, but rebuilding the app took a long time. I faced challenges applying different text colors based on the current theme. This challenge led me to do outside research, where I gained valuable information and learned more about Android UI components. The last challenge I faced was changing the calendar view to change the text colors. These barriers showed me that I do have to learn more about certain IDES and how to configure my workstation to ensure completion for more complex apps in the future. Overall, this project has significantly enhanced my understanding of Android's development and motivating to work with this IDE more.