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<p style="text-align:center">SDLC Paper</p>

SDLC, or Software Development Life Cycle, outlines the steps taken during a software development project. These steps help to plan, develop, test, and deploy the software. To do so, there are three primary methods that software engineers use: the waterfall model, the iterative model, and the spiral model. The waterfall method has a cascading of events. It involves the requirement analysis phase, which defines what the problem is, the design phase, which identifies how they will fulfill the requirements, the code and module testing phase, which develops the code and tests the individual modules, the integration phase and system testing, which tests the entirety of the system, and the delivery and maintenance phase which delivers the software to the end user and assigns developers to solve bugs within the system. The iterative model is more commonly used and focuses on turning requirements into increments for a more seamless development process. The first step is the requirement analysis phase, which defines what the problem is, then there is the assign requirements to increments phase, which divides up the requirements into increments depending on the level of importance. The design system architecture phase follows, which designs how to fulfill the requirements. Then the develop increment phase and the validate increment phase, which tests to make sure the increment meets requirements. The integration phase is next, which integrates the increment with the overall system, the validate the system phase, and the delivery phase. Finally, the spiral model essentially combines the development of a prototype and the use of the waterfall method. This

method is typically used for more complex and expensive projects where a prototype is needed to begin implementation. All things considered, each model conducts a similar process, just varying in arrangement. The choice of which method to use is dependent on the project and business at hand. Overall, the SDLC helps to ensure the creation of systems that satisfy business objectives and goals. Following this process is essential to maintaining an organized implementation system and setting software engineers up for success.