**Title: The Stages of the Software Development Life Cycle (SDLC)**

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**1. Introduction**

The Software Development Life Cycle (SDLC) is a step-by-step process used for creating software. It helps ensure that software development is done in a structured and organized manner, meeting the needs of users. This report explains the key stages involved in the SDLC and their purpose.

**2. The Stages of SDLC**

2.1 Planning

The planning stage is where the idea for the software is first discussed. It involves determining what the software should do, who will use it, and the resources required for development, such as time, budget, and personnel. This stage is crucial for laying out a clear game plan for the project.

2.2 Requirements

In this stage, the detailed requirements of the software are gathered. This involves communicating with potential users and stakeholders to ensure their needs are understood and documented. It helps prevent misunderstandings and sets clear goals for the development process.

2.3 Design

The design phase focuses on how the software will look and function. Developers create blueprints or models that outline the structure of the software, including its user interface and system architecture. This is like designing a house before construction begins, ensuring all parts are planned.

2.4 Development

During the development stage, programmers start writing the code to create the software. It involves translating the designs into a working program. This step can vary in duration based on the complexity of the software and the development team’s size.

2.5 Testing

Once the development is complete, the software undergoes testing to identify any issues or bugs. The purpose is to ensure that everything works as intended and to fix any problems before deployment. This step is similar to inspecting a product for quality before it’s released to customers.

2.6 Deployment

The deployment stage involves making the software available for use. It can include installing it on servers, configuring settings for users, or releasing it online. This step signifies that the software is ready to be used in the real world.

2.7 Maintenance

Even after the software is deployed, ongoing maintenance is necessary to address any new issues, add features, or make improvements. This stage helps keep the software functional and up to date over time.

**3. Conclusion**

The Software Development Life Cycle provides a structured approach to software development, ensuring each stage is handled in an organized way. By following these stages—planning, requirements, design, development, testing, deployment, and maintenance—developers can create software that meets user needs and performs well.