**CS 320 Portfolio: Software Testing and Quality Assurance**

**Summary:**

In Project One, I developed a contact service for a mobile application. The contact service included functionality to add, delete, and update contacts. I utilized JUnit tests to verify the functionality of both the Contact class and the ContactService class. These tests ensured that the code was functioning as expected and met the specified requirements.

**Reflection:**

**How can I ensure that my code, program, or software is functional and secure?**

Ensuring functional and secure code involves thorough testing, including unit tests, integration tests, and security testing. Additionally, following secure coding practices such as input validation, data encryption, and access control mechanisms helps enhance the security of the software.

**How do I interpret user needs and incorporate them into a program?**

Interpreting user needs involves effective communication with stakeholders, gathering requirements, and conducting user research. Incorporating these needs into a program requires careful consideration during the design and development phases, ensuring that the software meets user expectations and addresses their pain points.

**Project Two: Summary and Reflections Report**

**Summary:**

For Project Two, I submitted a summary and reflections report detailing my unit testing approach, experience writing JUnit tests, and reflections on software testing techniques and mindset. The report highlights my ability to analyze software testing requirements and apply appropriate testing strategies to meet project objectives.

Reflection:

**How do I interpret user needs and incorporate them into a program?**

Interpreting user needs involves effective communication with stakeholders, gathering requirements, and conducting user research. Incorporating these needs into a program requires careful consideration during the design and development phases, ensuring that the software meets user expectations and addresses their pain points.

**How do I approach designing software?**

When designing software, I follow a structured approach that includes analyzing requirements, creating design specifications, and implementing solutions using appropriate design patterns and architectural principles. I also prioritize factors such as scalability, maintainability, and usability in the design process.

**How do I ensure that my code, program, or software is functional and secure?**

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