Summarized

**Theme 1: Technical Debt Identification**

Question 4: Stages in Software Development and Key Challenges

- Student:

-The student mentioned stages in software development, starting with identifying the problem and then coming up with ideas.

-They emphasized the importance of understanding the problem before planning.

Question 5: Identification of Technical Debt

- Student:

-The student explained that technical debt is the result of taking shortcuts and not following proper software development practices.

-They highlighted skipping steps like requirements and documentation.

Question 6: Indicators of Technical Debt

- Student: The student discussed how technical debt often becomes apparent during testing and code review, where issues arise due to shortcuts taken during implementation.

**Theme 2: Technical Debt Measurement**

Question 7: Measurement of Technical Gaps

- Student: The student mentioned that they focus on measuring technical debt during the implementation phase.

They did not specify the use of specialized tools but mentioned seeking expert advice.

Question 8: Current Tools for Measurement

- Student: The student indicated they are not currently using specific tools for technical debt measurement but mentioned potential tools like StepSize, SonarQube, and CodeClimate that could be used.

Question 9: Prioritization of Technical Gaps

- Student: The student discussed prioritizing technical debt based on its impact on stakeholders, focusing on critical issues first, such as those affecting user functionality.

**Theme 3: Technical Debt Impact Evaluation**

Question 10: Impact of Unresolved Gaps

- Student: The student explained how technical debt impacts software quality, including performance, compatibility, and maintainability. They emphasized that it lowers performance and affects compatibility.

Question 11: Specific Examples of Impact

- Student: The student couldn't provide a specific example from their experience but mentioned a scenario in a coursework project where time constraints led to taking shortcuts and negatively impacting the project.

**Theme 4: Early Debt Repayment**

Question 12: Practices to Encourage Early Repayment

- Student: The student mentioned that their university organizes sessions, like "Chuxa," where experts provide advice and guidance to encourage students to address technical debt early.

They also emphasized minimizing code duplication.

Question 13: Incentives for Managing Technical Debt

- Student: The student talked about rewards and financial support for students who fix technical debt and come up with quality projects.

They also mentioned the importance of hands-on practical training to motivate students to develop software from scratch.

Full Transcription

Certainly! Here's the interview transcription as a single block:

Interviewer:Which year are you, and what is your role in the software product or project you are developing?

Student:I'm Opolot Stephen, pursuing a Bachelor's in Information Systems. We have different projects, some in software development, but we're still in the early stages.

Interviewer:Have you worked with mobile applications or web applications?

Student:Web applications.

Interviewer:Great. What role do you play in the project?

Student:I'm involved in the software development part.

Interviewer:Thank you. The interview is divided into four themes. Theme one is technical debt identification. In your software development, what stages do you go through when developing a product or project?

Student:Initially, we identify the problem, then come up with ideas and plans to solve it.

Interviewer:What challenges do you encounter with tools, such as frameworks and programming languages?

Student:The variety of programming languages can be challenging. We often have to rely on online resources to learn.

Interviewer:How would you define technical debt?

Student:Technical debt results from taking shortcuts in software development. It's the aftermath of not following proper software development practices.

Interviewer:How do you become aware of technical debt in your projects?

Student:We usually identify it during testing or code review when issues arise due to shortcuts taken during implementation.

Interviewer:Theme two is technical debt measurement. How do you measure technical gaps in your projects?

Student:We primarily measure technical debt during implementation, but we don't use specialized tools. We often seek expert advice.

Interviewer:Are there any specific tools you use to identify technical debt?

Student:We're not currently using specific tools, but there are tools like StepSize, SonarQube, and CodeClimate that could be useful.

Interviewer:How do you prioritize which technical gaps to address first?

Student:We prioritize based on the impact on stakeholders. Critical issues that affect user functionality come first.

Interviewer:Theme three is technical debt impact evaluation. How do unresolved technical gaps affect the quality of your software, in terms of performance, reliability, and maintenance?

Student:Unresolved technical debt lowers performance, affects compatibility, and makes the software less reliable and maintainable.

Interviewer:Can you provide a specific example from your programming experience where technical debt negatively impacted a project?

Student:In a Java programming coursework, we took shortcuts due to time constraints. This affected the project's quality.

Interviewer:Theme four is early debt repayment. Are there practices or strategies in place at your university to encourage early repayment of technical debt?

Student:Our university organizes sessions where experts provide guidance. We're encouraged to minimize code duplication and engage in practical training.

Interviewer:What incentives or mechanisms encourage students to address technical debt early?

Student:Students receive rewards and financial support for fixing technical debt and producing quality projects. Hands-on practical training also motivates students to build software from scratch.

Interviewer:Thank you for the insights. That concludes our interview. Can you please provide your name and signature?