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Tutorial NO. - 13

ON

SOFTWARE ENGINEERING(SSCS3010)

TITLE: To Identify the Usage of Regression Testing.

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY (BSC-IT)

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TUTORIAL-13

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Aim: To Identify the Usage of Regression Testing.

Regression testing is vital in software engineering to make sure that recent code modifications don't negatively impact the existing features of an application. When a code change occurs—such as fixing bugs, adding enhancements, or integrating new modules—regression testing ensures the system still functions as expected.

Definition

Regression Testing refers to the systematic process of re-executing functional and non-functional tests to confirm that previously developed software still behaves correctly after any update or change.

Why Regression Testing is Needed

- **After Bug Fixes:**
For example, suppose you fix an issue in the “Export as PDF” feature of your Resume Builder. Regression testing checks that other features—like “Create New Resume” or “Upload Profile Photo”—are unaffected.
- **After Adding New Features:**
If you add a “Custom Templates” feature, regression tests verify that resume generation, section editing, and download functionalities work as before.
- **After Refactoring or Code Optimization:**
If backend code is streamlined for better speed, regression testing ensures users can still save, edit, or preview their resumes without issues.
- **During Integration:**
When integrating a payment module (for premium templates), regression testing checks that standard resume-building components are still intact.

Examples (Project-Specific)

Scenario 1:

Your team fixes a logic error in the “Spell Check” module. Regression testing includes running all automated tests to make sure no other part—like formatting, section reordering, or PDF export—has been broken by this fix.



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Scenario 2:

You introduce a “LinkedIn Import” feature. Regression tests verify older features such as creating, saving, and exporting resumes remain stable, ensuring the new addition doesn’t cause conflicts.

Usage in Resume Builder Development

- Ensures the quality and stability of your product after frequent updates or feature additions.
- Builds confidence for developers, testers, and stakeholders that the application remains reliable.
- Supports CI/CD pipelines by allowing automated test execution after each pull request or code merge.
- Ultimately helps keep the end users satisfied by delivering a functional, error-free experience, even as the application evolves.

Conclusion

Regression testing is not optional—it’s crucial for any modern software project, especially platforms like a Resume Builder for Freshers, which will undergo continuous incremental development. Without it, even minor changes can accidentally break key features, risking user trust and affecting business goals.