Test coverage analysis helps insurer improve and standardize testing

A leading property and casualty insurer had different teams testing different applications across multiple geographies. The decentralized nature of the testing teams and their processes led to inadequate test coverage and poor testing quality.

The teams used inconsistent formats for test cases and requirement documents, making it difficult to share and reuse artifacts.

The Situation

Capgemini was hired to test six sub-systems and two processes for one US state.

The processes not only affected a single sub-system but also had multi level functionality coverage where one case could use the functionality of another.

To streamline and standardize testing, Capgemini recommended three key activities: analyze and structure requirements, identify test cases and map requirements and test cases.
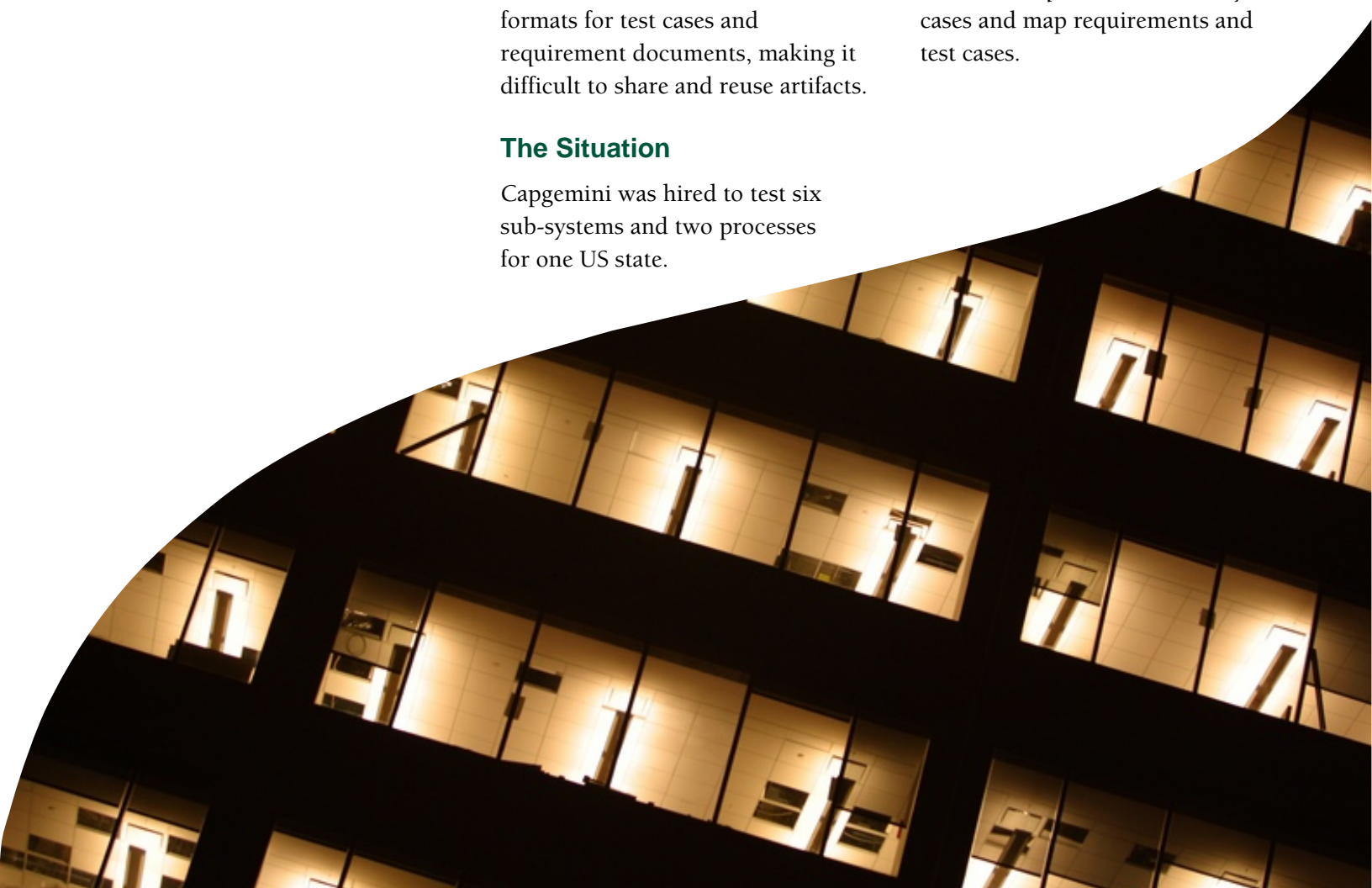
The Solution

Capgemini performed a gap analysis to identify the gaps between the requirements and test cases. We uncovered requirements which were not being tested under existing test ware and analyzed the quality of test cases based on defined parameters. We also helped identify that integration and business testing teams were not synchronizing testing which led to inefficiencies. Key activities:

- Ran training sessions to help the client team understand domain and system functionality

- Clarified and documented the requirements for easy use by testing teams

- Extracted test cases from Test Director for different teams and categorized them according to sub system; Test cases for more than one system were moved to both sub-systems

- Developed a traceability matrix to identify the coverage level of requirements and measure the quality of test cases.

- Identified requirement clarity, coverage level, test case quality, and test case completeness

- Uncovered redundant and duplicate test cases

The traceability matrix allowed Capgemini to perform a close comparison between the requirements and test case which served as a strong foundation to evaluate them.

The Value

By checking the completeness and coverage of test cases across the system, Capgemini helped our client optimize their test case repository and set the standard for the organization. We enabled better mapping to support testing efforts by systematically documenting and recording requirements and subdividing at a granular level, Our client can now:

- Determine the coverage level for each test case to understand what part of the application is being tested—and what part is being missed

- Match the requirements and test cases at a high level to ensure all test cases are addressed

- Record the path for a complete scenario or functionality

- Perform test case reviews using a structured methodology to ensure that test coverage is complete

- Identify requirements with no test cases to uncover gaps and redundancies

- Ensure consistency across test wares produced by different teams

- Reduce defects in post production and ensured reduced chances of defect leakage through more thorough testing

Overall, Capgemini brought industry best practices and proven methodologies to our client's testing processes to help simplify, standardize and measure testing activities.

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