

# **PROJECT DEVELOPMENT PHASE**

## **Debugging & Traceability**

Date	4 November 2023
Team ID	NM2023TMID10148
Project Name	How to create a Brand Promo Video using Canva.

**Use Logging:** Implement comprehensive logging throughout your code to record information about the program's execution. Include log messages for important events, such as API requests and responses, the progress of the video creation, and any errors encountered.

**Try-Except Blocks:** Surround critical sections of your code with try-except blocks to catch and handle exceptions gracefully. Log error messages with as much detail as possible to help diagnose the issue.

**Coding:**

```
# Code that may raise an exception

except Exception as e:

    # Log the exception

    logging.error(f"An error occurred: {str(e)}")

    # Handle the error as needed
```

**Testing and Quality Assurance:** Develop unit tests and integration tests for your code. This ensures that individual functions and components work as expected and that the entire system operates smoothly. A testing framework like unittest or pytest can be beneficial.

**Code Reviews:** If you are working in a team, perform code reviews with your peers. Code reviews can help catch issues before they become significant problems.

**Version Control:** Use version control systems like Git to keep track of changes to your codebase. Create descriptive commit messages to explain the purpose of each change.

**Isolate Issues:** If you encounter a problem, isolate it to a specific part of your code. Use print statements or debugging tools like pdb to inspect variables and the program's state at that point.

**Debugging Tools:** Use Python's built-in debugging tools, such as pdb (Python Debugger) or an integrated development environment (IDE) with debugging support.

Set breakpoints in your code to pause execution and inspect variables.

Step through your code to understand its flow.

**Error Handling:** Implement appropriate error handling mechanisms, and provide clear error messages for easier traceability. Ensure that you handle different types of errors gracefully.

**Documentation:** Document your code and its dependencies, including the Canva API endpoints you are using, their expected input parameters, and the format of their responses. This documentation will help trace issues related to the API usage.

**Traceability Matrix:** Create a traceability matrix that maps specific requirements or features to the code components responsible for implementing them. This helps you ensure that all requirements are met and allows for easier problem tracing.