

{SAMPLE SET}

Backend Dev Assignment

Part 1: Instagram Data Fetching and API Integration (Easy)

Objective

Create a module that connects to Instagram (or simulates the connection) to fetch the caption (and image photo) from the most recent post on the **bbcnews** Instagram page.

Task Details

- **Instagram Data Retrieval:**
 - Develop a service to retrieve the latest post's caption and image URL from the Instagram account.
 - If real Instagram API access is unavailable, then try to webscrape or crawl.
- **Error Handling & Logging:**
 - Implement error handling for common issues (e.g., network errors, API rate limits).
- **Documentation:**
 - Document how to use the module, including how to change the target Instagram username.

Acceptance Criteria

- A working module that returns the caption (and if possible image) from **bbcnews** instagram handle.
 - Clear code documentation and inline comments.
 - Robust error handling with appropriate logging.
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Part 2: Caption Summarization and X.com API Integration (Advanced)

Objective

Integrate an LLM to summarize the fetched Instagram caption into a tweet and implement an endpoint that triggers posting this tweet to an X.com account.

Task Details

- **LLM Summarization Module:**
 - Create a module that accepts an Instagram caption and uses an LLM (ChatGPT, DeepSeek, etc.) to generate a concise tweet summary.
 - Ensure the summarized text meets the tweet character limit (e.g., 280 characters) while retaining the core message.
- **X.com API Integration:**
 - Integrate with the X.com API (or use a simulation/mock if necessary) to post tweets.
 - Develop an API endpoint (e.g., `/post-tweet`) that accepts a summarized caption and posts it to the designated X.com account.
- **Testing & Documentation:**
 - Write unit tests for the summarization and tweet posting workflows.
 - Update API documentation with usage instructions, input parameters, and expected responses.

Acceptance Criteria

- A functional LLM module that correctly summarizes Instagram captions.
 - Successful integration with the X.com posting mechanism.
 - A well-documented API endpoint that triggers tweet posting.
 - Unit tests covering the key functions.
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Final Submission Guidelines

- **Code Repository:**
 - Host your code on a platform like GitHub with a clear commit history.
 - Organize the code modularly, separating concerns for Instagram fetching, LLM summarization, X.com integration, and automation.
- **Documentation:**
 - Provide a detailed README (or separate documentation) that includes:
 - System overview and architecture.
 - Setup instructions and environment requirements.
 - API endpoint details and usage examples.

- Configuration instructions for setting a custom Instagram username.
- Deployment steps (including Docker containerization if applicable).
- Instructions for scheduling and automation.
- **Testing:**
 - Include unit tests and integration tests for:
 - Instagram data retrieval.
 - Caption summarization.
 - Tweet posting (with and without images).
 - Customization and configuration changes.
 - Document test cases and expected outcomes.

Note: Wherever you feel the software is paid or not free, feel free to use a substitute free/open source software. Also feel free to take assumptions wherever necessary. We are more interested in seeing your capability than the final output. If you are not able to attempt both the parts of the assignment, try to attempt whatever is possible. Needless to say we will prioritise those who complete both the parts.

As there are too many applicants, we will not be able to answer individual questions/queries so reach out only if there is a genuine concern with the assignment. Also request you to refrain from emailing or reaching out on social media platforms.