Powerplay AI Engineering Intern Assignment

Task-1

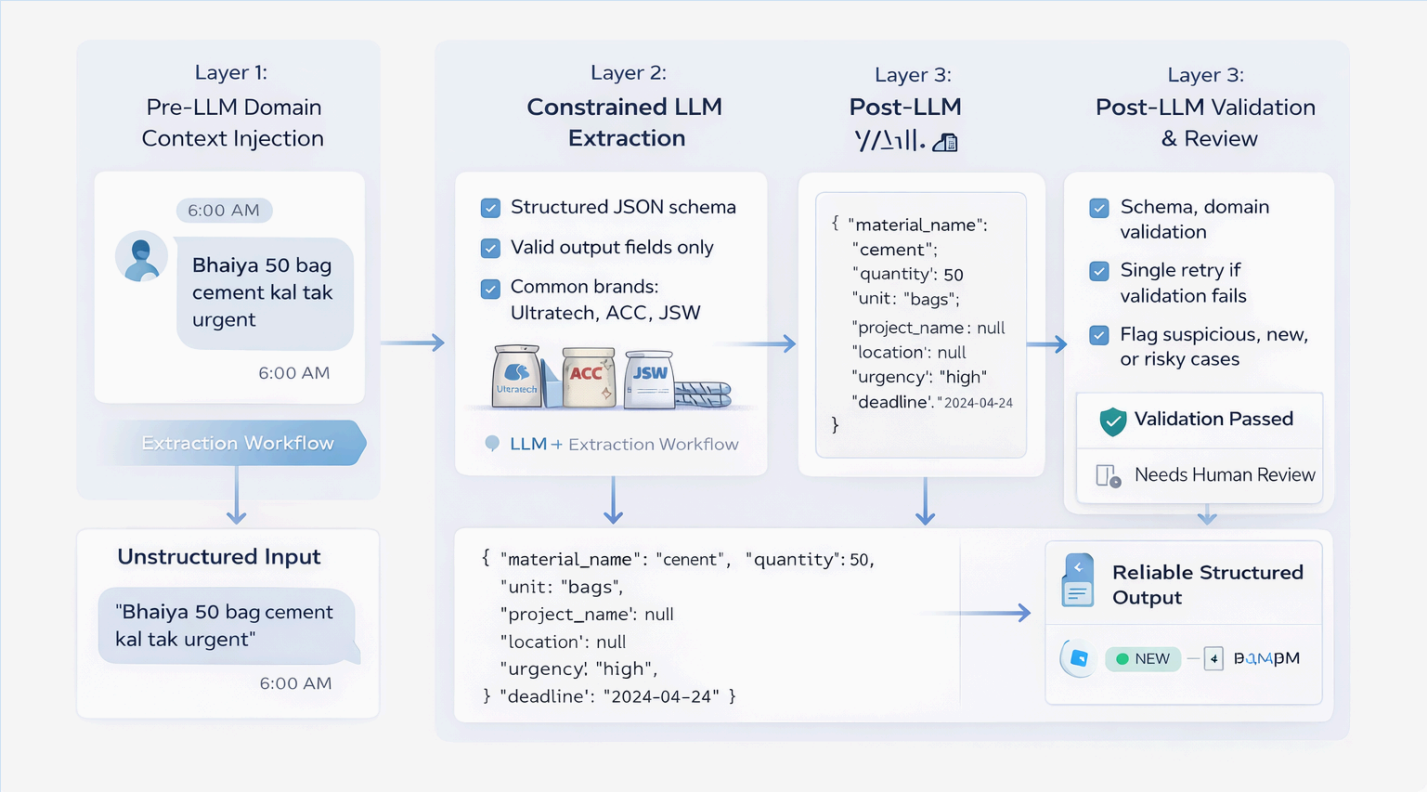
I would design the system using **a three layer defense architecture that prioritizes preventing hallucinations over guessing missing information.**

Before sending the input to the LLM, I add simple construction related explanations for common terms and mixed Regional Language- English phrases. This helps the model understand the input clearly without adding extra tokens.

When the LLM generates the output, it is forced to follow a fixed JSON structure. It can only return the fields defined in the schema. If any information is missing, the model must return null instead of guessing. Clear rules in the system prompt and a few examples ensure this behavior stays consistent.

After the output is generated, I run validation checks to catch mistakes such as unrealistic quantities, wrong units for materials, invalid dates, or values that were not actually mentioned in the input. If a problem is found, the system retries once with clear feedback. If it still fails, the result is flagged for human review. **To keep results consistent,** the system uses deterministic settings so the same input always produces the same structured output. This makes the system reliable and easy to test.

- **Missing information**: If the input is incomplete, the system does not guess. **Any field that is not mentioned is returned as null**, and missing critical information is clearly highlighted so a human can follow up safely.
- **Wrong understanding of the input** : The system avoids common mistakes by clearly defining what each field means and validating the output. **Unclear units are checked using basic construction rules and either corrected on retry or set to null.** If multiple materials are mentioned, only the first is extracted and a flag is added so additional orders can be created if needed.
- **Extra fields :** The model is limited to only the required fields. **Any extra fields are removed, logged, and prevented in future runs by updating the instructions.**



Design WorkFlow