CLAIMS

What is claimed is:

1. A method for facilitating adaptive multi-domain chatbot interactions, the method being performed by one or more processors, the method comprising:

receiving a user query in one or more modalities including text, audio, or video;

determining a relevant functional domain for the user query based on user-specific contextual data;

routing the query to a domain-specific processing module among a plurality of modules, each configured to perform operations related to a distinct functional domain associated with the user;

selecting and executing one or more tool from a centralized tool repository, each tool configured to process data associated with the identified functional domain based on the domain-level contextual data;

generating one or more action cards based on output received from the selected and executed tool, wherein each action card enables user interaction;

presenting the one or more action cards, on a graphical user interface, to enable user interaction with the one or more action cards; and

executing one or more operation associated with the one or more action cards based on the inputs received from the user in response to the one or more action cards.

2. The method as claimed in claim 1, further comprises identifying an intent of the user based on the received query, wherein the routing of the query to the domain-specific processing module is based on the identified intent of the user.

3. The method as claimed in claim 1, wherein:

the user-specific contextual data comprises at least one of user identifier, a role designation indicating the user's access level and a list of domain-specific modules permitted for the user; and

the domain-level contextual data comprises at least one of a domain identifier corresponding to the selected functional domain and operational parameters relevant to the identified domain.

4. The method as claimed in claim 3, wherein determining the relevant functional domain comprises:

dynamically generating a domain specific prompt based on the user-specific contextual data; and

providing the generated domain specific prompt as input to a domain detection unit for selecting the relevant functional domain among a plurality of functional domains.

5. The method as claimed in claim 1, wherein each domain-specific module is configured with access to a centralized tool unit, the centralized tool unit comprising:

one or more data retrieval tools configured to access structured business data from integrated systems comprising at least one of point-of-sale databases, sales analytics engines, and inventory systems; and

one or more action-triggering tools configured to construct executable signals for backend task execution.

6. The method of claim 1, wherein each action card comprises one or more user-selectable options to confirm, modify, or cancel a proposed operation.

7. The method as claimed in claim 1, further comprises applying a set of system-level configuration parameters to standardize and constrain response generation across domain-specific modules.

8. The method as claimed in claim 7, wherein the set of system-level configuration parameters comprising at least one of response tone specifications, output formatting rules, regulatory compliance constraints, and interaction behavior profiles.

9. An adaptive multi-domain chatbot system with interactive elements comprising one or more processors, the adaptive multi-domain chatbot system configured to:

receive a user query in one or more modalities including text, audio, or video;

determine a relevant functional domain for the user query based on user-specific contextual data;

route the query to a domain-specific processing module among a plurality of modules, each configured to perform operations related to a distinct functional domain associated with the user;

select and execute one or more tool from a centralized tool repository, each tool configured to process data associated with the identified functional domain based on the domain-level contextual data;

generate one or more action cards based on output received from the selected and executed tool, wherein each action card enable user interaction;

present the one or more action cards, on a graphical user interface, to enable user interaction with the one or more action cards; and

execute one or more operation associated with the one or more action cards based on the inputs received from the user in response to the one or more action cards.

10. The adaptive multi-domain chatbot system as claimed in claim 9, wherein the system is further configured to identify an intent of the user based on the received query, wherein the routing of the query to the domain-specific processing module is based on the identified intent of the user.

11. The adaptive multi-domain chatbot system as claimed in claim 9, wherein:

the user-specific contextual data comprises at least one of user identifier, a role designation indicating the user's access level and a list of domain-specific modules permitted for the user; and

the domain-level contextual data comprises at least one of a domain identifier corresponding to the selected functional domain and operational parameters relevant to the identified domain.

12. The adaptive multi-domain chatbot system as claimed in claim 11, wherein a domain detection unit is configured to:

dynamically generate a domain specific prompt based on the user-specific contextual data; and

provide the generated domain specific prompt as input to the domain detection unit for selecting the relevant functional domain among a plurality of functional domains.

13. The adaptive multi-domain chatbot system as claimed in claim 9, wherein each domain-specific module is configured with access to a centralized tool unit comprising:

one or more data retrieval tools configured to access structured business data from integrated systems comprising at least one of point-of-sale databases, sales analytics engines, and inventory systems; and

one or more action-triggering tools configured to construct executable signals for backend task execution.

14. The adaptive multi-domain chatbot system as claimed in claim 9, wherein each action card comprises one or more user-selectable options to confirm, modify, or cancel a proposed operation.

15. The adaptive multi-domain chatbot system as claimed in claim 9, further comprises a global control unit configured to apply a set of system-level configuration parameters to standardize and constrain response generation across the domain-specific modules.

16. The adaptive multi-domain chatbot system as claimed in claim 15, wherein the set of system-level configuration parameters comprises at least one of response tone specifications, output formatting rules, regulatory compliance constraints, and interaction behavior profiles.

17. A non-transitory computer-readable medium storing instructions that, when executed by one or more processors of a system, cause the system to perform a method for facilitating an adaptive multi-domain chatbot with interactive elements, the method comprising:

receiving a user query in one or more modalities including text, audio, or video;

determining a relevant functional domain for the user query based on user-specific contextual data;

routing the query to a domain-specific processing module among a plurality of modules, each configured to perform operations related to a distinct functional domain associated with the user;

selecting and executing, based on domain-level contextual data, one or more tool from a centralized tool repository, each tool configured to process data associated with the identified functional domain based on the domain-level contextual data;

generating one or more action cards based on output received from the selected and executed tools, wherein each action card enable user interaction;

presenting the one or more action cards, on a graphical user interface, to enable user interaction with the one or more action cards; and

executing one or more operation associated with the one or more action cards based on the inputs received from the user in response to the one or more action cards.