# Draft Functional Requirement Specification

**Scope Definition for Chatbot AI Integration of Kavach documents on RDSO's Webpage**

The scope of the chatbot AI to be hosted on the webpage of the Research Designs and Standards Organisation (RDSO) under the Indian Railways, specifically at https://rdso.indianrailways.gov.in/view_section.jsp?lang=0&id=0,2,6669,6670,6672, is to provide an interactive and intelligent interface for users to access and understand the technical documents related to the KAVACH system, which is the Indian Railway Automatic Train Protection System. The chatbot's primary function is to assist users in navigating the complex specifications, requirements, and guidelines in the documents listed below, and to provide accurate, up-to-date information per the latest amendments.

The chatbot AI is to be designed for:

1. Answer queries related to the Functional Requirement Specifications (FRS) for KAVACH.
2. Provide information on the System Requirement Specification (SRS) of KAVACH.
3. Provide information including mode transitions, SOS and MA handling as detailed in Annexure-A1.
4. Assist users in understanding the configurable parameters for both onboard and stationary KAVACH systems as outlined in Annexure-A2 and Annexure-A3.
5. Explain the display requirements for the Loco Pilot's Operation-cum-indication Panel (LP-OCIP (DMI)) as per Annexure-B.
6. Clarify the KAVACH multiple access scheme and radio communication protocol as described in Annexure-C.
7. Provide details on the RFID tag data format and fixing arrangement guidelines as per Annexure-D and Annexure-F respectively.
8. Offer insights into the network monitoring system protocol in Annexure-G.
9. Assist designers in framing documents based on RFID tag-TIN layout guidelines and control table guidelines as detailed in Annexure-H and Annexure-I.
10. Assist product engineers on remote interface units as outlined in Annexure-J.
11. Explain the interface between SKAVACH systems as per Annexure-P
12. Explain the Station Master Operation and Indication Panel (SMOCIP) requirements as detailed in Annexure-Q.
13. Provide information on the functional test formats for KAVACH and DMI, as well as the factory acceptance test format and TCAS field trial observation format as per the respective SIF documents.
14. Assist users in understanding the KAVACH interoperability test format for Version 4.0 as per SIF 0594, Ver.-1.0.

The chatbot AI is to be programmed to understand and respond to user queries in a conversational manner, guiding users through the intricacies of the KAVACH system's technical documentation. It is to be equipped with natural language processing capabilities to interpret user questions and provide relevant, precise answers along with deciphering the images and tables.

The chatbot is also be designed to learn from interactions, improving its responses over time.

The chatbot shall be supported for at least five years. The work shall consider for new documents being added on this weblink or modification of documents.

The scope of the chatbot AI does not include:

- Providing information beyond the technical documents listed above.
- Offering legal advice or making decisions on behalf of RDSO or Indian Railways.
- Engaging in conversations unrelated to the KAVACH system's technical specifications.

The integration of the chatbot AI on RDSO's webpage is to enhance user experience by offering immediate, accurate, and user-friendly access to the technical details of the KAVACH system, thereby supporting the organization's commitment to transparency and efficiency in railway operations.