TED UNIVERSITY

SENG 491 - SENIOR PROJECT

Intelligent Documentation Assistant for SRS (IDAS)

Project Proposal

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Team Members:

İlayda Dim – 16976338092

Yaren Saklavcı – 10040078662

Kaan Aytekin – 10906257460

Supervisor: Elif Kurtaran Özbudak

Jury Members: Tansel Dökeroğlu - Ali Berkol

Name	Date	Reason For Changes	Version
Project Proposal-1.0	09.10.2025	First version of Project Proposal.	1.0
Project Proposal-2.0	28.12.2025	Changes according to feedback gathered from HAVELSAN.	2.0

Project Name: Intelligent Documentation Assistant for SRS (IDAS)

Project URL: https://sites.google.com/view/project-idas/homepage

Project Description

One of the most critical steps in the success of software projects is a well-structured and comprehensive Software Requirements Specification (SRS). As the primary output of the planning and analysis phases of the Software Development Life Cycle (SDLC), the SRS directly guides subsequent design, development, and testing steps. However, writing an SRS is time-consuming and requires meticulous work and expertise. It is also a challenging process for students and teams. Incomplete or incorrectly written requirements often lead to costly errors in later stages. Furthermore, requirements are often written in an ambiguous, inconsistent, non-standard, or untraceable manner, creating significant risks in the later stages of the SDLC. Therefore, solutions that streamline the process, improve quality, and deliver specific, measurable, achievable, relevant, and time-bound requirements that comply with standards are needed in both academic and industrial environments.

The web-based platform will allow users to manually complete SRS sections in accordance with the HAVELSAN standard. An AI-powered suggestion engine will also be implemented. This engine will provide template suggestions, reminders for missing sections, terminology support, and draft requirement statements. Additionally, users will be able to generate their documentation faster and more consistently by receiving suggestions and corrections throughout the authoring process.

The platform includes a Review Mode: given a complete SRS, the system extracts requirements, classifies them (functional and non-functional subtypes), and flags issues (ambiguity, unverifiability, duplication, conflicts) according to an Uncertainty and Quality Checklist. The results are presented as visual and user-friendly reports. Review Mode prioritizes DOCX, and detected conflict/consistency signals are presented as recommendations for analyst evaluation rather than formal verification.

Ultimately, this project aims not only to accelerate the documentation production process but also to improve the overall software development process by improving quality in the early stages of the SDLC. This will provide an original contribution to real-time authoring support, which is relatively under-researched in the literature, and will present a functional prototype that can be used by analysts, engineers, and students.