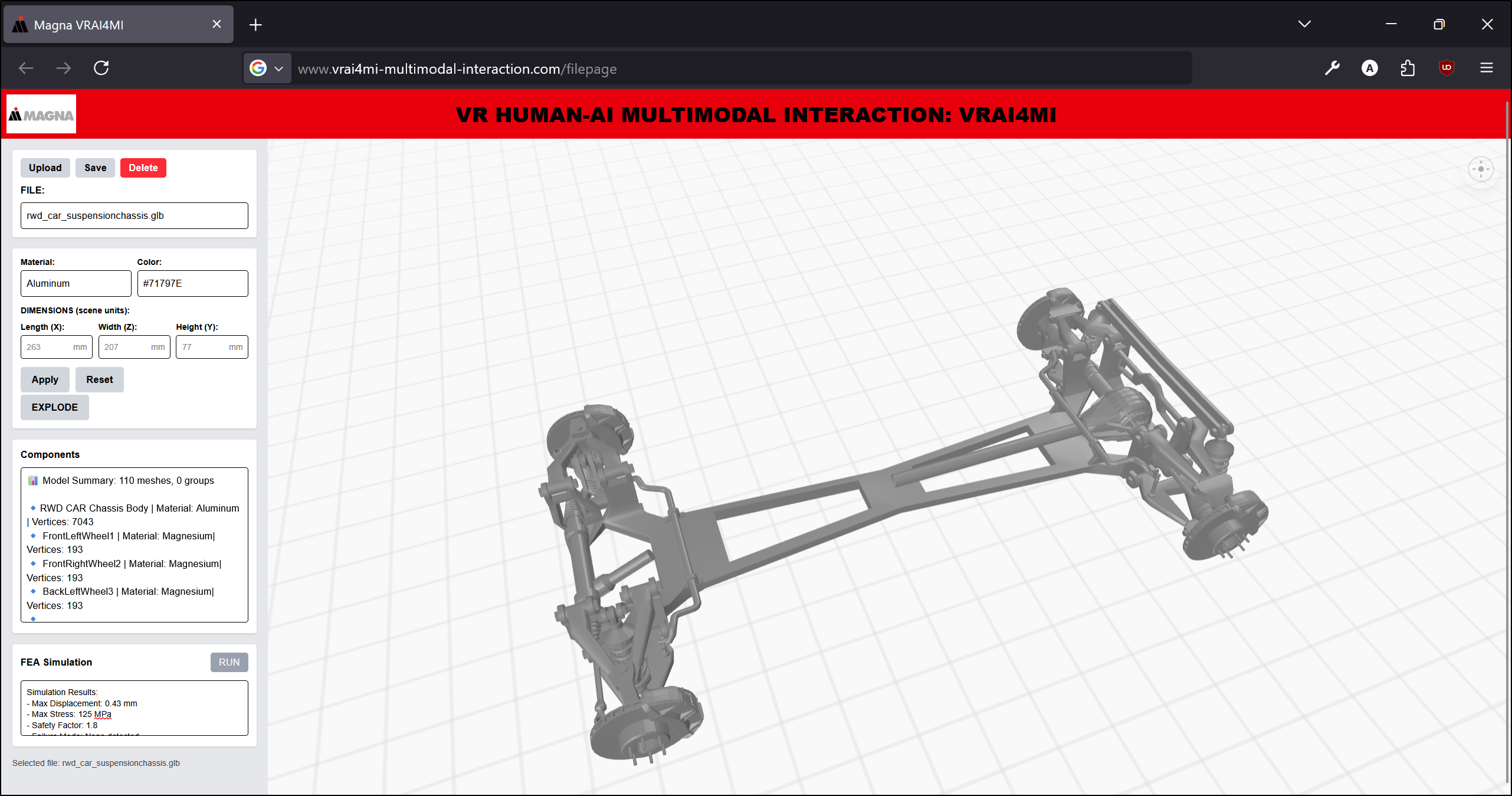
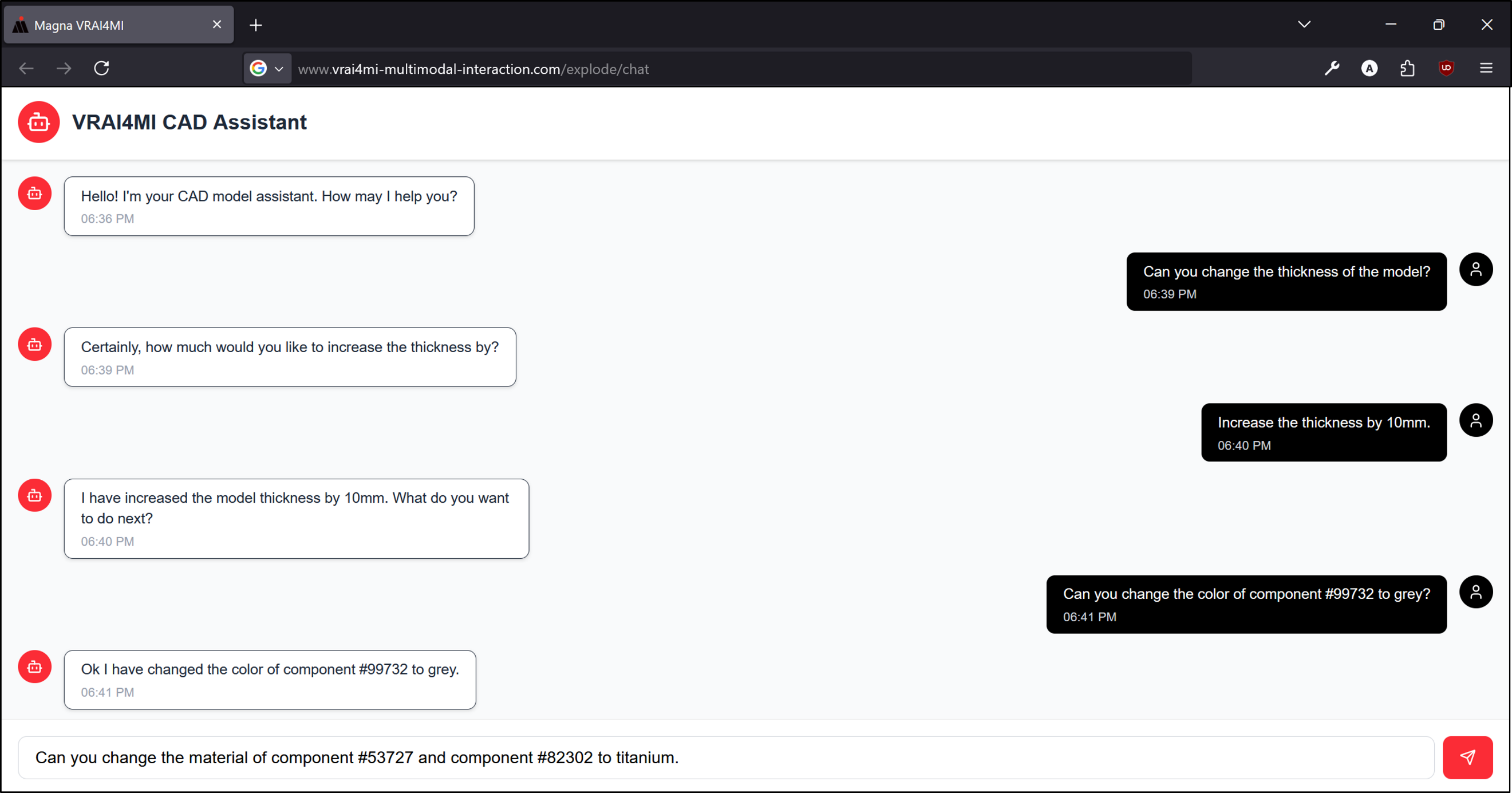
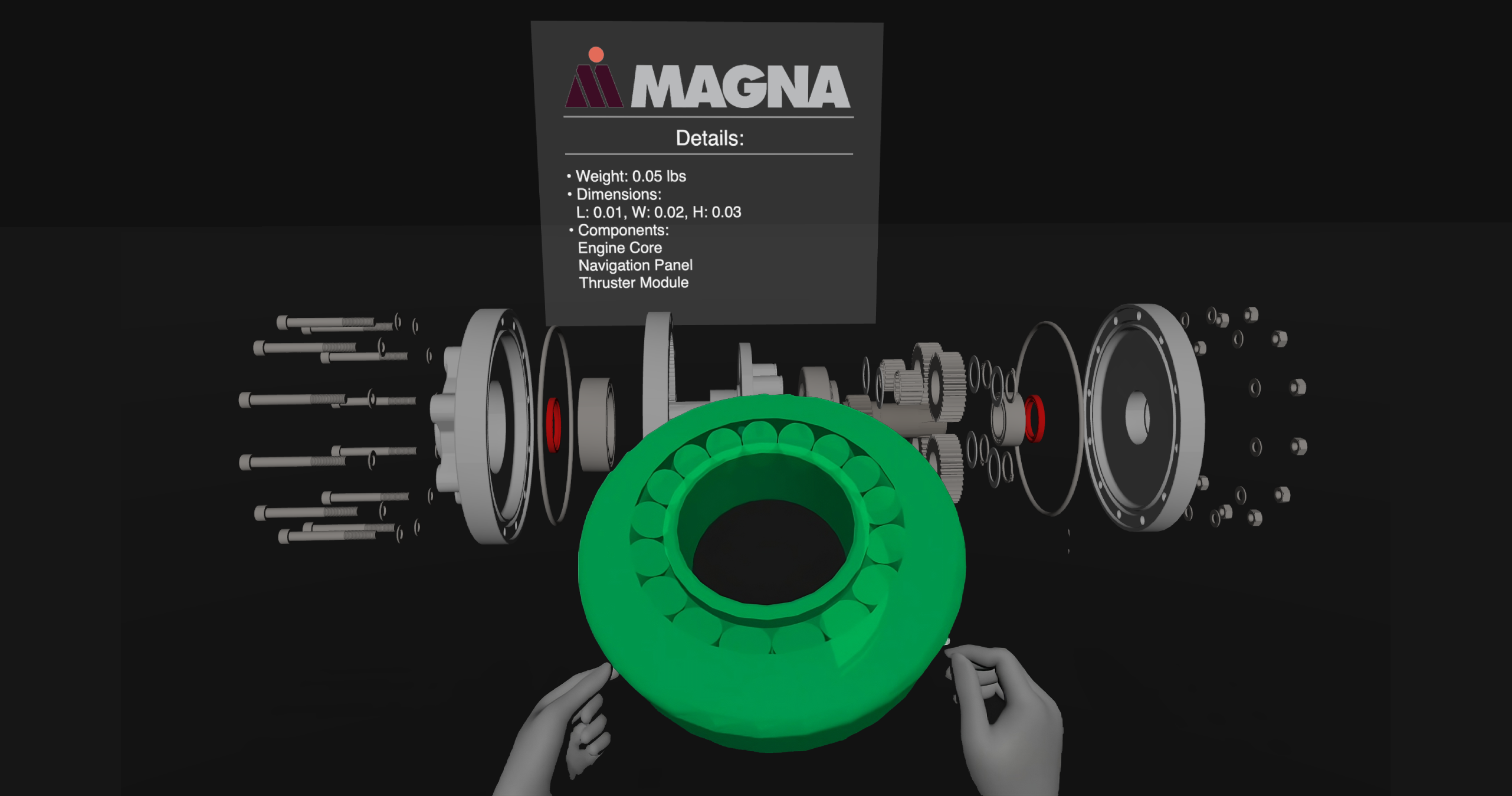
Design Day Booklet Team Page







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Magna VRAI4MI

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Magna International is a leading global automotive part supplier. By utilizing its 158,000 employees, throughout 342 manufacturing operations, across 27 countries, they foster innovation and push the boundaries of sustainable auto-production.

Computer-aided design (CAD) is the industry standard for creating 2D and 3D models. Due to the rising level of proficiency required for production-level CAD, modeling is typically restricted to highly experienced users. This, coupled with the typical corporate workflow, largely inflates the time from cultivating an idea, to producing a final product.

Our VR Human-AI Multimodal Interaction application solves this by enabling advanced CAD operations through human-artificial intelligence interaction. This vastly simplifies the design process and minimizes the CAD expertise required for advanced modeling.

Users utilize speech commands paired with interconnected AI models to invoke both specific and general object manipulation. This bypasses the elaborate manual design process, enables engineers of varying design experience, and reduces production time. Additionally, virtual reality integration allows the engineers and designers to interact with their designs in a 3D environment, demonstrating changes in real time.

Our application bridges the gap between advanced and intermediate CAD designers by applying cutting-edge agentic technologies.

The front end of our VR Human-AI Multimodal Interaction is built using CSS, HTML and Next.js, while the back end is implemented using Typescript, Python and Node.js. They interact with one another through artificial intelligence reliant services such as OpenAI, FreeCAD MCP and Azure Blob storage.

3200/3300 Hallway | Third Floor, Computer Science and Engineering 8:00 a.m. – Noon | CSE498

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