**The National Science Foundation's Education and Human Resources (NSF-EHR) division** stands as our primary funding avenue for STEM education-focused projects. This avenue offers us several opportunities to explore various educational levels and diverse STEM disciplines in close alignment with our project. Several specific NSF funding programs are listed below in detail.

1. A particularly promising program within **NSF-EHR is the "Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR)**" initiative, which provides funding of up to $5,000,000 over a span of 3 years. Notably, IUSE: EHR places great emphasis on projects with the potential for broad societal impact. This includes initiatives aimed at enhancing diversity among STEM students and instructors, fostering the professional development of educators to ensure the adoption of innovative pedagogical techniques and educational technologies that align with evolving student needs, as well as projects that encourage collaborative research and development through institutional partnerships.
   **Website link:** https://new.nsf.gov/funding/opportunities/improving-undergraduate-stem-education-directorate

2. **NSF-AISL (Advancing Informal STEM Learning)** is another NSF grant opportunity that matches our project's focus very well with funding up to $3,500,000 for 5 years. AISL supports research on the design, development, and impact of STEM learning opportunities and experiences for the public in informal educational environments. Our project has great potential to create many opportunities in public outreach and education, especially in the astronomy field.

   **Website link:** https://new.nsf.gov/funding/opportunities/advancing-informal-stem-learning-aisl

3. **Research on Emerging Technologies for Teaching and Learning (RETTL) Program:** This program, with an allocation of $900,000 for up to three years, aims to fund innovative research in emerging technologies like artificial intelligence, robotics, and immersive technologies, all of which have the potential to transform future teaching and learning environments. The program welcomes proposals focusing on various aspects of learning, teaching, or a combination thereof. It emphasizes diversity among learners and educators, as well as the application of these technologies across different contexts and subjects, including STEM and foundational areas that support STEM education. Our innovative platform for investigating learning experiences and instructional settings positions us well to generate pilot-study results that can support future grant proposals under this program.
   **Website link:** https://new.nsf.gov/funding/opportunities/research-innovative-technologies-enhanced-learning

4. **Human-Centered Computing Program (HCC):** Within the Division of Information and Intelligent Systems Core Programs, the Human-Centered Computing program is a vital

funding source. It offers support for projects of up to $1.2 million over four years, making it a key player in financing research related to novel human-computer interfaces. Given our work's focus on developing an innovative platform, we anticipate that it will align with this program's interests. An exciting prospect that may emerge from our current efforts is the integration of intelligent, embodied agents as tutors, learning guides, and peers. Our platform's comprehensive data capabilities set the stage for studying this integration in-depth, as our team possesses a wealth of expertise in agents, animation, artificial intelligence, and education.
**Website link:** https://new.nsf.gov/funding/opportunities/iis-human-centered-computing-hcc

**The UnrealEngine Epic MegaGrant** presents an exciting potential avenue outside of the traditional NSF-oriented funding channel. The famous game engine company, Unreal Engine, supports projects that enhance the open-source 3D graphics ecosystem including education projects for up to $500,000. Our ongoing commitment to harnessing technology to enrich STEM education, particularly through 3D applications, is closely aligned with the objectives of this grant program. As our project continues to mature and showcases its transformative impact, the pursuit of external funding opportunities like the UnrealEngine Epic MegaGrant emerges as a compelling pathway to amplify our work and influence within the realm of education. We have already begun the preparation for this grant opportunity to request approximately $250,000 in funding over a two-year span. This external grant source could empower us to further expand and refine our efforts in creating immersive educational 3D contents, providing students opportunities to learn the latest real-time programming, and providing substantial resources to propel our STEM education research to new heights.
**Website link:** https://www.unrealengine.com/en-US/megagrants