**Budget Justification**

**Budget Justification - Broad Institute**

**PERSONNEL**

**Key Personnel**

**Dr. Pardis Sabeti, Principal Investigator, M.D., D.Phil** (Principal Investigator; 0.6 calendar months). Dr. Pardis Sabeti is a Professor of Organismic and Evolutionary Biology at Harvard University and Senior Associate Member at the Broad Institute. Her research focuses on the development, implementation, and application of novel methods in statistical and population genomics, primarily through gaining a greater understanding of the patterns of sequence variation and detection of natural selection. For this project, Dr. Sabeti will guide the project’s aims and approach. Dr. Sabeti is not requesting any salary support from this award, as her salary is paid in full by the Howard Hughes Medical Institute; she is, however, committing 5% or 0.6 calendar months’ annual effort to this project at the Broad.

**Andrés Colubri, Ph.D., MFA.** (Computational Scientist, 6.0 calendar months). Dr. Colubri received his PhD from the Universidad Nacional del Sur, and his MFA from the Design Media Arts program at the University of California, Los Angeles. Dr. Colubri is currently a computational Scientist in the Sabeti lab where he develops new tools and methodologies that integrate computational statistics, data visualization and user-centric interfaces. Dr. Colubri will lead the development of O2 software tools, oversee data collection and lead data analysis. We request salary support for 50%, or 6 calendar months, of his annual effort for this project.

**Todd Brown, PhD**. (Co-Investigator). Dr. Brown is the department chair and civics teacher at the Sarasota Military Academy Prep School. He received a Doctoral Degree in Higher Education from Concordia University. He is applying interactive and experiential approaches to incentivize STEM and social sciences learning for middle and high school students. For this project, Dr. Brown will lead the development of teaching curricula, guide field testing of the platform at other schools, and participate in analysis of data. Dr. Brown is not requesting any salary support from this award, as his salary is paid in full by the Sarasota Military Academy.

**OTHER PERSONNEL**

**Graphic Designer, TBD (**12 calendar months**)** We are requesting funding to support a graphic designer with expertise in print media, video editing, and web design. We are requesting salary support for 100% of their annual effort.

**Graduate Students, TBD (**12 calendar months**)** We are requesting funding to two graduate students pursuing education-related studies. The Graduate Students will perform analysis of learning outcomes data. We are requesting salary support for 50% of each of their annual effort.

**Project Coordinator, TBD (**6 calendar months**)** We are requesting funding to support a Project Coordinator who will oversee project administration and compliance. We are requesting salary support for 50% of their annual effort.

**TRAVEL**

**Domestic Travel**

We request $6,000 in years 1 and 2 ($12,000 across all years of the project) for Dr. Colubri to travel to meet potential collaborators, and for the team to travel to Simulation sites. These funds will also cover the travel fees associated with Dr. Colubri and one other personnel’s attendance at the annual ITEST PI meeting for each year of the project.

**OTHER DIRECT COSTS**

**Materials and Supplies**

We request $33,025 in years 1 and 2 ($66,050 across all years of the project) for project materials and supplies, including test phones, Bluetooth beacons, and other software.

**Publication Costs**

We request $2,000 in years 1 and 2 ($4,000 across all years of the project) for journal fees and publication costs for manuscripts resulting from the proposed work.

**Consultant Services**

We request $150,000 in years 1 and 2 ($300,000 across all years of the project) for both Software Engineer consulting fees, and for the retention of an advisory board.

Software Engineers will be paid on an hourly basis as required by the project. Due to the highly specific nature of the tools to be developed (involving mobile apps and web dashboards for educational applications), the variability of workload for these software engineers, and the necessity for specialized application of Universal Design for Learning (UDL) techniques to ensure accessibility for students with disabilities, we will not be able to use Broad in-house software development.

The retained Advisory Board will meet for two hours every month to discuss the progression of the project, assess its impact as analyzed by our graduate student in education, and oversee any project modifications or incorporation of additional field testing sites.

**ADP/Computer Services** We request $18,000 in each of years 1 & 2 ($36,000 across all years) to cover the Cloud storage costs that will be incurred to store data and host the mobile platform.

**Technical Research Computing**

This is a direct charge for technical research computing. This supports all core infrastructure computing systems and services required by research staff at the Broad Institute, charged at a rate of $2,400 per on-site FTE per year. $7,200 in years 1 and 2 ($14,400 across all years of the project) has been budgeted for Technical Research Computing.

**NOTES:** Fringe benefits are calculated at 29.5% of salary. F&A costs are calculated at the Broad Institute, Inc.’s rate of 60% of MTDC.