Biodesign’s Building for Digital Health
Building a clinical research study app at Stanford

Request for Proposals

Selection Criteria

The project must utilize a digital technology and have an impact healthcare or medical research broadly. The objectives of the project should include an outcome that will benefit patients, users of the technology, or advance medical knowledge in the field. Evaluation of proposals will be on the characterization of the unmet clinical need, basis of innovation and scientific merit, potential impact, technical feasibility, and the potential for translation. Preference is given to projects that can leverage Apple iPhone or Apple Watch ecosystems so software development can be streamlined with our pre-built packages. Award recipients will be required to meet weekly with the course leaders from February 13 through March 13 to finalize project specifications and prepare IRB and data risk assessment submissions, and then weekly with the CS student teams throughout spring quarter to guide project direction.

We encourage applicants to discuss their proposal with Lead Director Oliver Aalami (aalami@stanford.edu) in advance of its submission. The proposal should follow guidelines below.

Application Materials

Full proposals should include:

1) **Cover page**: project title, name of principal investigator, contact information of primary project lead, names, with a one-paragraph summary

2) **Body of proposal**: The body of the grant proposal should not exceed 3 pages, excluding cover page, biosketch, and references. It must include the following components (proposals may be rejected if any component is missing):

   - **Describe the unmet clinical need** - what is the problem with the current standard of care? What is the population this problem most affects? If this problem was solved, what outcomes would it improve (e.g., decrease healthcare costs? Improve the efficiency of research?) Be as specific as possible with estimated quantifiable values. We are looking for you to demonstrate an in-depth understanding of the unmet
clinical need you are looking to address, not just to identify a large problem. What is the frequency/incidence of the problem where the product would be used?

- What is the **product** you envision? (for example, a diagnostic tool, clinical support tool, decision making algorithm). What is the clinical situation this would be used in?

- **Current technology status**: describe any prototypes or user testing

- If this project’s aim is to create a **commercial product**, include information about the proposed regulatory pathway and the reimbursement/payment approach for this technology

- **Risk analysis statement** for each: a) clinical need b) engineering/science feasibility c) intellectual property d) business/market (for those intending to commercialize technology).

- **Expected specific milestones** with work plan (per quarter)

- **Next Steps/Funding resources**: What are plans after Building for Digital Health to engage students beyond the quarter. Please list planned funding resources for server costs / study implementation.

**Project Commitments:**

- Approvals for animals and human subjects should be addressed ahead of the Building for Digital Health course, include protocol numbers or letter of exemption.

  We will host weekly required Team Lead meetings with Biodesign from February 13th - March 13th to finalize project specifications and work on IRB submission + Data Risk Assessment (DRA). **We expect IRB and DRA to be submitted by March 14th, 2019.**

- *(optional)* If the project has not already been disclosed to the Office of Technology Licensing (OTL), it is strongly recommended that an Invention and Technology Disclosure be submitted to OTL by the March 15th, 2019 deadline. **See the Inventor Disclosure page located on the OTL site.**

### 3) Technology Page

We are looking for mobile applications that leverage the Apple iPhone and Apple Watch ecosystems so software can be developed quickly on our pre-built packages. Please define the function of your mobile application, the data that will collected, and the requirements of the user interface. Be as specific as possible about the data collection, including:

- **Data Type**: Accelerometer, Heart rate, free text, GPS, etc.
Please document whether the technology will utilize the following (feel free to contact us to consult on this):

- CoreMotion Accelerometer & Pedometer ([For More Info](https://www."
- HealthKit ([For more info](https://www."
- ResearchKit ([For more info](https://www."
- User Surveys
- Specific Activity Tasks such as a 6-Minute Walk Test
- Apple Watch Activity and Heart Rate collection
- Web-based Portal for Data Visualization or Access
- Any other specific technical functions that your project would require

If possible include mockups or wireframes of the user interface as a separate file submitted with the application.

For each function, explain briefly why the function is critical for your mobile application. If you have questions about the technical functions, please email Santiago Gutierrez at santig@stanford.edu.

4) **Biosketch of co-principal investigators** (not to exceed 5 pages each)

5) **Relevant literature references**

**Course Timeline**

February 1st- Faculty Application opens
February 28th- Application for faculty closes
March 15th- Project selection notification

May 3rd-Team DRA submission date
May 31st-Team IRB submission date

September 23rd- First day of class (Fall)
December 5th- Final presentation (week before end of quarter)