

## Client

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

## Overview

The NIBIB's Office of Science Policy & Communications (OSPC) wanted to update their presentation for the [3rd Annual USA Science & Engineering Festival Expo](#) to be held in Washington, DC. In the past, OSPC staff had presented a game to groups of students in a stage show format using an MS PowerPoint presentation. Students answered questions about bioengineering as a team by writing on a white board. The purpose of the game was to explore the field of bioengineering and encourage students to pursue a career in research. OSPC turned to LCG for recommendations on updating the game.

## Challenge

After reviewing the PowerPoint presentation used in previous years, and determining the current requirements, LCG proposed developing a game that would:

- Incorporate the latest achievements in the field of bioengineering research
- Be engaging and interactive for the target audience of students ages 7 to 14
- Create a sense of excitement while learning about what bioengineers do
- Promote healthy competition among players
- Be available on Apple iPads allowing multiple players to play independent games simultaneously

## Solution

LCG recommended a custom-designed game using HTML5 markup language. The game – *Want to be a Bioengineer?* – would be designed for tablet devices, making it ideal for use with the Apple iPads owned by the Institute. LCG's Multimedia and Graphics Specialist:

- Worked with NIBIB OSPC to update the PowerPoint slide content
- Added a name field to personalize the game for each player
- Incorporated intuitive navigation symbols, a music score, and interactive sounds
- Added a timer for each question and an overall score-tracking system
- Added subtitles to each image and video to make the game more accessible to students with disabilities
- Worked with LCG's Web Team at NIBIB to architect the game and convert the PowerPoint presentation to a game using native iPad features, such as swipe gesture technology

## Result

More than 2,200 students attending the [3rd Annual USA Science & Engineering Festival Expo, Rockville \(MD\) Science Day](#), and [Take Your Child to Work Day](#) were able to learn about the bioengineering research career field in a fun, interesting, and memorable way. NIBIB increased its outreach and took a step toward achieving its strategic goal to “train the next generation of diverse and interdisciplinary scientists, bioengineers, and health care providers and promote the value of research that synergizes [engineering and physical and life science] disciplines.” NIBIB OSPC showcased the game at the [National Science Teachers Association 2014 STEM Forum & Expo in New Orleans](#).

## Business Value

LCG can work with an agency's communications liaison to identify opportunities to modernize outreach efforts through interactive technology.

LCG can work with the agency to use innovative technologies, such as HTML5 and Responsive Web Design, to engage and educate audiences.

