Software Tools for iGEMers: BioBrick/Project Search & Tutorials
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Introduction
We think the most important process in iGEM is planning a project. However, a lot of iGEM team members spend too much time looking for information required for planning. For example, they may spend a lot of time on processes such as learning what BioBricks are, looking for past projects that may have done something similar to an idea a team member has, and then looking for parts that may come in handy in making this idea happen.
So, we decided to improve this situation by creating software with that allocates more time to do the actual planning. We have created tutorials to obtain essential knowledge on iGEM easily and two search systems to save time and labor. In addition, we've made all our software available on a web browser to save time.

Tutorials

Background
For many teams, the majority of team members are new-comers, who often do not have enough background knowledge on iGEM and spend a lot of time learning about it. We developed the tutorial to assist these beginners. The subjects are BioBricks and genetic networks, which all teams must learn to start considering their project but currently lacking adequate educational material.

Gene Network Game
"Gene Network Game" is designed for learning basic ideas of gene regulation and networks. Players aim to create a gene network capable of producing the protein dynamics required at each stage. We also implemented a stage editor by which players can also create simulations.

BioBrick Puzzle
"BioBrick Puzzle" is a puzzle game played for the purpose of learning BioBrick Standard Assembly easily and enjoyably. In this game, the challenge is to make a complex BioBrick part from several simple BioBrick parts provided.

BioBrick Search

Introduction
BioBrick Search is a novel BioBrick search tool with the aim of providing increased efficiency and reliability in searching existing BioBrick parts.

BioBrick Search

Background
The current search at partsregistry is not very useful. The problems we spotted are:
The results are ordered by ID and not by relevance to your query nor reliability of the parts
Information given in the list is insufficient to judge whether it is the BioBrick you need
BioBrick Search resolves these issues and, in addition, has the following features:
Filters the users can set by various conditions
Can be accessed from a web browser without installation

Past Project Search

Introduction
Past Project Search is a search tool for past project wikis. This tool searches all team wikis and abstracts throughout the years and displays the results with presentation material and school details.

Past Project Search

Background
Until today we could not search for past projects across different years. This is unfortunate for all iGEM participants because they were not able to get knowledge about past teams easily. You had to reach iGEM participants because they were not able to get knowledge about past teams easily. You had to reach team wikis based on information you might have about tracks, regions, and team names from a list that does not contain any specific information about the project. Alternatively you could have searched using the upper right search box on the iGEM official top page of each year. But the results displayed were for team projects of that particular year only. Using this Past Project Search, you can obtain all of this team information at once.

Result
Now, you can search for past projects across multiple years. You can narrow down search results according to track, medal, year, award and region. You can also get easy access to a team’s information from the search results page; for example their project title, project abstract, and school details. In addition, you can access past team presentation slides, video, and posters from this page, which in the past had to be accessed from the Jamboree results page.

Future Plans
We plan to apply the search to divisions that were not covered: High School Division and Entrepreneurship Division.

Future Plans
We plan to implement a review & comment system so users of each BioBrick can share their experience easily. We are also thinking of integrating BioBrick Search with our Past Project Search.