Design Team

The Design Team

It has long been the vision of AguaClara to automate the design process for water treatment plants. The goal is to create a tool that allows engineers to enter certain parameters like the plant flow rate for their town and have our program deliver an AutoCAD drawing, a report describing the plant, and a materials list. With the ambitious goals our team has set to meet the global demand for AguaClara technology we have made developing and testing this design tool a top priority.

The design of the AguaClara plants is governed by our Design Philosophy and our commitment to Open Source Engineering.

Team Links

Calendar
Automated Design Algorithms
Design Tool Testing

Automated Design Program

The Automated Design EtFlocSedFi file integrates all of the design programs in order to automatically design and draw future water treatment plants. The individual algorithm and program descriptions can be linked to from the EtFlocSedFi link above.

The web based application is being built using Mathcad as the computation engine, AutoCAD for 3-D drawing, and a LabVIEW programs (see more on the Design Tool) for the distributed client software that sends requests to the dedicated server software that controls Mathcad and AutoCAD using ActiveX.

Automated Design File Control

In order to create our Automated Design tool, we have created many program files that each complete specific individual components of the design. These files are continuously being updated and debugged. We have decided to use a file management system (SourceForge) to keep track of all of the program files and the version changes. Information about this software and how to use it can be found by following the link below.

SubVersion Version Control Management Software

Plant Designs

As AguaClara gets new requests for treatment plants, the design team at Cornell completes and reviews designs for the plant. A plant design includes design and construction details along with AutoCAD drawing. All of this information can be found on the design team's Plant Designs page.

Our Honduras partners compile basic information about a town requesting a plant design. This information by the design team to create the detailed designs described above. The Honduras team also records pictures and data about the construction and functioning of a particular plant. This information can be found on the Project Sites page.

Current Work

Peruse this list of Challenges for the entire team, some of which are specific to the design team. Our continued work focuses on improving and updating the Automated Design tool.

Previous Work

Work done by previous Design sub-teams can be found on the Previous Team Work Page as well as in the Design Team Reports archive. The work is broken down by semester as a way to document the improvements and changes made within the team over the years. Refer to reports first if you have questions about ongoing challenges.

Presentations

See presentations given by past design teams.