

# Software and Database Management and Development

Build or buy new software or databases and have them managed in a secure and scalable environment.

**Keywords:** [database](#) [website](#) [development](#) [engineering](#) [installation](#) [maintenance](#) [software](#) [application](#) [app](#) [tool](#)

Expand

The advantages that computing can bring to the scientific enterprise are magnified by useful and powerful interfaces that meet the needs of investigators, researchers and other stakeholders. With the ever-growing body of data and knowledge, software applications that unite data (spreadsheets, image data, relational databases, graph databases, triple store, data store, etc.) and modern interfaces (web, mobile, touch) can significantly increase scientific productivity and discovery.

[Click here to schedule a free consultation](#)

There are numerous options available to deal with data in its many forms. We can work with you and identify simple solutions for one-off needs and more robust approaches for longer-term and larger needs. In some cases, we will recommend to install 3<sup>rd</sup> party tools that are ready-to-use or we may suggest developing a customized variant of an already-existing tool. We may also recommend a custom approach and build out tools that meet your exact needs and criteria. There will be cases where we are not the right team for your project, and in this case we will do our best to guide you in a better direction. We have developed software, databases, websites, web applications and more for the benefit of individual research groups to large international consortia, and are very experienced in software engineering.

This service consists of an expert consultation with you to:

1. Understand your goals and expectations
2. Develop a plan for what software/database engineering solution would be the best fit for the project
3. Discuss prototype development (if applicable)
4. Discuss quality control/quality assurance
5. Provide user training (group)
6. Discuss delivery of project solution
7. Discuss maintenance/upgrade agreement

## Examples

### Website for the Beta Cell Biology Consortium ([www.betacell.org](http://www.betacell.org))

#### Use Case

In 2001, the Beta Cell Biology Consortium's Coordinating Center (Mark Magnuson, Vanderbilt University) was charged with creating a website to manage key information about consortium activities. Being that the consortium spanned several continents and timezones, a website would help many access information at their convenience. Over the course of 10+ years, we designed and built a database-driven web application to provide the tools, workflows and databases required for the scientific and administrative affairs of the BCBC.

#### Data

Documents (spreadsheets, documents, images, CSV, external databases, etc.)

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**Results**

A complete web application suite, including:

- User management system
- Resource management system
  - Adenovirus
  - Antibodies
  - Bioimages
  - Genomics studies (in collaboration with Chris Stoeckert, Univ. of Pennsylvania)
  - Mouse ESC Lines
  - Mouse Strains
  - Protocols
  - Research Data (generic)
- Subcontract application and approval system
- Document management system
- Events management system
- And more...

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**Technology used:**

PHP, Oracle, PostgreSQL, HTML, CSS, Javascript, SOAP, XML, JSON, etc...

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**Static Image**

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**URL**

[www.betacell.org](http://www.betacell.org)

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## Gene Targeting Experiment Tracker

**Use Case**

The Mouse ES Cell Core of the Beta Cell Biology Consortium had a need to track experiment details and results for their gene targeting experiments. Over the course of several years, we worked with the core to build out a mature product that has allowed them to track and report on their activities.

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**Data**

Data is entered by core facility staff and faculty users

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**Technology used:**

PHP, PostgreSQL, HTML, CSS, Javascript

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## Static Image



The screenshot displays a software interface with a table of items. The table has columns for description, quantity, and price. The items listed include various types of services and materials, such as '1/2\"/>

## URL

Demonstration available, please inquire

## Service Fees

Hourly rates apply.

Estimates to be provided following consultation.