The Division of Biomedical Informatics (BMI) provides a range of services to clinical and translational researchers at Cincinnati Children's Research Foundation and the University of Cincinnati including web design, web-based forms development, custom software application development, and database design and reporting. We also help researchers acquire commercial and publicly available software, assisting with evaluation, licensing and installation as needed. We work with a variety of technologies, but our principal aim is to identify and implement solutions that meet each investigator's unique needs.

Web sites

SharePoint: Group collaboration and document management

SharePoint® is software for hosting and developing collaborative, document-centric web sites. It is closely integrated with the Microsoft Office suite, so if you are interested in collaboratively developing Word®, Excel®, PowerPoint® and other Office documents, SharePoint may be an ideal solution. SharePoint also enables you to quickly add interactive features to your site such as:

- Calendars
- Announcements
- Discussion boards
- Contact lists
- Tasks lists
- Wiki pages

Plone: Public information delivery

Plone is an open-source content management system for creating web sites. Whereas SharePoint is suitable for creating document-centric, interactive sites, Plone is more suitable for developing sites with public information that is fairly static. Examples include:

- Subject recruitment sites
- Research lab sites
- Grant/publication supplements

With Plone, it is easy to create and organize HTML pages, and to enable multiple users to add and edit content. With some assistance from BMI, you also can customize the look and feel of your site.

Web-based forms/electronic data capture systems

InfoPath/SharePoint: Data collection forms on the web

InfoPath® 2007 is a product from Microsoft that enables you to create web-based forms without any programming or web design knowledge. With InfoPath, you can:

- Import Word/Excel forms
- Insert text boxes, drop-down lists, check boxes, option buttons and other controls
- Define skip and repeat patterns
- Add rules and data validation to reduce post-processing
- Create screen and print-friendly views
- Attach workflows for routing forms

Once you're finished designing your forms, BMI will help you to publish them to a SharePoint web site. We also can assist with advanced workflow design and implementation.

Custom solutions: Rich Internet applications, web or stand-alone

Sometimes InfoPath and SharePoint aren't the best options for data capture. Say, for instance, you want to integrate audio and video with your forms. Or perhaps you need to be able to enter data from a computer that is not connected to the Internet. Maybe your forms just have so many fields or so much logic that designing them in InfoPath is impractical. In these situations and others, we might work with you to design and develop a custom tool using technologies such as ASP.NET WebForms, Flash® or PHP.

Close Up: SharePoint and InfoPath
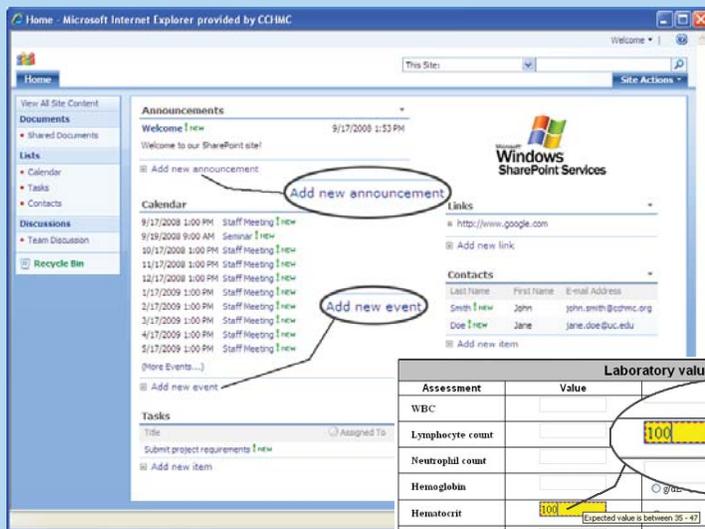
SharePoint makes it easy to creative an interactive, collaborative web site (top); InfoPath forms can reduce the need for post-processing with the use of rules and data validation (right).

Supported groups

BMI has developed web-based forms, electronic data capture systems and web sites for many groups at Cincinnati Children's and UC, including:

- Behavioral Medicine/Clinical Psychology
- Rheumatology
- Trauma Services
- Cardiology
- Pediatric Cardiothoracic Surgery
- Developmental Biology
- Gastroenterology, Hepatology and Nutrition
- DSIOP
- Center for Health Care Quality Research and Education

Databases

Design

Quality database design is crucial. If your database is effectively designed, it will become a transparent component of your study, enabling you to easily enter, manipulate and extract your data without concern about security and integrity. If your database is poorly designed, it will become a nuisance at minimum, and at worst a liability that can lead to incomplete, missing or corrupt records, security vulnerabilities, and limited reporting options.

Our experts can assist you to ensure that your database meets or exceeds the complete needs of your research project. We are experienced with all major database management systems including Microsoft SQL Server, Oracle® 10g and MySQL.

Reporting

We also can help you to extract and analyze your data using software such as Crystal Reports®, SQL Server Reporting Services and BusinessObjects®.

Commercial and open-source software

BMI maintains an inventory of commercial and open-source software popular among researchers at Cincinnati Children's and UC. Examples include:

- Adobe® Acrobat®
- Photoshop Elements®
- SAS®
- SPSS®
- R

We can help with evaluation, licensing (if required) and installation. For the latest list of software available to Cincinnati Children's and UC investigators, go to our web site: **http://bmi.cchmc.org/resources/software**.

Contact Us

To request a consultation or learn more about our resources and services, contact Keith Marsolo at 513-803-0333 or keith.marsolo@cchmc.org. Also check out our web site: http://bmi.cchmc.org.