BACKGROUND

In 2008 the university made a significant investment in a Web content management system developed by dotCMS. Direct costs of that investment have been approximately $375,000 (including training) since 2008, with indirect costs (FTE) estimated at $174,150 annually. While the university has paid for annual licensing, hardware, maintenance, support, and training for the system, more investment is needed to improve the site’s design and functionality. Currently, the site’s design and functionality are lagging behind in five key areas that adversely affect the user experience and should be a cause for concern given that the website is our primary marketing tool.

The modernization plan proposes to address those key areas and offer solutions to improve the user experience.

KEY ISSUES

The following have been identified as key issues with the university’s website:

1. **Accessibility.** The system templates, widgets, and applications do not meet accessibility requirements and put the university at legal risk. Additionally, publishers need greater support as well as increased accountability in creating content that meets accessibility requirements.

2. **Mobile.** The use of smart devices has skyrocketed since 2008, yet the site is not mobile-friendly, nor is the content deliverable to the mobile app currently...
in development. Some statistics shed light on the current demand for mobile:

- 80% of Internet users have a smartphone.
- 34% of Internet users search using a smartTV.
- 9% of users use a smart watch to search the Internet. This number is expected to increase dramatically as Apple releases the Apple Watch in April 2015.

Since July 2011, desktop traffic on the website has dropped by 0.4%, and we have seen only a 2.8% increase in mobile traffic. The marginal gain in mobile traffic should be substantially higher given the dramatic increase in smart-device adoption and is most likely due to the website’s lack of mobile-friendliness. If we continue these trends we risk losing greater numbers of prospects. We have an opportunity to address this issue head on.

3. **Demand for new features.** The university’s website design and functionality have remained essentially the same since 2008, yet new developments in technology and design trends have continued to press forward. User expectations have risen equally as much. This has created a demand for new design and functionality that is greater than what current staffing levels

---

**Home Page, Columbia College Chicago**
Nationally recognized design of Columbia College Chicago
in Marketing Communications and Information Technology Services can offer. Outsourcing the development of new features is essential.

4. **Content quality.** The quality of published content is inconsistent throughout the site, and we see too many incidents of outdated, obsolete, and inaccurate content. Additionally, content is formatted inconsistently, or inappropriately, thus contributing to a poor user experience. Lack of structured content types means publishers (through no fault of their own) are left to make their own formatting decisions. Templates and pages are outdated and do not support new content needs. Applications such as the events calendar (currently under development in spring 2016) and the news room need a major overhaul. While addressing the urgent needs of individual unit sites at the expense of the system as a whole, we have been neglecting our most important client—the university.

5. **Governance.** Revised governance is needed to solve the four key issues outlined above. Not enough accountability exists for how content is created on the site. Insufficient standards and support for creating brand-appropriate content contribute to the situation as well. There is no service-level agreement (SLA) for the Web content management system. Finally, not enough quality assurance exists to correct issues with content quality.

Please see “IPFW Website Design: Key Issues, Solutions, and Outcomes” for a detailed listing of key issues, recommended solutions, and outcomes.
PROPOSAL

This proposal (1) outlines solutions to each of these key issues, (2) proposes outsourcing the development to modernize the site, and (3) recommends establishing new governance to implement and sustain the modernization plan.

OPTIONS

The university is at a crossroad with its website and has an opportunity to make significant improvements that can meet campus demand as well as user expectations. Our choices appear as follows:

1. Approve the proposal and solutions outlined in this document and address these issues head on.

2. Abandon the use of the university’s Web content management system (100,000+ pages) in favor of a Web presence of fewer than 1,000 pages centrally maintained by Marketing Communications. This will mean shutting

3. several dozen websites and creating demand to hire additional Web staff in Marketing Communications to maintain a “core site.” One unintended consequence will be the proliferation of “rogue” sites hosted in the cloud that fail to meet brand standards or are unsupportable.

4. Maintain the status quo and fail to solve the key issues described above.

Admissions Home Page, Bucknell University
Nationally recognized design of Bucknell University.
OBJECTIVES

The following objectives have been outlined to address the key issues with the website.

1. **Accessibility.** Ensure that all templates, themes, widgets, and applications in dotCMS meet strict accessibility requirements.

2. **Mobile.** Update the system so that content delivery is mobile-friendly and portable to the mobile app currently under development.

3. **Demand for new features.** Provide publishers with new features the campus demands and our users expect.

4. **Content quality.** Improve content quality while minimizing the impact on current resources.

5. **Governance.** Establish clear governance, standards, and training to implement and maintain the modernization plan.

GOALS

Meeting the following goals will help the university provide solutions to the key issues with its website and position it to support the strategic goals of the university.

1. **Accessibility.** Ensure that system components as well as publisher content comply fully with accessibility requirements.

   • **System level.** Ensure that system templates, themes, widgets, and applications conform to 508 Accessibility and Web Content Accessibility Guidelines 2.0 Level AAA requirements.
- **Content level.** Update standards, support, and training to help publishers create content that meets accessibility requirements for the modernized website. Structured content types. Develop structured content types that make it easier for Web publishers to meet accessibility compliance.

- **Annual publisher certification program.** Make accessibility a central component of publisher training and annual certification.

2. **Mobile.** Create a user-friendly experience for desktop, mobile, and wearable devices.

- **System level.** Ensure that templates, themes, widgets, and applications function equally well on desktop and smart devices.

- **Content level.** Update standards, support, and training to help create content that scales appropriately for desktop and mobile devices.

- **Structured content types.** Develop structured content types that make it easier for Web publishers to create mobile-friendly content.

- **HTML5.** Revamp the underlying source code to deliver content to mobile as well as social-media platforms.
• **Annual publisher certification program.** Make mobile-friendliness a central component of publisher training and annual certification.

3. **Demand for new features.** Modernize the site by offering new features that the campus demands and users expect.

  • **Visual design.** Update the visual design so that it meets current design trends and user expectations.
  
  • **Identity System.** Apply signatures to unit-level websites and allow for more autonomy of unit site design.
  
  • **Work smarter.** Find smarter and better ways to work with existing limited resources.
  
  • **Efficiencies.** Leverage the efficiencies inherent in a Web content management system and make them work to our advantage.
  
  • **Content redundancy.** Eliminate costs of third-party systems by replacing similar content and functionality with the Web content management system’s capabilities.
  
  • **Dynamic content.** Use structured content types and taxonomy to generate content automatically instead of placing this burden on our publishers.
  
  • **Minimal resources.** Minimize the impact of the site modernization on Marketing Communications and IT Services staff by outsourcing development.
• **Personalization.** Personalize the user experience through customer profiles and targeted content.

4. **Content quality.** Improve the quality of content across the website.

- **Structured content types.** Develop structured content types that simplify the publishing process for publishers and make it easier for them to comply with standards.

- **Templates and page types.** Create new templates and page types that vastly improve the user experience.

- **Messaging.** Align messaging, authentic storytelling, and clearer calls-to-action to support strategic goals:
  
  IPFW as a university of choice
  
  Affordability and high quality of programs and services
  
  Integrity, significance, and value of Indiana University and Purdue University degrees
  
  Signature programs
  
  Interdisciplinary, graduate, and international programs
  
  IPFW as an intellectual, social, economic, and cultural driver
  
  Diversity of the IPFW community
  
  Philanthropic support

- **Search engine optimization (SEO).** Improve search by increasing SEO rankings for important keywords.
• **Domain authority.** Leverage SEO, navigation, and Web tools to raise domain authority of the website.

• **Wayfinding.** Employ effective landing and category pages to improve content search and wayfinding.

• **Web traffic.** Improve Web traffic for these key traffic indicators:

  Abandonment. Decrease the number of visitors who abandon the site.

  Visit time. Increase the time visitors spend on the site.

  Return visits. Increase the number of return visits to the site.

  Submissions. Increase the number of form submissions on the site.

  Click-throughs. Improve how visitors click to find information on the site.

5. **Governance.** Establish new governance and policies for decision-making, input and feedback, adoption, and implementation of the plan. Sustain the plan beyond launch.

  • **Roles and responsibilities.** Identify key roles and responsibilities for supporting the modernization plan.

  • **Stakeholders.** Meet with key stakeholders for feedback, input, and collaboration on the plan.

  • **Service-level agreements (SLAs).** Create service-level agreements at the administrative and publisher levels.
Outline administrative responsibilities and accountability for the plan.

Establish responsibilities and accountability for publishers.

- **Standards.** Provide standards for all new templates, themes, content types, and widgets to promote brand-appropriateness and a consistent user experience.

- **Guidelines.** Offer easy-to-understand guidelines for every content type provided in dotCMS.

- **Content policies.** Develop clear policies for specific types of content such as the homepage, A–Z index, landing pages, events, etc.

- **Content ownership.** Identify who is responsible for content, particularly content shared by multiple units.

- **Job descriptions.** Add standard language to job descriptions that specifies Web responsibilities for all publishers, their supervisors, and unit heads.
• **Training and support.** Provide training (in-class and video shorts) focused on standards and guidelines for the creation of brand-appropriate content.

• **Annual publisher certification program.** Establish a publisher certification program to provide accountability to standards, policies, and training annually. Revoke system access to publishers who do not meet certification standards.

• **Student Web publishers.** Hire and certify students to support unit-level websites.

• **Web expert group.** Cultivate a group of key publishers who can share content expertise with the rest of the WebCMS publisher community. Offer tutorials, blogging, and video shorts for supplemental instruction.

• **User testing policies.** Establish policies for testing and receiving feedback on system functionality. Focus on mobile and accessibility.

• **Benchmarks.** Establish clear benchmarks and metrics by which to measure success.

• **Design updates.** Apply regular updates to templates, themes, widgets, and applications.

• **System upgrades.** Stay current with the dotCMS system software.
• **Content review.** Conduct semesterly content reviews to remove obsolete content or update content.

• **Editorial calendar.** Align brand messaging and featured content with an editorial calendar.

• **New features.** Release 1–2 new content features annually.

### AUDIENCES

As part of the website modernization, the plan will clearly define our target audiences and target content based on user expectations.

• **Customer profiles.** Create customer profiles for each key audience.

• **Targeted content.** Deliver content targeted to each customer profile:
  - Prospective students/guardians
  - Admitted students
  - Enrolled students
  - High school guidance counselors/teachers/principals
  - Alumni/prospective alumni
  - Donors/prospective donors
  - Faculty and staff/prospective faculty and staff
  - Local community-at-large
COMPETITION

Design and technology have changed dramatically since 2008. Below are general design trends found on today’s modern websites. The modernization plan should seek to integrate most if not all the design areas identified here:

- **Mobile.** Content scales appropriately for both smart and desktop devices.

- **Greater social integration.** Nearly all content is expected to be social in some way.

- **Storytelling and interaction.** The strongest way to engage users is to tell stories they can relate to and offer ways for them to interact and engage content and other users.

- **Google maps integration.** Greater use of Google maps for wayfinding of events and locations helps users to show up.

- **Photography.** Professional, high-quality images play a more important role in page design than ever before.
• **Background video.** Sites are using background video to create impressions of activity and place.

• **Energy and space.** Modern sites convey more energy and excitement and take advantage of space on the page.

• **Typography.** Due to improvements in font support, typography on the Web now matches typography seen in print.

• **Flat design.** The trend of flat design continues to convey the flat nature of touch screens.

• **Longer scrolling pages.** Users are now accustomed to longer pages (provided design and content are compelling).

• **Simplicity.** Greater emphasis is being placed on simplicity in Web and mobile design.

• **New menus.** Advanced, user-friendly menu systems are being used to improve the user experience on both desktop and mobile devices.

• **Performance and speed.** Users are charged for data usage, so speed is of the essence now more than ever.

• **Better multimedia experiences.** Users expect to have richer interactive experiences in the form of video, audio, animation, etc.

• **Subtle animations.** Modern websites enhance user interaction with clean, subtle animations that reinforce usability.

• Key features of the following university websites have been identified, and further research will be conducted pending approval of the proposal:
• Primary Competitors
  1. Purdue University
  2. Indiana University
  3. Indiana University–Purdue University Indianapolis
  4. Ball State University

• Sites for Feature Comparison
  1. Loyal Marymount University
  2. University of Cincinnati
  3. Bucknell University
  4. University of Notre Dame
  5. Oberlin College*
  6. UTHealth—The University of Texas Health Science Center at Houston*
  7. Arizona State University*
  8. Taylor University*
  9. Pittsburg State University*
  10. Aquent*
  11. BBC News
  12. Columbia College Chicago
  13. Indiana Tech
ASSETS

Assets such as systems should be viewed as investments. The university has invested significantly in the following assets and should leverage these existing assets to advance the website to the next level.

- **dotCMS Enterprise Content Management System.** Build on, extend, and improve the university’s content management system.

- **Identity system.** Apply the identity system to unit-level websites. Standards. Build on existing standards and apply them to the modernization plan.

- **Digital asset management.** Continue to replenish the digital asset management system and update it with new photography and graphics.

- **Training.** Improve and expand existing training for the modernization plan.
• Sheriff. Use Compliance Sheriff and other tools to analyze accessibility compliance of templates, themes, widgets, and applications (system level) as well as content (publisher level).

• Publisher base. Empower the publisher community to create brand-appropriate content.

• Content. Adapt content (text and images) from existing websites and printed materials.

• Analytics. Expand our existing Google Analytics to track more relevant data, set benchmarks for the site modernization, and make decisions for continuous improvement.

• Mobile app. Ensure that modernized content integrates well with the mobile app.

• Other systems. Explore content integration with online systems such as myIPFW, Acalog (academic bulletin), Taleo (ipfw.jobs), IntelliResponse (Ask the Don), Extensis Portfolio (digital asset management), etc.

DELIVERABLES

Contract with a dotCMS partner agency to create the following updated components in the university’s Web content management system. Ensure that stakeholders and the agency have signed off on the requirements and use cases before implementation begins. The project should avoid scope creep so that all deliverables are met on time.

• Templates. These establish the baseline for how various types of pages are branded and structured.
• **Landing pages.** For use as home pages for units or campaign landing pages.
  
  • **Jumbo.** For use by the IPFW home page, large sites, major campaigns, or featured sites.
  
  • **Wide.** Appropriate for large sites and significant featured content.
  
  • **Narrow.** Appropriate for medium-sized sites and minimal featured content.
  
  • **Simple.** Appropriate for modest sites and minimal featured content.
  
  • **“One-page Website.”** Appropriate for landing pages and sites requiring a single page with animated scrolling.
  
  • **Category pages.** Help users more easily find what they are looking for by allowing them to sort more easily through large categories of content.
  
  • **3-Column.** Filterable sorting page with left-hand navigation and right-side related column.
• **2-Column.** Filterable sorting page with left-hand navigation.

• **1-Column.** Filterable sorting page with no navigation.

• **Detail pages.** Appropriate for body copy with detailed information.

  • **3-Column.** Standard detail page with left-hand navigation and right-side related content.

  • **2-Column.** Standard detail page with left-hand navigation.

  • **1-Column.** Standard page for applications such as the events calendar.

• **HTML Newsletter.** Allow publishers to include and relate existing Web page content for broadcast to email distribution lists.

  • **3-Column.** Standard HTML email template with left and right columns.

  • **2-Column.** Standard HTML email template with right-side column.

  • **1-Column.** Standard HTML email template with no callouts.

• **Themes.** Themes reinforce the brand while allowing for variation in visual design through color, typography, spacing, icons, etc. The proposed themes offer possibilities for adding variation to sites on the ipfw.edu domain.
• **Future.** Projects energy.

• **Traditional.** Conveys tradition.

• **Modern.** Feels contemporary.

• **Simple.** Looks essential.

• **Elegant.** Is formal.

• **Casual.** Looks fun.

• **Mastodon.** Is tough.

• **Warm.** Shows warmth.

• **Cool.** Looks crisp.

• **Neutral.** Conveys quietness.

• **Structured Content Types.** Structured content creates consistent formatting, makes it easier to publish content in a consistent manner, allows content to be reused and dynamically shared across the site, centralizes information on the site for easier updates, and, ultimately, improves the user experience.

  • The following is a representative list of content types designed to improve content commonly found on university websites. (See “Website Modernization Deliverables” for a complete listing of proposed content types.)

    • Academic programs and courses

    • Campus buildings and locations
- Events (updated with geolocation and event registration)
- Blogs
- Announcements
- Featured content (faculty, programs, blogs, etc.)
- Committees
- Policies
- Documents
- FAQ
- People
- Experts
- Jobs
- Offices/departments • Contact information • Student organizations • Testimonials
- Wiki
- Etc.

- **Widgets.** Widgets make it easy for publishers to add content to parts of a website that normally require complex programming. These are commonly found in systems like WordPress and SquareSpace. Below is a representative list of widgets designed to provide better interactive user experiences. (See “Website Modernization Deliverables” for a complete listing of proposed widgets.)
• Map widget
• Multimedia banners
• Polls
• Photo slideshow
• Video gallery
• Events listing
• Social media widgets (e.g., Facebook, Twitter, LinkedIn, Instagram, Pinterest)
• Etc.

• Applications. Applications are larger interactive tools that simplify complex content and transactions. The following are identified as vital to a university website:
  • Events calendar with event registration and geolocation for wayfinding
  • Virtual tour with photo and video galleries
  • Interactive map with geolocation data for wayfinding
  • Advanced search for general site content as well as specific content types such as academic programs and courses, people, departments and offices, etc.
  • Advanced people search (directories) for faculty, staff, students, and alumni.
• Digital asset management for searching, browsing, filtering, and sorting downloadable files such as images.

• Job site for viewing current job postings and applying for jobs. Also used by employers to browse for potential candidates (i.e., students).

• Storefront for creating an easy experience for users to purchase tickets and online merchandise. Integrate with Touchnet for payment security.

• Etc.

• **Taxonomy.** Taxonomy refers to the categories and tags that allow content to be filtered, sorted, and related. This capability—one of the most powerful of Web content management systems—is what allows publishers and users to sort through large amounts of content. Ultimately, strong taxonomy greatly improves the user experience.

  • **Categories.** Content classification for better sorting and filtering.

  • **Tags.** Publisher- and user-generated keywords for sorting content.

**RETURN ON INVESTMENT**

• Successful implementation of the plan should result in a return on investment in the form of the following:

  • **Increased traffic, leads, and actions.** The modernized site boosts traffic and lead generations. A better user experience
drive traffic to online actions such as applying, registering, purchasing, contacting, and making requests.

- **Fewer content and system silos.** Phase out existing vendor systems whose content and services can be effectively replaced by the Web content management system. Deliver features in the WebCMS such as chat, HTML email, blogging (Wordpress, Squarespace), virtual tour, interactive map, flip book, student organization content, FAQ systems, etc., that would otherwise be outsourced to a vendor.

- **Lower direct and indirect costs.** Eliminate direct and indirect costs of supporting many disparate systems.

- **Improved self-service.** Lower administrative costs through more effective self-services (ticket purchases, event registration, people directory updates, etc.).

**IMPLEMENTATION**

The following identifies what is needed to implement the plan and ensure fulfillment of accessibility compliance, mobile delivery, new feature deliverables, content quality assurance, and revised governance.

- Governance and roles

- Service-level agreements (SLAs)

- Digital strategy

- Marketing strategy
• Content strategy
• Search engine optimization (SEO) strategy • Social Web strategy
• Content policies
• Standards and guidelines
• Training and support
• Annual publisher certification program
• Rollout plan
• Prioritization/migration plan
• Evergreen maintenance plan

PROJECTED TIMELINE

Note: Timeframes below need to be adjusted pending approval of the plan and the implementation strategy.

• Brief—Phase 1 (approximately 3 months)
  • Project definition. Understand what the modernization plan is about.
  • Target audiences/customer profiles. Define and understand website users and customer profiles.
  • Establish clear target goals.
• **Technical specs.** Define specifications such as browser and mobile support.

• **Content inventory.** Establish the required content to be featured on the site.

• **Resources.** Evaluate available assets such as systems and content.

• **Project timeline.** Define project milestones and required time allotment.

• **Project budget.** Identify necessary costs and define overall budget.

• **Proposal feedback.** Seek proposal feedback and approval to proceed.

• **Planning—Phase 2 (approximately 3 months)**

  • **Research and concepts.** Conduct marketing research and create initial concepts.

  • **Information architecture.** Define website structures and content navigation.

  • **Taxonomy.** Develop categories and tags for filtering and relating content.

  • **Page layout.** Establish layouts for the different types of pages required.
• **Usability.** Ensure ease of use through proper presentation of content.

• **Wireframes and mockups.** Create initial page, widget, and application layouts and mockups.

• Design—Phase 3 (approximately 2–3 months)
  
  • **Color scheme.** Choose relevant colors based on identity system and research.
  
  • **Identity architecture.** Apply unit-level signatures to the design of pages.
  
  • **Artwork.** Design artwork such as banners and photographic treatments.
  
  • **Visual elements.** Design the site’s visual elements such as buttons and icons.
  
  • **Typography.** Choose appropriate font families, sizes, and other properties.
  
  • **Themes.** Create brand-appropriate themes that offer design variation across the site.
  
  • **Rich media.** Create required rich media such as animations and video.

• Development—Phase 4 (approximately 3–6 months)
  
  • **Staging servers.** Install the server to set up and test new design and capabilities.
• **Accessibility and standards.** Establish standards for new pages and content types.

• **Framework.** Develop the code framework.

• **Templates and themes.** Develop new templates and themes.

• **Widgets and applications.** Develop widgets (e.g., Facebook activity feed, Twitter timeline, top FAQs, etc.) and applications (e.g., events calendar, flip book viewer, digital asset management, etc.).

• **Functionality.** Implement the functionality for required features.

• **Content.** Integrate content within the website.

• **Site performance.** Ensure proper access speed and performance.

• **Security and permissions.** Implement necessary security and permissions for new templates, themes, widgets, and applications.

• **Workflows.** Implement and test publishing workflows for quality assurance.

• **Push publishing.** Test new push publishing feature in dotCMS.

• **Markup.** Implement required markup for SEO, social media, analytics, etc.

  • Launch—Phase 5 (length of phase to be determined)

  • **Testing.** Conduct final testing of website features.
• **Quality assurance.** Perform quality assurance tasks such as link checking and proofreading.

• **Web analytics.** Test integration of Web analytics.

• **Communication plan.** Communicate new features, rollout, and resources to campus.

• **Training and documentation.** Provide training and documentation to campus.

• **Annual publisher certification program.** Establish a publisher certification program to reinforce training and standards annually.

• **Production server.** Push new templates, themes, widgets, and applications to live server.

• **Maintenance—Phase 6 (ongoing)**

  • **Support and troubleshooting.** Ensure technical support and troubleshooting of issues.

  • **Design updates.** Continue improvement with planned updates to design.

  • **Functionality updates.** Continue improvement with planned updates and new releases to site functionality.

  • **Content updates.** Provide an editorial calendar and scheduled tasks for continuous updates to content.
NEXT STEPS

1. Evaluate/adopt the plan

2. Establish plan governance
   - Executive in charge
   - Information Technology Policy Committee
   - Web Advisory Committee
   - Key stakeholder groups
   - Chancellor
   - Student Affairs and Enrollment Management • Academic Affairs
   - Financial and Administrative Affairs
   - Advancement
   - Information Technology Services
   - Marketing Communications
   - WebCMS backend team
   - WebCMS frontend team
   - WebCMS publishers

3. Finance the plan (project budget)

4. Define scope of plan (project brief)

5. Identify the deliverables (vendors)
6. Commit to project timeline

WEB ADVISORY COMMITTEE

The plan was reviewed and has been endorsed by the Web Advisory Committee. Feedback was sought via email and discussion of the plan took place during a meeting March 13, 2015. The plan has been well received and revisions have been made based on feedback.

- [Vacant], Alumni Relations
- James Burg, College of Education and Public Policy
- Steve Carr, Department of Communication
- [Vacant], Diversity and Multicultural Affairs
- [Vacant], Department of Visual and Communication Design • [Vacant], Division of Continuing Studies
- Kenneth Christmon, Admissions
- John Kaufeld, Office of the Chancellor
- Tamarah Brownlee, Human Resources and Office of Institutional Equity
- Jack Patton (co-chair), Marketing Communications
- Carlos Pomalaza-Raez, Department of Engineering
- Kasey Price, Student Life and Leadership
- Jeff Tipton, Information Technology Services
- Cheryl Truesdell, Helmke Library
Additionally, Eric Wagenfeld from Services for Students with Disabilities and Bruce Kingsbury from the Department of Biology have reviewed and expressed support of the plan.

REFERENCES


- Paul Boag, Digital Adaptation (Freiburg, Germany: Smashing Magazine GmbH, 2014).


