ACU Digital Transformation Proposal

[ACU Standard Operating Process Digitization and Renovation Project]

جامعة الأهرام الكندية
AHRAM CANADIAN UNIVERSITY

Table of Contents

I. Introduction

Ahram Canadian University ("ACU") wants to digitize the entire organization's standard operating process, including all faculties and administrative departments, as well as create a new website to boost productivity and efficiency..

Furthermore, our ACU is developing some highly promising work processes that should be showcased on the ACU public website, hence the ACU public website should incorporate dynamic integration with ACU enterprise applications or databases.

As a result, ACU is looking for highly competent software development companies that are willing to combine strategic thinking with emerging technology to create unique solutions that continually break new ground in order to aid and lead us through the comprehensive digitization process.

The entire integrated system (including the public website) should be developed with a scalable architecture that includes a load balance server cluster to withstand traffic surges during peak usage hours.

The requested integrated system should cover the following modules;

- student affairs module
    - Admission
    - IDs modules
    - Students documentations (ألخ - التسلسل الدراسى – بيانات الحالة – نظام شهادات القيد)
- Student Financial module (including e-payment module)
- Faculties management system
    - digital academic advising, online registration
    - course work module (instructors and students)
    - courses evaluation module
    - academic schedules, exams schedules, control and examination module
    - Transcripts module
- Alumni
    - Certifications module
    - Graduates reports
- General Financial module
- Human Resources Module

- Purchasing and warehouse module
- Electronic memos
- Students portal and mobile application (to easily request their documentation)

The requested integrated system development, must include the implementation and integration of at least 3 subdomains, containing;

- ACU.EDU.EG (for guests and visitors),
- Acadmic.ACU.EDU.EG (for students, faculties members and academic staff), and
- Administration.ACU.EDU.EG (for management and administrative staff)

As well as, it should be expandable to any extent of required integrations.

II. Approach and Methodology

Bidding firms should be able to offer strategies and solutions that go above and beyond the norm. They should be able to look up for role in achieving our objectives using the most cutting-edge technologies and offering the most effective solutions. The company should demonstrate its capacity to develop and build an interactive, dynamic, and well-engineered integrated system based on appropriate technologies to be a unified point of interaction and act as a sole provider for information for Ahram Canadian University.

Ahram Canadain University integrated system should be designed and developed by leveraging the portal Document Management (DMS) features, the Web Content Management (WCM), as well as the business workflow implementation features, to enable the deployment of the website and its templates using appropriate standards.

II. 1. Management Approach

- The bidding companies should ensure that our project is assigned to a project manager who will be our primary point of contact.

- The project manager leads the project team through the development process to ensure that it is completed on time and to a high standard.• The bidders should ensure that they are using a complete set of checklists, activities, and procedures that are specific to our needs.
- In addition, weekly project status meeting should be held that focus on answering three questions:
    - (a) “What have you done since yesterday?”;
    - (b) “What are you planning to do today?”; and
    - (c) “Do you have any problems preventing you from accomplishing your goal?”.

- This openness and weekly progress reviews reduce risk and ensure that the project is closely managed at all times.

- The project manager works behind the scenes with the executive team to assure service quality.

II. 2. Development Process

Bidding companies should demonstrate their capacity to lead ACU through the discovery, planning, design, and production phases.

Following this procedure will ensure a positive outcome. Phase 0 should be the first step in the implementation process.

The major purpose of this analytical phase is to describe features in concrete terms, specify technological integration specifications, and prioritise features so that resources are allocated to areas that will yield the highest return on investment in the construction of the ACU integrated system structure.

- Phase 0
    - Strategic Analysis and Planning
    - Information Architecture
    - Wireframes
    - Technical System Design

- Phase 1
  - Graphic and User Interface Design and reports layout
  - Content Creation and data migration
  - Implementation

- Phase 2
  - Testing
  - Training and Documentation
  - Launch
  - Post Launch Support and Maintenance

In the sections below we discuss the different portions of this process.

II. 2.1. Strategic Analysis

Bidding companies should guarantee that they will collaborate with ACU personnel and stakeholders to acquire as much information as possible about how they think the integrated system should work.

We like to include representative end-users (current or potential users) in these talks whenever possible to learn more about how they will utilize the integrated system model or models. End-user participation in the strategic analysis stage of the process might yield new insights and/or confirm our decisions and strategies.

The company should use analytics tools to study visitor experience.

Following the collection of data, the companies should conduct a qualitative analysis and make recommendations based on the information architecture and wireframes.

The company should engage with ACU to establish the requirements for specific site functionality and other elements throughout this stage of the process.

In addition, the corporation could collaborate with ACU to promote the many possibilities accessible.

The information gathered will also be utilized to guide the development of the user interface, report layout, content selections, functional recommendations, and technology selections.

II. 2.2. Information Architecture

ACU's information architecture should be further defined and refined by the company. This phase focuses on making integrated system easily navigable. The company should collaborate with ACU stakeholders to create their information architecture so that users can swiftly and easily discover information and functions. Our goal is to keep the number of "clicks" required by users to reach their first destination on the integrated system modules to three or less.

II. 2.3. Wireframes

In the annotated wireframes produced, the company should describe all of the necessary details to make a project functionally accurate. However, getting people to focus on utility rather than design can be difficult.

As a result, the company should concentrate on developing wireframes that are simple to construct and attractive, but not overly so, in order to keep our stakeholders focused on the functional requirements.

One advantage of this wire framing method is that it helps to avoid starting down the wrong road and necessitating costly rework later on. The approach also generates a thorough blueprint of how the system should operate, which programmers can use as a reference.

II. 2.4. Technical System Design

The functional requirements are synthesized during the technical system design phase of the project, and the company should use them to choose the right technologies to use for implementation. To guarantee that the system architecture is scalable, the technology selection process takes into account anticipated future usage of the system.

The process of developing a integrated system can be compared to that of constructing a home. If the foundation is created without considering the need to add an additional floor or an expansion to the house in the future, you may end up having to rebuild the entire house.

Similarly, if a system is developed without considering future capabilities, ACU may find itself in the situation of having to rebuild the website from the ground up to accommodate that future feature.

II. 2.5. Graphic and User Interface Design

After the information architecture, wireframes, and technical system design have been finalized, this stage usually begins. The company should create the graphical interface that will display ACU on the inter/intra/net integrated system, as well as the navigation and interaction tools that will allow the end user to interact with the system.

The company will generate several new system designs and engage with ACU stakeholders through multiple rounds of changes to create a distinctive and powerful architecture.

This design will priorities usability while also providing ACU with an efficient work process and appealing appearance.

The company recognizes the need of keeping a professional and clean appearance, as well as simple navigation. The Company should concentrate on creating a system design for the ACUs' concept that makes use of color, typeface, and layout to stand out, communicate well, and be remembered.

II. 2.6. Data creation / updating / migration

It's critical for ACU to start creating new content or updating existing information as soon as can during this phase. The definition of the system's "content classes" will be an important part of this procedure.

We'll need to come up with a set of fields or attributes for each content type.

II. 2.7. Implementation

Development Environment

To make the development and deployment of the ACU integrated system more efficient. For every programming code, the company should set up a development server and use a version control and bug-tracking system.

Programming, Customization and Templating

The Company should personalize the base technologies that were chosen in the design phase throughout this phase. This may include some specialised programming. In addition, we will use templates to combine the graphical design with the functionality throughout this phase.

Search Engine Optimization

The implementation of a public website should ensure that it is optimized for search engines (SEO). SEO is concerned with both the content and the organization and programming of webpages. The Company should make certain that the ACU website is constructed in such a way that search engines can read our information. The organization should do it by following best practices that allow the ACU website's visibility in major search engines like Google to be maximized.

II. 2.8. Testing

Testing should be an important component of The Company's system development process and one of the final stages. Browser compatibility, HTML syntax and CSS validation, as well as functional functioning and correctness, should all be tested by the company. Each of these test areas allows ACU stakeholders to guarantee that the produced systems are bug-free, satisfy expectations, and meet the functional and aesthetic needs of end users. On the website, the Company should conduct both automatic and manual testing.

ACU integrated system, should have browser optimization for the following platforms/version:

- Internet Explorer (latest version),
- Firefox (latest version),
- Safari (latest version),
- Opera (latest version), and
- Chrome (latest version).

II. 2.9. Training and Documentation

The company should work with the many ACU stakeholders to ensure that they properly comprehend how to use the system and are confident in its ability to do so. The company should ensure that the ACU trainees have a thorough understanding of how to utilize the website CMS platform for content input jobs, as well as regular use of the system.

A team of ACU developers should obtain comprehensive training in order to gain a strong understanding of how to use any of the system's components and to design any necessary system improvements. To maintain an effective training atmosphere that stimulates conversation between the trainer and learners, we like to keep training groups to a maximum of five people. In-person training sessions at ACU should be provided.

System documentation (usually in the form of a database schematic, data dictionary, and basic administration guide) and a user guide for ACU staff who need to deal with the administrative capabilities of the system should also be provided by the Company.

II. 2.10. Hosting

Integrated system is hosted on university servers located in university premises (intranet side), while the public website (internet side) is hosted by third party company like WE.

The proposed hosting solution should, in general, be managed by the provider. Managed hosting is available for dedicated or virtualized servers. Clients that choose managed hosting can rely on the hosting provider to manage the network, hardware, and software stack infrastructure 24 hours a day, 7 days a week, as part of the hosting expenses. The following services are usually included with managed hosting:

- Network Management
- Managed Backup
- Managed Firewall
- OS Hardening
- Patches & Updates
- Proactive Monitoring

II. 2.11. Launch

To achieve a flawless launch, the Company should collaborate with ACU. The business should create a detailed launch plan that outlines each phase of the process and who is responsible for each one. In addition, the organization should run this process through a test to ensure that the stages work as expected. This method reduces the likelihood of an unanticipated occurrence disrupting the process. If there is a problem that prevents the launch from going as anticipated, the company should plan for a rollback as a contingency. Our mission is to make sure the system(s) go live and function properly.

II. 2.12. Post Launch Support and Maintenance

ACU integrated system should have a high level of ongoing support from the company. There should be no service outages or system outages, according to the company. In the event of an unexpected outage, backup and emergency procedures should be prepared to bring the website back online in a matter of minutes. Whenever the ACU system requires assistance, the Company should be available to make functional updates, structural/layout changes, design changes, or content changes. This ongoing support should be provided by the same team that was chosen to create the ACU system.

II. 3. Technical Approach

The company should be able to recommend technologies and parties for backend, frontend, database, and hosting services based on its understanding of the ACU digital transformation project requirements and organizational and business objectives.

A robust open source management solution should be recommended by the firm. That should be able to accommodate a wide range of material, as well as interesting and dynamic page displays, complicated content relationships, visitor involvement, and secure access management.

II.4 Rights to Code and Data / Data Ownership

ACU ONLY shall maintain all rights and ownership in the software product, including but not limited to source codes, database design, database backups, website designs, text content, video content, image content, HTML pages, CSS files, fonts, JavaScript files, setup files, and so on.

All elements of all Deliverables and development work related to website implementation shall be owned by ACU entirely and shall be deemed works created for hire by the Company for ACU.

All national and international copyrights, as well as all other intellectual property rights, in the Deliverables and development activities linked to system installation, shall be owned by ACU exclusively.

As soon as the integerated system is up and running, the company should distribute all project-related files to ACU stakeholders.

Appendix 1: GENERAL REQUIREMENTS

1. Solution - Oriented Requirements

Technology: Implementing a new System for Ahram Canadian University based technologies that are suitable for the current and future organizational and business needs of Ahram Canadian University.

Language: The frontend of system should be a bilingual interface supporting Arabic and English languages while the backend (administration) should be English only.

Design: The Company should provide at user friendly design (two different options) which suits our preference and recommendations.

Compatibility: The system should be compatible with almost all commonly browsers used.

Responsiveness: the Company should assure that the design of system follows the latest responsive design techniques that guarantee an optimal viewing experience—easy reading and navigation with a minimum of resizing, panning, and scrolling—across a wide

range of devices such as PCs, laptops, iPad, iPhone, Android tablets, Android smart phones.

Sitemap: The system should have a dynamic sitemap for all the pages. The system will automatically update the sitemap as soon as any changes in the structure take place.

Public Website Content Sections: The public website will include content sections that should be easily managed by the content editors who will be able to easily add/edit/delete pages using the content management tool delivered by the company as a main part of it.

The visitors/guest/students interface (web inter/intra-net) shall also include dynamic content sections for example, banners, news, highlights, events, media gallery, activities, …etc.

Key Features: The Company should compile plenty of key features that make the public website gets a higher ranking in search engines and advanced position on top of rival universities, for example, Robust search function, Search engine optimization,

The integrated system should be able to handle online payment integration, Follow the Personalization Approach and Techniques, Trackable Inquiries, Donation E-Commerce Integration, Security & Hierarchal Structures and Google Analytics and tracking leads

Warranty: system warranty is 12 months.

Timeframe: The estimated time to implement, deliver and launch the system is 6-to-9 months.

2. Client – Oriented Requirements – High level requirements

Administrative personnel, professors, students, and the public users/visitors (for the public website) should find the ACU system easy to use, with quick access to the most important information. In addition, the system should be simple to maintain in the event of a system failure or an urgent update.

Because the system will be used on a variety of platforms, it must be adaptive or automatically scalable for cellphones as well as laptops. Because sensitive data will be stored in the system database, all modern network and data security standards, such as

https, must be incorporated to dissuade or halt attempts by criminal entities to exploit this information.

3. Functional and Non Functional Requirements

- System must be able to accept and save data from users.
- System should allow users to upload files for processing.
- System must require users to login to access certain features.
- System must be adaptable to all device screen sizes.
- System must be able to send and retrieve data to and from the database.
- System server must have constant access to the internet.
- System must always be available with limited to no downtime.
- System needs to be capable of handling no less than 1,000,000 transactions per day.
- System must have quick response and processing times.
- Data integrity must be first priority when transactions are being processed.
- All users must be able to interact seamlessly with website elements (Search bars, Buttons, Menus, Text Input Fields etc).
- Registered users must be required to enter login details before accessing their information.