# SmartCollege

College Management System
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**Personal note**

Due to the technical background and the soft skills I have, it is very important that I choose a project that really is doable in a semester. This is important because a semester long project requires a lot of dedications and focus. Also, because my concentration in my major is Web, I chose a web based project where I was able to present my idea properly with the technicality and the soft skills in mind. This helped me to not only enhance my knowledge in my concentration but also test my skills. Therefore, a web based project made a lot of sense.

**Introduction**

Management Systems in Information Technology plays a very significant and efficient role because it helps organizations to focus on their business rather than how to organize their day to day operation. In high education, due to the vast number of students, faculties and staff, it becomes very cumbersome and bruising to keep track of records regardless of the user type; that is, a student, faculty or a staff. This project is for higher education academic institutions and aims to solve some problems that other management systems have not taken into considerations.

**Literature Review**

The generic term for such project is college management systems, and currently there are different systems in the industry that charge a lot of money to be used. As the number of universities increase, the more demanding college management systems becomes. One of the biggest issues in such projects is the variations in rules and procedures most universities follow. Since there are little universities that follow the same rules and procedures for their academic day to day work, it is very difficult and it requires more than a semester to develop a system that works for all the universities. However, according to the research I have done and evaluating other college management systems and the unstructured interview I have done with the American University of Iraq, Sulaimani (AUIS) registrar supervisor, there are standard rules and procedures that most universities follow. Based on these, I developed SmartCollege to work for as many universities as possible as far as they follow the standard rules and procedures.

**Gaps and Uniqueness**

Primarily based on the systems I have evaluated and AUIS's current college management system, there are the following gaps:

- Very complex: The current system at AUIS is very complicated. On one side, this is very useful because it gives customizability; however, from the other end, it is very time consuming since one has to learn how the system is developed and works to make it work for the institution. This makes it difficult to change the system because it requires prior knowledge.
- Primary features: The available products in the market currently offer many features but they miss the important features such as professor overview for students and students' performance review by the professors.
- Cost: currently the available systems charge a lot of money for the product itself and the support. This goes back to the first gap about complexity. Such projects require extensive support to make it work. However, due to the expensive support fee, most academic

institutions backs off and only buy the system without the support, which make it difficult and time consuming to learn and customize the system.

SmartCollege in its version one offers the following features that make the product unique from its competitors in the market.

- Simplicity: Due to the given time to finish the project, the project functionality is kept simple but powerful. It has the primary features and it is easy to setup.
- Features: besides the primary features, which will be identified latter, the unique features SmartCollege has include but not limited to students' performance review by professors, news management and list of professors for students.
- Cost: this project will be free for the first year of trial and will be charged monthly or yearly afterward. However, it will be much more affordable than current products in the market.

**Current Problem**

The current problem in higher education academic institutions is the organization of students, faculties, staff, and all related subjects and classes. This is due to the complexity of the problem and lack of motivation to build a product that meets all the requirements of the customer or the business. Academic institutions accept students in all different seasons of the year, and the availably and capacity of a product become very pricy and cost institutions a fortune. Therefore, most college management systems lack the ability to deliver the product in the same level of performance promised during the service level agreement of the service life cycle. This is due to lack of solid foundation to design, plan, implement the product.

**Solution and Project Purpose**

SmartCollege is a service to effectively and efficiently overcome almost all academic challenges. It is designed to be easy, simple, scalable, available, and customizable. It does all the core functions expected from a management system for academic institutions and it does them efficiently and simply while it adds extra features to make the solution stand alone among its competitors. The user experience and user design are taken into considerations to deliver the solution simply yet effective. The purpose of SmartCollege is to do all the complex tasks simply with room for improvements and adding new features without breaking the system. Modularity makes SmartCollege even smarter and simpler. It allows developers to improve the system without spending time to understand the code. In the following section, all the features and capabilities of the system is explained and demonstrated.

**SmartCollege Features**

SmartCollege has four main dashboards, which are four different use types. Each user type or dashboard has its own features and privileges. In this section, all the features are explained and what each specific feature does. Then, in the following section, a complete How-To guide is presented based on certain given scenarios per user type. All the users regardless of their type has one single entry form. The username and password is checked at the background to identify the user type so the appropriate dashboard is opened. The four dashboards or user types are as the following:

**Employee Dashboard**

**Dashboard**

This page is the main page after the login page. It has the latest news posted by an employee. The red button is to give the employee if the news is edible by the logged in employee. If not, the button reads, 'Unable to Edit'. Further, it has two customizable gadgets customized by the admin for social media presence ideally of the institution. Next, it a few charts for statistical purposes, which also show the capability of the system to produce dynamic charts on demand. The data for these charts come from the database. It reflect the database.

**News**

This page shows the latest news posted by an employee. It also shows the validity date and time of the message. Then, below the latest news posted, there is a list of news. Each news has its own characteristics which include title, writer, validity date, and a button to check if the news is edible by the logged in employee. By having a feature to modify the news makes it efficient to save time and provide a clean interface to all users; students, faculties, and employees. The last part in this page is a form to submit a new post.

**Students**

This page has four main sections with subsections in each section.

**All Students:** This is to show students by department and starting year. This is a good place to check a student's ID or email.

**View Student Record:** This section is to only look at a student record if the ID of the student is known. When the ID is provided, details about the students appear in the page. The ID is stored through out all the subsections, so an employee does not need to keep submitting the student ID in the search box. The details include:

**Personal**: This section has personal details, current address, permanent address, and guardian details.

**Academic**: this section includes academic details of the student and student transcripts. In this page there is a major calculation for Cumulative and semester GPA. An employee can look at a class details by clicking on a class code in this section. This helps the employee to easily find a class based on a student.

**Performance**: In this section an employee can look at all the evaluations with grades written and given by the class professor based on each class per semester. This gives a good overview of what faculties say about a particular student. These details can be used to see how a student performs per semester or overall.

**Attendance**: In this section an employee can find out about the student attendance per semester. This gives an overview of the student attending classes.

**Finance**: This section is left empty for future versions of the product.

**Document**: This section is left empty for future versions of the product.

**Change Student Record:** This is a main section in the Students page. In this section, similarly to the pervious main section, an employee looks at a student's details and records if the ID is known. The only difference after the query is

submitted is that the employee can change the student details. An employee can change details in the following subsections.

**Personal**: In this section, an employee can change all the personal details of a student except the student ID and the user ID, which are required to keep track of the student. These IDs are unique through out the whole system. Also, the student high school grade cannot be changed because once it is set, there is no other way of changing this value over time. Therefore, it is set first and it remains as it is.

**Academic**: In this section, an employee can change a few variables of the student such as major, minor, status and whether the student is currently active or not.

**Course**: In this section, an employee can change the grade of a student in a particular class. This is useful especially when the professor makes a mistake. This depends on the institution policy how the grade will be changed and the reason behind changing it. Once the course code is entered and the semester and year are specified, the grade shows up. Besides changing the grade, it is possible to drop a course. In this version, students are not able to drop a course. They can only do so through an employee. This is to centralize the process.

**Finance**: This section is left empty for future versions of the product.

**Document**: This section is left empty for future versions of the product.

**New Student Record:** The last main section in the Students page is this section. Here an employee adds all the details for a new student. The details include the personal, academic, address and guardian details. To be able to add a new student record to the system, the student must have one unique user ID, which allows the student to log into its particular dashboard. To get a unique user ID, the employee must first crate an account for the student in Users page, which will be explained later.

**Faculty**

In this page, an employee can look at all the faculties in the system. To make it easier for the employee, a search area is available, which can be used to search based on any variables in the table. There is also a dropdown select option to show the professors in chunks of 5, 10, 25 or etc. The search area can be used to filter professors based on departments. The list is retrieved in ascending order. A faculty's name is clickable, which takes the employee to a detailed page about the faculty. Below the first table, a box of recent professors are shown with their head shots.

**Faculty Information:** This is a detailed page controlled by a faculty. It is a description of the faculty, certifications and classes taught before coming to the current university. It has contact information and office address. It also has the current classes given to the professor in the current semester and previous given classes.

**Academics**

This page has three main sections with subsections in each section. The three main sections are their subsections are as the following:

**Departments**: in this section, an employee can look at all the current departments with their majors and/or minors. Then the employee has complete control of each departments. The employee can perform complete CRUD ( Create, Read, Update, Delete) on each department and its majors and minors.

**Courses**: this is the second main section in Academics page, which has four subsections with unique features in each subsection. Besides the four subsections, the current page shows all semesters and courses in the database. An employee can create a new semester and then add classes to the semester starting from this page. The process of how to add a new semester with classes are explained in the How-to section of this paper. The four subsections are as the following:

    **New Course**: From this section, an employee can add a new class with all its characteristics and can add prerequisites for the class all together.

    **New Section**: Once a new class is created, for students to take the course, it must have one or more sections. In this subsection, an employee can create as many sections as required and identify meeting information and lecturer. To easily keep track of the added sections, a table with all the recent sections are shown in the right. This helps the employee to remember how many sections are added. From here, the employee can click on a course code to get the course details, which directs the employee to another page that has details of the course and sections.

    **Info Course**: this subsection is to show a list of all courses with their sections. To get a course detail per section, the employee can click on the course code. Once the detailed page for a course is opened, the employee has the ability to read through the details or edit the details, which is then redirected to another page. This is provided to give redundancy. To get the details of a professor, the employee can click on the professor name to redirect the employee to the detailed page of the professor.

    **Edit Course:** in this subsection, an employee can edit the details of a course or delete a course if it is not taken by a student. There are multiple ways to end up in this page. Any clickable course code ends up in the Info Course page, which then can end up in this page.

**Enrollment**: this is the third main section in the Academics page. In this section, an employee can enroll any students to any classes if the student ID and the course code are known. This is called brute-force enrollment because nothing is checked at the backend except duplications. Also, the employee can open up registration to all students for a specified period of time. When the time is expired, students cannot enroll in a course.

## Reports

This a dedicated page for al the reports. This is to make it easier for employees to easily navigate through the page and get the reports. These reports can be exported in multiple formats such as PDF, PNG or SVG. There are only a few examples to show the capabilities of the system. More charts can be easily developed by following the same examples provided here.

## Users

This page is about creating accounts for students and it is the first step of adding a new student to the system. As mentioned in New Student Record section, the ID

of the user is needed to add a student records into the system. Here an employee can do a complete CRUD on each user that is of type student. If a student forgets his or her own password, the employee can easily change the password and then the student has the ability to change it to a desired password.

### Profile

This page has all the details for the employee's dashboard such as the profile picture and account information including the ability to change the password. One of the unique features of this system is the ability to show quotes below the profile picture shown in the navigation bar. Employee can change this daily for motivation purposes. This is a personal quote and is not shared with any other user types. Also, if the employee has problems with his or her dashboard, in this profile page, the employee ID and the user ID are shown, which can be given to the system admin when errors occur.

## Faculty Dashboard

### Dashboard

This page is the main page after the login page. It has the latest news posted by an employee. Further, it has two customizable gadgets customized by the admin for social media presence ideally of the institution.

### News

This page shows the latest news posted by an employee. It also shows the validity date and time of the message. Then, below the latest news posted, there is a list of all news. Each news has its own characteristics which include title, writer, validity date. This page is important so students do not complain whether they received an important message or not. The professor can check if the message is sent or not. There is no room for complaints.

### Academics

This page has three main sections. This is the core of the faculty account. The three main sections and their details are as the following.

**Courses:** this section shows all the current and previous courses that are offered and taught by the logged in professor. The current courses show in the beginning in a table, and the previous offered courses are shown below with a grey color to represent it was offered in the past. From here, a professor can click on a class code to get the details of the course or click on a student number column to get the list of students in a class, which then redirects to a page with all students in that class. From here, the professor can click on the student name to get the detailed page of the student.

**Attendance**: this page is used daily by the professor to take attendance. The professor has the ability to change attendance and take new attendance. Students automatically get an overview of all the classes he or she missed. One this section is clicked, a list of all classes opens. The professor can then click on the class code to take attendance, which redirect the professor to another independent page. Or, the professor can click on the Update to update the attendance. This becomes handy especially when a student is late or is excused.

**Grading**: this is the last main section of the Academics page. In this section, a professor can grade and evaluate students at the same time. When a course is

selected, then the professor is redirected to another page with a list of all students. Then the professor can evaluate each student and give each student the final grade of the semester. Sometimes the number of students is very large and it is cumbersome and tiring to evaluate them all at the same time. Therefore, there are two actions that can be undertaken, which are saving and submitting. Saving is saving the current changes but not submitted. Submit is saving and submitting the data. After submission of the grade or saving the details, the professor is redirected to the main Grading page to have the list of all classes with labels of actions taken.

### Students

This page is for professors to look at student details and see the performance of a particular student. Each professor has a choice of how to get the student details. It can be through the class or by knowing the ID of the student.

### Profile

This page is about the personal and academic details of the professor filled by the professor. Once an account is created for the professor by the Admin. Then the professor has the ability to add details for his profile. Some of the details are necessary because they are by default visible to the employees and students. However, phone numbers can be very private. Employees have the right to know the professor phone number to ease communication. However, a student does not have to know the professor's phone number. In this scenario, the professor has the ability to make his or her phone number visible to students or not. Also, the can add his or her certifications and past classes taught at another university. This helps students and employees to better know the professor. For motivational purposes, professors can add quote that is only visible to the professor himself or herself. For technical purposes, the professor can look know his or her employee ID and User ID. These IDs become useful when there is a problem with the account.

## Student Dashboard

### Dashboard

This page is the main page after the login page. It has the latest news posted by an employee. Further, it has two customizable gadgets customized by the admin for social media presence ideally of the institution. Bellow the social gadgets, a list of previous semester is shown with grades. This helps the student to check the his performance while he uses the system.

### News

This page shows the latest news posted by an employee. It also shows the validity date and time of the message. Then, below the latest news posted, there is a list of all news. Each news has its own characteristics which include title, writer, validity date. This page is important so students do not complain whether they received an important message or not. This also lessens the confusion that occurs due to too many emails. An institution can use this tool to easily send its updates to all students and faculties.

### Academics

**Grading:** this section has all academic details of the student such as transcript and academic status, majors, and starting data.

**Attendance:** this section is to check attendance per semester. Once the semester is selected, the returned result is a list of days missed by the student. If the returned result is empty, it means the student did not miss any classes.

**Performance:** this section is to check the student performance set by a professor. Once the semester is chosen, the returned result is a list of classes taken by the student in the semester with the student grades per class and the student's evaluations per class. This is a great tool to let the student know how he performed regardless of the grade.

**Registration:** this section is to register for new classes anytime in the semester. The timing is controlled by the employee account. Once registration is opened students can look at for a class in that semester. That is the search for the class is limited to the latest semester. After a successful search, a list of classes shows up. Then if the student has all the prerequisites to take the class and if the class has enough seat, then the student can select the class and enroll.

**Faculty**

This page lists all the faculties that are in the same department as the student's major. The student can look at any professors' details as long as the professor is in the same department. Also, a list of recent professors shows up in this page, which helps the student to recognize new professors as they start their new semester. The student can look at the recent professors' headshot to easily recognize them. Also, if the recent professor is in the same department as the student, then the student can click on the professor name to get the detailed information about the professor set by the professor. However, if the professor is not in the same department, then the student can only look at the professor's headshot.

**Profile**

This page has all the details for the student's dashboard such as the profile picture and account information including the ability to change the password. One of the unique features of this system is the ability to show quotes below the profile picture shown in the navigation bar. Students can change this daily for motivation purposes. This is a personal quote and is not shared with any other user types. Also, if the student has problems with his or her dashboard, in this profile page, the student ID and the user ID are shown, which can be given to the system admin when errors occur.

**Admin Dashboard**
**Dashboard**

This page has details about the while website. It makes the system very flexible when it come stop visualization. All the colors and social media presence can be changed here. The system admin or the IT manager can easily choose the color of the institution so the system becomes a signature for the institution.

**Users**

This page lists all the users in the system. It is the very first step for employees and faculties to use the system. Once an account is created or a user is created, then based on the user type the employee or the faculty can look into the account to add or modify the account details. The system admin can only create account for employees and faculties. Once this page is opened, there are three main sections:

**All Users:** this lists all the users of type employee or faculty. Each name is clickable for easy access of the account details.

Change User Record: this section is for changing account details such as the a user's password. This becomes very crucial is an employee or faculty forgets his or her password.

**New User Record:** this page is to add new user to the system. Once the user is created, then username and password is given to the employee or the faculty to set up his or her account.


**How-To Guide**

In this section, I will give some scenarios from the perspectives of different user types in the management system. Due to the complexity of the idea and the simplicity of the system, these how-to steps help anyone to start off with the system.

### Employee Tasks

#### New Semester Setup

1. Login to an employee account.
2. To add a semester: Go to Academics ⟶ New Semester ⟶ Type Semester Year and Semester Name such as Fall, Spring, Winter, or Summer ⟶ Create
   - Once a new semester is created, you have to add classes to this semester. Then students will be able to search only within this semester.
3. To add a class or classes to this semester: Go to Academics ⟶ Courses ⟶ New Course ⟶ Fill out the course details ⟶ Save
   - If the course is General to all departments choose Yes, otherwise No.
4. *Optional:* If the course has prerequisites, add the prerequisites like this. Go to Academics ⟶ Courses ⟶ New Course ⟶ Course Prerequisite ⟶ Choose the course and then choose the prerequisites all at the same time.
5. To add a section: Go to Academics ⟶ Courses ⟶ New Section ⟶ fill out all the section details ⟶ Save
   - Each section has a section number. This number can be in a row or random. It is recommended to be in a row such as 1, 2, 3,…etc.
   - Each student can take a section in a class or course. Each class must have a section or more.
6. To open registration for students: Go to ⟶ Academics ⟶ Enrollment ⟶ Registration Period ⟶ Choose the exact time and date ⟶ Open Registration.
   - Only in the allowed time and date students are able to register for a course. Opening registration is only applied to the last created semester.

#### Student Related Tasks

1. To view a student record: Go to ⟶ Students ⟶ View Student Record ⟶ Enter Student ID ⟶ Search.

2. To change a student record: Go to ⟶ Students ⟶ Change Student Record ⟶ Select the section that needs to be changed.
3. To change a student GPA. The only way to change a student GPA is to change grades of a class or classes.
4. To change a class final grade: Go to ⟶ Students ⟶ Change Student Record ⟶ Course ⟶ choose semester year and semester name ⟶ enter course code ⟶ if the course code exists in the student transcript and the parameters are correct ⟶ the result is shown ⟶ change the grade ⟶ Save.
5. To drop a course: Go to ⟶ Students ⟶ Change Student Record ⟶ Course ⟶ choose semester year and semester name ⟶ enter course code ⟶ if there is result ⟶ Drop.
6. To add a new student to the system: Go to ⟶ Users ⟶ New User Record ⟶ fill out the details ⟶ Create ⟶ All Users ⟶ Get the User ID of the newly created account ⟶ Students ⟶ New Student Record ⟶ Enter the User ID and then fill out the student details ⟶ Add Student
7. To get students per major and per year: Go to ⟶ Students ⟶ All Students ⟶ Choose department ⟶ Enter year ⟶ Search.

**News Related Tasks**
1. To post new news: Go to ⟶ News ⟶ At the end of the page fill out the news details ⟶ Submit.
2. To edit news: Go to ⟶ News ⟶ on each post click on Edit ⟶ modify the news ⟶ Save or Delete
   - If 'Unable' Instead of 'Edit', it means the post was submitted by another employee. An employee cannot edit other employee's posts.

**Faculty Related Tasks**
1. To find courses per faculty: Go to ⟶ Faculty ⟶ Filter the Faculty table by name, email, phone number, or department ⟶ Click on a Faculty Name ⟶ All the current and pass courses taught by the faculty is presented here.
2. To get course details from a faculty profile: Go to ⟶ Faculty ⟶ Click on a faculty name ⟶ click on course code ⟶ Get all the course details.

**Departments Related Tasks**
1. To add, edit, change, delete major, minor: Go to ⟶ Academics ⟶ Departments ⟶ choose the task.
2. To view all departments with majors and minor: Go to ⟶ Academics ⟶ Departments ⟶ click on the All Departments box to get all the majors and minors per departments.

**Profile Related Tasks**
1. To edit profile details: Go to ⟶ Navigation ⟶ Click on your name ⟶ Choose Profile ⟶ Edit any details and save.
2. To find employee and user ID: Go to ⟶ Navigation ⟶ Click on your name ⟶ Choose Profile ⟶ Look at the user box on the left.


**Faculty Tasks**
**Academics Related Tasks**
1. Login to a faculty account.

2. To grade students at the end of the current semester. Go to ⟶ Academics ⟶ Grading ⟶ Click on the course code ⟶ Fill out all the details ⟶ If finished ⟶ Submit Grades ⟶ If not finished ⟶ Save Grades.
   • If Submit Grades is clicked, you will not be able to change the details.
3. To get a list of students per class: Go to ⟶ Academics ⟶ Click on the Number in Current Semester Courses table.
4. To take attendance: Go to ⟶ Academics ⟶ Attendance ⟶ Click on a course code ⟶ Choose the date ⟶ Mark all students who are present ⟶ Submit.
5. To change attendance: Go to ⟶ Academics ⟶ Attendance ⟶ Click on Update for a course ⟶ Choose the date ⟶ Modify the result ⟶ Submit.
6. To get a student details (1): Do number 3 ⟶ click on the student name to get all the details.
7. To get a student details (2): Go to ⟶ Students ⟶ View Student Record ⟶ Enter Student ID ⟶ Get the details.

**Profile**
1. Login to a faculty account.
2. To add and modify a faculty profile: Go to ⟶ Navigation Bar ⟶ Click on Faculty Name ⟶ Choose Profile ⟶ Add or Modify details ⟶ Submit.
   • Phone Availability: To make a faculty phone number available to students, check Yes, otherwise No.
   • Certifications: Click on the Plus sign ⟶ Enter the certificate name and location (Institution or University) ⟶ Add.
   • Classes: add the classes the faculty taught, if any, before coming to the current university. Click on the Plus sign ⟶ Enter the class name and location (University or Institution) ⟶ Add.
3. During technical issues, use the Faculty ID and User ID with the System Admin to resolve the issue.

**Admin Tasks**
**Website Configuration Details**
1. Login as an admin.
2. Image: this is the background image of the login page.
3. Block background Color: this is the background color of the clickable blocks in all dashboards of all user types. These include:
   1. Employee Dashboard:
      1. Students Page ⟶ All Students, View Student Record, Change Student Record, New Student Record
      2. Academics Page ⟶ Departments, Courses, Enrollment
      3. Users Page ⟶ All Users, Change User Record, New User Record.
   2. Faculty Dashboard:
      1. Academics Page ⟶ Courses, Attendance, Grading
      2. Students Page ⟶ All Students, View Student Record
   3. Student Dashboard:
      1. Academics ⟶ Grades, Attendance, Performance, Registration.
4. Block Text Color: this is the text color of each block.
5. Button Background: this is the background color of all buttons in the system.

6. Button Text Color: this is the text color of all buttons.
7. Box Border Color: this is the box header color of each box or table in the system.

**User Management**
1. Login as an admin.
2. To add a new account for an employee or a faculty: Go to ⟶ Users ⟶ New User Record ⟶ Fill out the details ⟶ Choose the user type ⟶ Create.
3. To modify a user account: Go to ⟶ Change User Record ⟶ Enter User ID ⟶ Modify the details ⟶ Update.

**Technology and References**
In this project, I used the following technology. This is to give credits to all the technology I used throughout the project.
- PHP: https://secure.php.net/
- CSS, HTML, JavaScript: https://www.w3.org/html/
- MySQL: https://www.mysql.com/
- Bootstrap: http://getbootstrap.com/
- ZingChart: http://www.zingchart.com/
- Select2, Select2 Skin: https://select2.github.io/
- Semantic-UI: http://semantic-ui.com/
- Date Range Picker: http://www.daterangepicker.com/
- Font-awesome: https://fortawesome.github.io/Font-Awesome/
- Foundation-icons: http://zurb.com/playground/foundation-icon-fonts-3
- Ionic icons: http://ionicons.com/
- jQueryUI: http://jqueryui.com/
- jQuery https://jquery.com/
- DataTable: https://www.datatables.net/
- Hover: http://ianlunn.github.io/Hover/
- TinyMCE: https://www.tinymce.com/
- iCheck: http://icheck.fronteed.com/
- InputMask: https://github.com/RobinHerbots/jquery.inputmask
- ColorPicker: https://github.com/lauren/pick-a-color
- Glyphicons: http://glyphicons.com/

**Content References**
The followings are all the references to any photos and texts used as dummy data to represent the capability of SmartCollege.
- Login page image: http://www.indesignlive.sg/
- Employee headshot: http://www.lifeedited.com/
- Faculty headshot: http://iamkpr.com/
- Dummy Text for News: Admission office email for AUIS students.
- Other texts and data in Database: randomly generated at http://www.generatedata.com/

**Database Tables**
The following are the database table names in the database for SmartCollege.
- Students

- CurrentAddress
- PermanantAddress
- Guardian
- Degree
- Major
- Minor
- Department
- Enroll
- StudentGrade
- Attendance
- StudentReview
- Section
- Course
- Course_has_Pre
- Semester
- Professor
- ProfessorClassesTaught
- ProCertificates
- User
- Admin
- Profile_Type
- Employee
- News
- Visibility

**Project Screenshots**
To easily get an overview of the system and the many pages. I provided a slideshow. Attached with this document is a folder for all the screenshots. Please open index.html with a browser.

**Future Work**
This project is a lite version of a college management system, however, it is as powerful as any other systems. It does the simple tasks but efficiently and simply. There are still a lot of features and improvements left to make this a better product. The modularity of the application helps any other developers to easily grasp the concept and build on that. The following can be some ways to improve the system.
- Changing procedural programming to Object Oriented programming.
  - Due to the time constrain and the complexity of the system, I decided to use procedural programming to start off.
- Using Ajax for form handling and basic updating.
- Adding extra charts to meet customer requirements.

**Take Away and Conclusion**
To conclude, developing such a system within a very limited time required a lot of dedication and focus. I was glad I planned carefully and spent a lot of time to design the system. The

implementation was not difficult expect some parts. This is a great project to evaluate my skills and how much pressure I could take. It definitely proved I can handle more with being professional and on time.