COURSE PORTFOLIO MANAGAMENT SYSTEM

For AL HOSN University

GROUP MEMBERS

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Supervised By Dr. Mhamed Zineddine

Contents

Acknowledgment

We had to take the help and guideline of some respected professors of AL HOSN University, who deserve our greatest gratitude in helping us complete our Capstone assignment. The completion of this assignment gives us much pleasure, and we would like to show our gratitude Dr Mhamed Zineddine for giving us great guideline throughout numerous consultations. We would also like to expand our deepest gratitude to all AL HOSN University personnel who directly and indirectly guided us in creating this project.

Abstract

At ALHOSN University, programs and courses have been evolving in the last years. Certainly, managing course portfolios manually has become a hurdle. This project emerged from the issues surfaced during portfolio handling process. The aim of this project is to identify and design a system that mitigates these issues. Using the Frame Work of Application System Techniques methodology (FAST), a system design is proposed to alleviate these issues, and a prototype is developed to validate the requirements and expectations identified through the analysis phases. The proposed Course Portfolio Management Systems will automate the management and digitization of the course portfolios.

Introduction:

ALHOSN University was founded in 2005, and has been continuously expanding. It is located in Abu Dhabi, UAE. Its vision is as follows:

> *"ALHOSN University envisions becoming internationally recognized as a university where all of its members are committed to producing graduates with a solid foundation of career and life skills. In order to accomplish this, AHU intends to create a community of learners, where a learner is an individual who is empowered, informed, and responsible."* (ALHOSN_Website, 2014)

And its Mission Statement is:

> *"ALHOSN University believes in educating professionals to be leaders for a modern community. As an institution of higher education, it prides itself on being a creative agent for change and diversity. It pledges to emphasize a faculty-student learning community that promotes the value of service and research and employs collaborative educational strategies that develop teamwork, utilizes real-life experience, fosters caring, and prepares for the realities of the marketplace of the future.."* (ALHOSN_Website, 2014)

As a young university, ALHOSN has many issues that need to be addressed. One of these issues is having an old Manual File management system for the course portfolios as stated in appendix 4. Portfolio as defined by the Mariam Webster dictionary is:

> *"a flat case for carrying documents or drawings, a hinged cover or flexible case for carrying loose papers, pictures, or pamphlets and a selection of a student's work (as papers and tests) compiled over a period of time and used for assessing performance or progress" (Merriam-Wester, 2014)*

The current best practice for portfolio is using e-portfolio (Wikipedia, 2014). E-portfolio in education is collecting all the instructor related materials, artefacts, and their students work. These are composed into an electronic form that can be accessed anywhere using any form of media (Wikipedia, 2014). This type of practices allows for many advantages, and keeps up with the current best practice of handling any type of portfolio.

Case background:

ALHOSN university is expanding in it fields of study; "The University offers 18 programs from 9 departments … and consists of 3 Faculties" (ALHOSN_Website, 2014). However, the university is still managing course portfolios manually after a decade. On September 25, 2014 a meeting occurred between administrative staff where some participants suggested that the university must have a database for handling the course portfolios (appendix 4).

Having a manual system for saving large documents such as portfolios is a major hassle. Manual processes often lead to many issues, however many IT solutions have been developed to help mitigate these typical problems such as creating, managing, and archiving files. As the best practice is to transform it into an e-portfolio, the suggested method is to create or acquire a course portfolio management System (CPMS) for AL HOSN University as a Sub-system.

E-portfolio is a valuable tool for learning and assessment; it is comprised of a digitized collection of relevant artefacts for the teachers and their courses (Ittelson, 2005). E-portfolios have many benefits to an institute, but in the education sector, it can be used to share ideas and information across the boundaries of the university's physical location (Ittelson, 2005).

According to the instructor handbook of AHU: "Faculty performance is evaluated in each of the three areas of responsibility which are teaching, scholarship and community service" (ALHOSN, 2010). However there are no formalized standard documents in AHU for creating portfolios such as Wisconsin-Madison University handbook for Creating portfolios. Nonetheless, creating course portfolios is required at AHU.

System Request

Request for New Course Portfolio Management System for AL HOSN University

Date of Request: 18th September, 2014	**Project Requested For:** AL HOSN University
Submitted By: Wael Atrash Mahmoud S.S.	**Executive Sponsor** Name: Al Hons university Phone: +971 2 407 0700

Type Of Service Requested:

- ○ Information Strategy Planning
- ○ Business process analysis
- ✓ New application Development
- ○ Existing Application Enhancement
- ○ Existing Application Maintenance
- ○ Others: Specify

Brief Statement of Problems, Opportunity, or directive:

Managing portfolios Manually has become a major problem at ALHOSN University. With the large size of the content of each portfolio, a lot of issues have been appearing. Managing these files has become a major concern that ALHOSN University needs to deal with. These Large files require a lot of space to store, are hard to manage, and distribute. Furthermore, scanning, uploading, archiving, and managing the content of these portfolios has been an effort extensive and time consuming task.

Brief Statement of Expected Solution:

A Subsystem will be created that will help alleviate portfolio management and handling issues. It will benefit everyone from the administration, faculty, department head, provost, ministry, and accreditors. Moving these files into an electronic form will reduce the burden that the university has to go through. Administrators will be able to manage these files easier, faculty will be able to create and manage their portfolios efficiently. The Department heads, and the provost will be able to review, assess, and access these portfolios anytime from anywhere.

Action (It Office Use only)

- ✓ Feasibility Study approved
- Feasibility Study Waived
- Request Delayed
- Request Rejected

Assigned to: Wael Atrash, & Mahmoud S.S.
Approved Budget: 10,000AED
Start Date: ASAP
Deadline: One Year
Authorized Signature

Methodology

To manage, control, simplify, and improve control of the software development process, the system development methodology would be used to standardize the development process and product by identifying activities and techniques to be used. (Whitten & Bently L.D, 2007) The Frame Work of Application System Techniques methodology (FAST) has been chosen in this process to keep track of each stage and clarify the project aspects. (Whitten & Bently L.D, 2007)

The FAST methodology has 8 phases:

1. Scope definition
2. Problem analysis
3. Requirement analysis
4. Logical design
5. Decision analysis
6. Physical design and integration
7. Construction and Testing
8. Installation and delivery

Data Gathering

Data collection is the first step in any and every type of research needed to create or understand something (Whitten & Bently L.D, 2007). As the first step taken in this Project, we focused on gathering information and data relevant to the issues facing the faculty and the staff managing course Portfolios.

We adopted interviews and documents as objects to gather the data required to identify the issues and therefore the problem to be solved through our project. We were able to separate the AHU employees that are associated with portfolios into 4 groups: administration assistants, Faculties, department heads, & provosts. Four members were interviewed directly in order to understand the issues and therefore have a clear view of the expected solution to the problem. The people selected for the interviews were the ones mentioned in the minutes of meeting (appendix 4).

Miss Nihal Interview:

Interviewed Name: Miss Nihal **Position:** Administration Assistant	
Questions	**Answers**
The items (content) in the course portfolio, how are they usually organized?	1. The Content that are required are as follows: a. Syllabus b. Lecture (PowerPoint presentations) c. H.W., projects, assignments d. Sample of answered H.W., Project, Assignment done by the students e. Quizzes, tests, Midterm, & final f. Sample of highest and lowest scoring quizzes tests midterm, & finals g. Instructor Reflective Feedback
Does the course portfolios benefit faculty/management/ department head? If yes, how, if no why not?	Yes, because when a new instructor takes over the course, they can use the portfolio of the previous instructor to teach the course. Department head checks that the course is following the Course outcome approved by the ministry
What Are the Problems with the Current Manual Course Portfolio System	a. Scanning requirements are too high b. They keep the physical portfolios in the store (hard to access with so many) c. The Doctors do not update their portfolio's i. They send it an old outdated one to save themselves time d. New Syllabus format required by the university isn't followed e. Not handing the portfolio on time or missing handing it completely f. They are stored on the personal PC ii. Backup problems iii. Computer crashes iv. Lost data g. Some are computer illiterate h. Time consuming to manage
(Personal opinion) What do you expected from the New Course portfolio management system?	a. Any created documents for the portfolio, if they can be saved directly to the system since most of them are written on the computer, would be a time saver b. The system should be able to sort the files automatically a. In folder hierarchy for easier access b. The portfolio content to save time

	h. Direct upload to the system is needed i. Need to simplify the process for computer illiterate

Dr Kamel Interview:

Interviewed Name: Dr Kamel **Position:** Department head	
Question	**Answers**
What does the Dept. head look for in a portfolio?	**Instructor reflective feedback** (It is the instructor's notes about the course). • Based on the syllabus and course outcomes, the instructor looks at how their students are progressing on their retention of the information against the outcome. • The instructor also analyses the course outcome and the program outcomes versus the current course teaching. **Course assessment** (Are the outcomes being satisfied with the course), Usual questions in the tests that reflect on the outcomes not what the course taught. Checking the integrity of the course versus the course outcomes. (In portfolio) a report is written to check if changes are needed to be conducted on the course, by comparing the syllabus. (on portfolio) **Course Portfolio assessment**: (This is where the experienced check the portfolio) • They check content, material, and such • They check if the portfolio needs changing • Analysis of the portfolio is needed
What is expected from the program?	The program has to be accessed on mobile phones. (Suggestion) using web-based application that are mobile accessible (friendly). Easy access for dept. head to check a. program outcomes b. course outcomes c. Syllabus d. Instructor reflective feedback e. Course assessment

	(optional) Capable of writing a report on the portfolio that can be viewed and checked by the professor. Report includes information If the course needs modification
If there are multiple teachers and sections for the same course, how many portfolio are there?	One, usually there is one teacher teaching the course, but when two or more Faculties are teaching the course, they contribute to make one portfolio.
Problems with the current system	Time consuming and additional effort is required to check each one individually Usually samples are provided for easiness

Dr Fadia Interview.

Interviewed Name: Dr Fadia **Position:** Faculty member (professor)	
Question	**Answers**
Why is the Syllabus the most important part of the portfolio?	The syllabus is a contract between the teacher and their students, what is said on the syllabus is the teacher's promise to deliver to their customers (students)
What Are the Problems of the current portfolio system?	For such a simple thing, it requires too much time and effort to create as the requirements keep on changing from time to time. Feedback that is required From provost and department head is hard to come by or is very late to be received As it is the teachers do not receive anything beneficial from creating portfolios, which is not a normal standard in other universities
What would be beneficial to receive from the system for the teachers from these portfolios?	First warning about incomplete portfolios would be appropriate. If there any changes to the forms that need to be completed for the portfolio, the system must inform or show what needs to be done. Qualitative reporting Data. It is information that the teachers can use to asses themselves and how they are doing in their courses

Interview with Dr Marko:

The interview with Dr Marko Slovic went different than expected. Dr Marko is a provost for Quality Assurance/Control of AHU. As soon as we entered his office and mentioned we are designing our CPMS system, he gave us an old System requirement (appendix 1) that he requested Dr Farouk (information technology head) in 2012 called Course e-base. Appendix one (pg. 71) will be analysed to incorporate it into our system.

Interviewed Name: Dr Marko Slovic **Position:** Provost (QA/QC)	
Question	**Answers**
1. Why do you need this project in AHU?	From the cost-benefit side in the case of the system like this, I would always consider it as necessity (like fire alarm - if you do not invest in it everything can burn).
2. How would you like the portfolios to be sorted when viewed on our system?	Course have to have FULL RECORD of every semester when taught. So, main filter would be Semester, than Course, than fields in the record (e.g. Syllabus, assignments etc.).
3. Why does the course portfolio content outline (like Syllabus) constantly change?	To insure that the quality of the work is always up to par and changes are not done randomly but are studied to improve the culture of the courses

Data analysis and findings

Data analysis and finding are techniques to take the collected data and put them into a more useable form for the system (Whitten & Bently L.D, 2007). The first step is to take the interview responses and compile them into 4 distinct categories that will help design the CPMS System. The first category will be program objectives which means what the program is intended to do and what its primary purpose is. The second part is issues with the current manual portfolio system that will be the basis of doing this system. The third category is the business rules that the university follows in regards to portfolios. And finally is what the user expects from the system.

Program/System Objectives:

The program's / systems main objective is to transform large documents / files that are online/hardcopy into an easily manageable system that can be used by everyone by establishing an electronic archive of all course portfolios. Its sub-objective is to reduce time consuming efforts required to create, manage, and transfer portfolios for easier access. By enabling feedback, the program/system enables an interconnected environment between the 4 users of the system, which opens up easier feedback and discussion about the course, the portfolio, and anything related. This also enables a better quality control of the courses for the Stakeholders of the university: (management, Faculty, Students, and Employees, owners, community, accreditation bodies, and Ministry of higher Education and researcher)

Issues with current manual portfolio system

The current portfolios are large documents that require a lot of space to store, are hard to manage and distribute, and scanning them is time consuming. The professors have a problem creating new portfolios to the extent that causes some to hand in out-dated ones. The current portfolio content's outline keeps changing (according to Dr Marko) and professors do not follow the new requirements. Other problems include not submitting the portfolio on time, incomplete portfolios or none at all. Some professors are computer illiterate. Old documents and some new ones can only be accessed manually. There is no simplified version to check against what each user specifically requires. There is Data loss due to back-up and computer failure, and archives of old portfolios are hard to come by. Instructors do not receive feedback they require from dept. head, or provost to improve their course. There is no way to generate automated reports for instructors to inform them of what they need or what is incomplete about their portfolio. Faculty sometimes do not get their feedback on time and continue to progress without changes to the course although there are problems. Analysing these huge documents is time consuming and usually samples have to be provided for ease, which increases the complexity of using the manual system.

University rules for Portfolio:

- For each semester, each course during that semester requires to have a portfolio created by the faculty/professor teaching it.
- Multiple teachers could teach the same course in the semester but only one portfolio is made
- Faculty are responsible for creating portfolios.
- There is a standard outline for the portfolio.
    - But teacher may choose to add more
- There is a standard outline for the syllabus, instructor feedback report, and such
- Portfolios are required to be viewed by teachers, department heads, management, administrators and ministry of higher education
- Portfolios are required by the University for Multiple Reasons depending on the user.
- Department heads require to view Portfolios for:
    - Creating reports about them
    - Checking the instructors Reflective report
    - Checking the course assessment
    - Checking the integrity of the Portfolio before storing it and later giving it to the provosts
    - (special case for experienced department heads) assesses the portfolio as a whole (course portfolio assessment)
- Provost require to view portfolios for:
    - Checking the integrity of the course
    - Checking if there are any improvements throughout the semesters
    - Comment and feedback on the Course progress
    - Check the Progress of the teachers and their courses
    - See if they are acceptable to be handed over to the Ministry Higher of Education

Expected User System Requirements:

- Must be accessible on all Internet enabled devices (computer, laptops, mobile)
    - Suggestion (mobile accessible website)
- Must be accessible outside the university
- Must manage large multi-part documents
    - Capable of arranging the multi-documents in proper order
- Capable of creating and storing documents directly on the system
- Direct upload to the system is required
- Simplified for users
- All Documents are to uploaded as pdf or similar Forms
- The system must be able to generate reports by selective user requirement.
- Teachers should be able to view portfolios
- Teachers have full rights to their portfolio (mange, create, add, modify, upload)
    - Other teachers can only view the portfolio

    - (Special case) two or more teachers can have access to the one portfolio if they are teaching the same course.
    - Only in special cases transfer full access of portfolio from one teacher to another
        - Usually change of teacher for the course
- Admin. Assistants should be able to View and print portfolio's documents
- Department head should be able to view portfolio and write a report
- The department head written report should be viewed by the teacher
    - Some way to give priority for the message
- The system must be able to index the multi-files for easy access
- The system must be able to report on missing items
- (Optional) the system must be able to check against course syllabus and the files uploaded.
- System must be efficient and quick to reduce time-consumption
- System must be able to archive old files
- System must be capable of handling changes that occur due to change in the formal requirements of portfolios.
- System must store data on a dedicated data server
- System must be capable of being integrated with current AL HOSN system.
    - (suggested Instructor portal)
- System should store portfolios categorised under the semester given, the name of the course, and the faculty giving it.
- Many of the required data can be extracted directly from the AHU existing system
    - Course name and description
    - Faculty information
    - Semester information
    - Course Grades (if the provost requests them)
    - Student evaluation record

System Development Phases:

Scope definition Phase:

"Scope definition is the first phase of the FAST methodology. What triggers the scope phase, which stakeholders are involved in this phase, what two essential questions need to be answered and what three important deliverables come out of this phase?" (Somma, 2010)

To answer the questions above for scope definition

1. What triggered the scope Phase?
    a. A meeting occurred in AHU to call to create an online portfolio system.
    b. We accepted the request because it sounds as a good project for capstone.
2. Which Stake holders are involved?
    a. AHU Employees (faculty, admission, administration, provost, etc…)
    b. Ministry of higher education
    c. Students
    d. Accreditors
3. What two essential questions that need to be answered?
    a. What does the Client expect out of the system
    b. What are the existing problems with the current portfolio system
4. What are the three important deliverables?
    a. The report on the CPMS
    b. The system design and prototype
    c. The methodology that will allow for future upgrade and continual life-cycle of the system.

Problem Statement:

This phase looks at the problems, opportunity, or directives that could affect the university.

Project: AL HOSN University Course portfolio management system
Project Manager: AL HOSN University
Created By: Wael Atrash
Date Created: 5/11/14
Last updated by: Mahmoud AA
Date Last Updated: 06/12/14

Brief Statement of problem, Opportunity, or directive	Urgency	Visibility	Estimated Annual Benefit	Priority or ranking	Proposed Solution
1. Feedback from dept. head and provost are late or inexistent	6 months	High	80,000DHS**	1	New System
2. Delayed creation of Portfolios, new outline not followed	6 months	High	80,000DHS**	1	New System
3. All old portfolios are archived physically, hard to access and not digitized (automated)	6 months	Medium	80,000DHS**	2	New System
4. Data Loss Due to documents stored on personal computers only, no proper back up in case of computer failure	6 months	High	80,000DHS**	1	New System
5. Managing files for future use and reporting is complicated and has to be done manually	6 month	High	80,000DHS**	1	New system

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**Calculated based on the time Saved when preparing portfolios & the cost of faculty time required to do so. The estimated Average of salary per faculty is 20,000DHS, working 160 hours a month, over 50 courses per semester given in the university, and half hour time saving per portfolio.

Requirement Phase

Problems, Opportunities, Objectives, and Constraint Matrix Process:

In this process, problems and opportunities of the system are stated, then the Cause and effect of these problems are analysed. After the Cause and effect analysis, the system improvement objectives are created with their constraints.

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Cause and Effect Analysis		System Improvement Objectives	
Problem or Opportunity	**Cause and Effect**	**System Objective**	**System Constraint**
1. Feedback from dept. head and provost are late or inexistent	Delayed communication between faculty members Amount of documents they have to look through is high Faculty has no opportunity to change the course in a timely manner	The system should present portfolio content in a meaningful format. The system enables reviews to record their feedback System should give warnings and reminders to complete feedback	Limit creating feedback to dept. head and provosts Outlines/title of content displayed first rather than whole portfolio
2. Delayed creation of Portfolios, new outline not followed	Portfolio content and content outline is constantly changing Faculty Fails to deliver their courses portfolios on time, so Teachers resort to old portfolios to hand in	System should warn teachers about the delay in submittal or deadline System Should be easy to use when managing and uploading required documents	Only the most recently approved portfolio content outline is to be displayed and uploaded. Limit the User types so not everyone can upload

	Wrong information provided to all responsible members Some faculty are computer illiterate and require others to help	System should be able to handle large documents System Should be able to upload any type of file	
3. All old portfolios are archived physically, hard to access and not digitized (automated)	Scanning requirement for portfolio creation is too high Managing the physical documents is complicated Portfolios are large documents requiring a lot of space to be stored only most recent parts of the portfolio are saved digitally some documents are not properly digitized	Enable direct digital storage of data/documents when created, hence forth direct upload. Enable system to manage files automatically	
4. Data Loss Due to documents stored on personal computers only, no proper back up in case of computer failure	The faculty will have to redo all their work all over again to create the portfolio	Data storage should be on a dedicated data server with back-up option	Database should handle file path not store the file within it Amount of money spent on the data server determines it size and capacity Optimize documents as to not take up massive space
5. Managing files for future use and reporting is	Some professors are computer illiterate	Simplified process of creating Portfolios	None

complicated and has to be done manually	They have to depend on others doing the work for them Even computer proficient faculty have complications managing the files	Easy to understand and use GUI (graphic user interface) System should handle a large amount of users at the same time	

PIECES Framework Process:

PIECES is a James Wetherbe development framework to categorise the problems in 6 categories: Performance, information, Economics, Control, Efficiency, and Service. (Somma, 2010) Each category problem is defined as the following

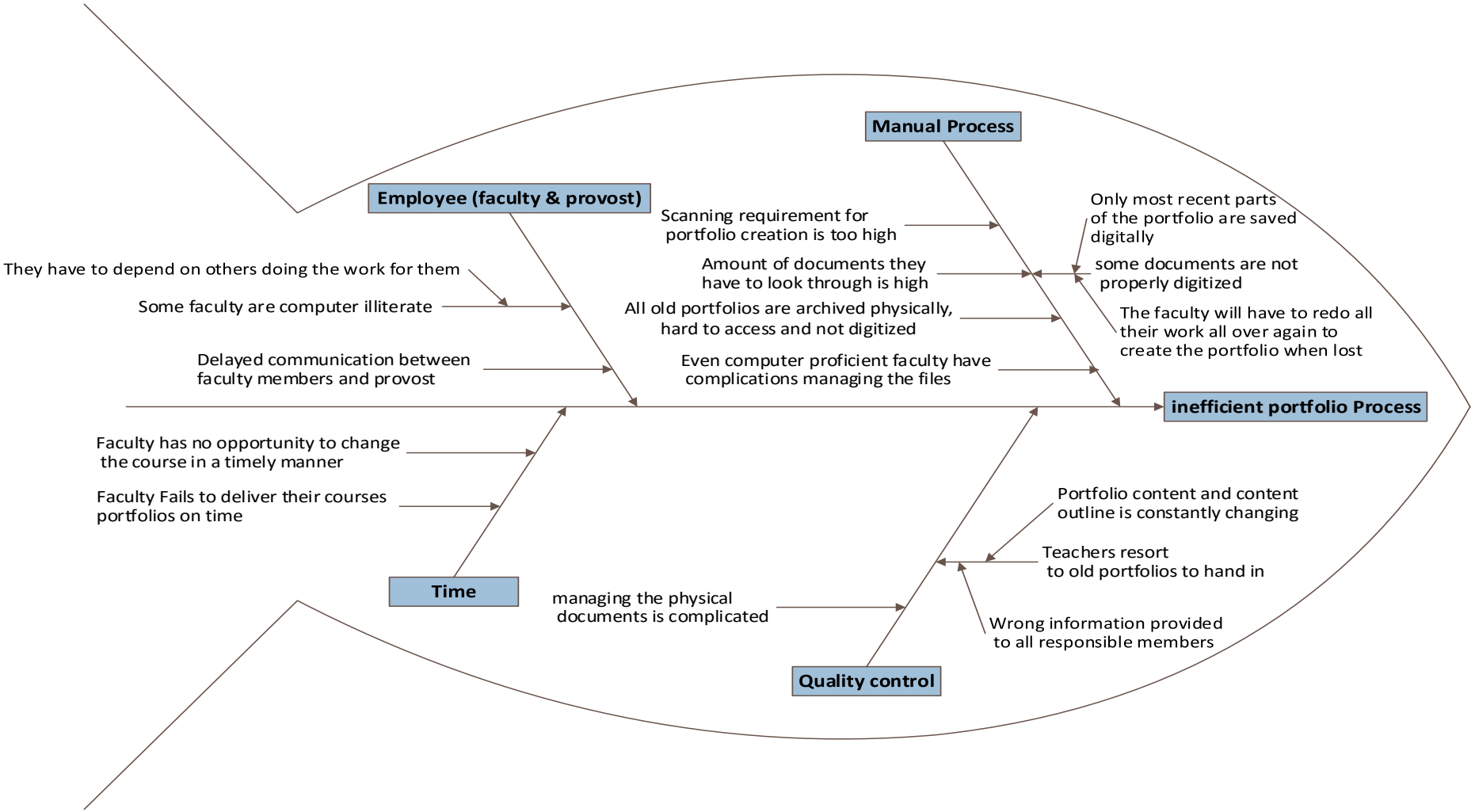
1. **Performance:** A more intuitive UI would reduce errors and costs
2. **Information:** Duplicate information means information must be updated in multiple places, and the potential for such information to get out of synch arises.
3. **Economics:** is there an economical Cost aspect to the problem that needs to be addressed
4. **Control:** Security, Usernames, and passwords with assigned privileges must be instituted to prohibit employees from viewing their co-worker's personal details.
5. **Efficiency**. Automatically generating the report will eliminate personnel hours, and ensure the report is ready on schedule for management
6. **Service:** Porting the application to a new device is providing a new service to the user.

Below is the table for the frame work

Symptoms	P	I	Ec	C	Ef	S
1. The current portfolios are Large composite documents that require a lot of space to store, manage, and distribute			X			
2. Portfolios are not submitted on time due to complications such as changing requirements	X	X				
3. Courses' portfolios are hard to update for the following semester					X	
4. The faculty will sometimes have to redo the whole portfolio	X					
5. Portfolios are not stored in a secure location				X		
6. Recreation of current digital portfolios due to system failure (no backup was done), which requires excessive effort	X					X
7. Some portfolios are misplaced, therefore, are lost with content that may be required for some processes		X		X		
Total	3	2	1	2	1	1

Ishikawa Diagram

This diagram is a fish-bone diagram that depicts the Specific events of a problem and shows their potential factors causing the effect. (Ishikawa, 1968)



To confirm that the benefits and results are accomplished and achieved, this section will analyse the feasibility of candidates when compared to each other (Whitten & Bently L.D, 2007).

Candidate 1: AHU Course portfolio management system (CPMS)

This is the proposed system done by our team for AHU University. This system is built from scratch using our design and free software.

Candidate 2: Rcampus E-portfolio

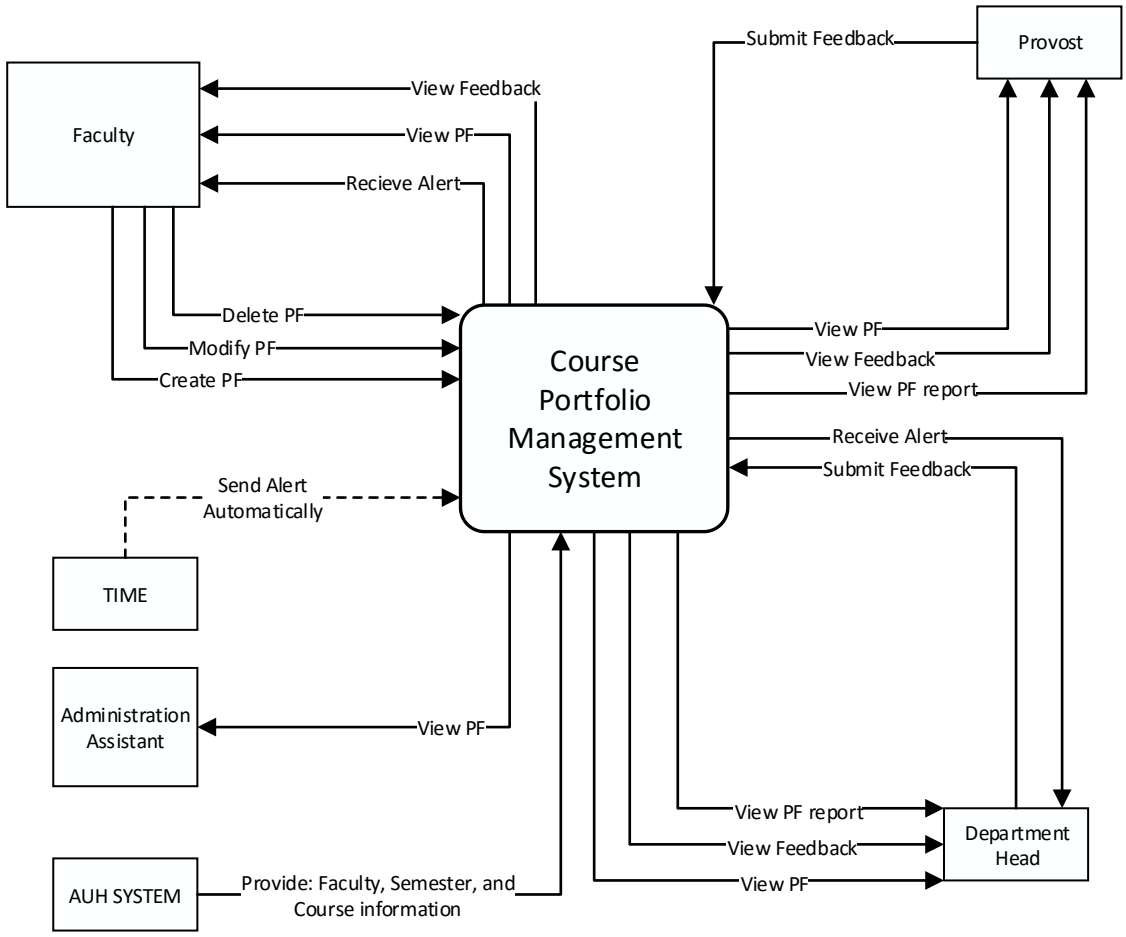
Rcampus EPortfolio system is as described by the website as:

"An ePortfolio (Electronic Portfolio) is a collection of your work (artefacts and reflections) in electronic format, which is managed by you and usually kept online. RCampus is a comprehensive Education Management System and a collaborative learning environment. At RCampus, you can do all your school-related work, from building personal and group websites to managing your courses, ePortfolio, academic communities, and much more" (Reazon Systems, 2014)

	Weight	Candidate 1 CPMS	Candidate 2 RMPS
Operation Feasibility		All Identified Requirements are met	Customization is required to attain full requirements
	25%	Score: 80	Score: 60
Technical Feasibility		Windows server 2000 or beyond, ASP.Net platform, SQL Server, MDAC 2.7 for data, and Internet information services. (Microsoft, 2014)	Rcampus is set up on its own dedicated server by them and requires no work from AHU. They offer integration into the existing system
	25%	Score: 70	Score: 80
Economic Feasibility **(Reference NPV calculation in Appendix 3)**		**NPV Cash Flow:** 136,296.62DHS **Breakeven:** 1 year **Return on investment:** 101.20%	**NPV Cash Flow:** 111,296.62DHS **Breakeven:** 2 years **Return on investment:** 69.70%
	40%	Score: 80	Score: 50
Schedule		6 months	3 month
	10%	Score: 60	Score: 80
Weighted Score:		75.5	63

Event Context diagram:

Event Context Diagram represents the system as a single process/event (Black Box) to show the interactions between the system and external agents (Whitten & Bently L.D, 2007).



Tentative List of Requirements

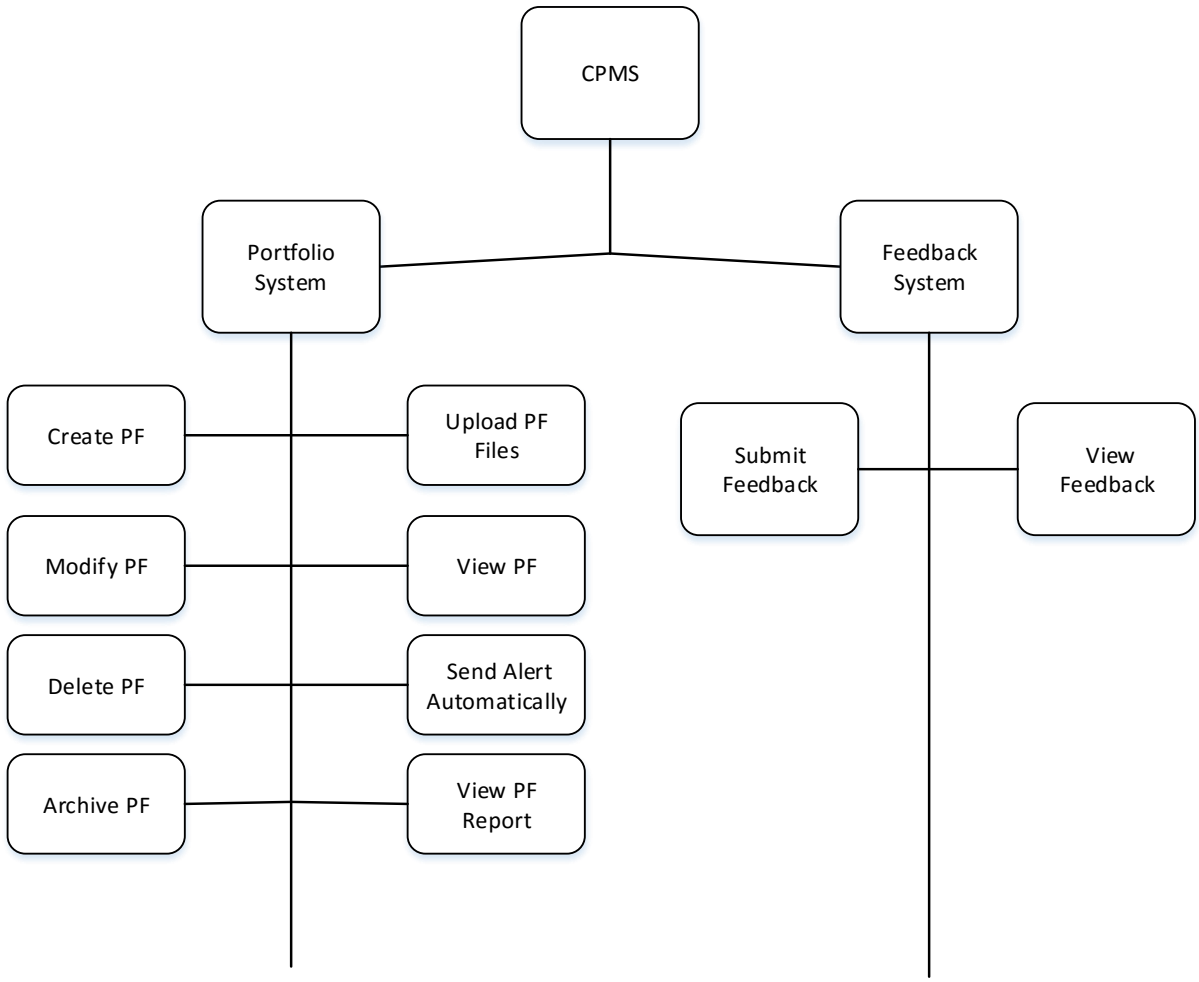
The tentative list of requirements describes the requirements of the system and whether they are functional or none functional. Functional requirements are provided by the system for the user while the none-functional are qualities of the system. (Whitten & Bently L.D, 2007)

Requirement	Classification
System Should allow faculty to view Current and previous Semester courses	**Functional**
The system should allow faculty to check the status of PFs (incomplete/complete) and view feedback if any.	**Functional**
System should allow the upload of common file types required for portfolios	**Functional**
System should allow Department head and provost to document feedback for each course Portfolio	**Functional**
System should allow faculty and management to view the history of courses portfolio	**Functional**
System should allow users to search for courses' portfolios filtering by semester, course, then faculty	**Functional**
System should be secure and reliable	**Non-Functional**
System Must be accessible on all Internet enabled devices (computer, laptops, mobile)	**Non-Functional**
System must have Simplified GUI	**Non-functional**
System must interface with AHU System, and generate reports	**Functional**
System must be quick and efficient to save time and reduce redundancy	**Non-functional**

Use-Case Model

Event Decomposition Diagram

The event decomposition diagram is used to showcase the processes the system will have and how they will interact with the user. (Whitten & Bently L.D, 2007)



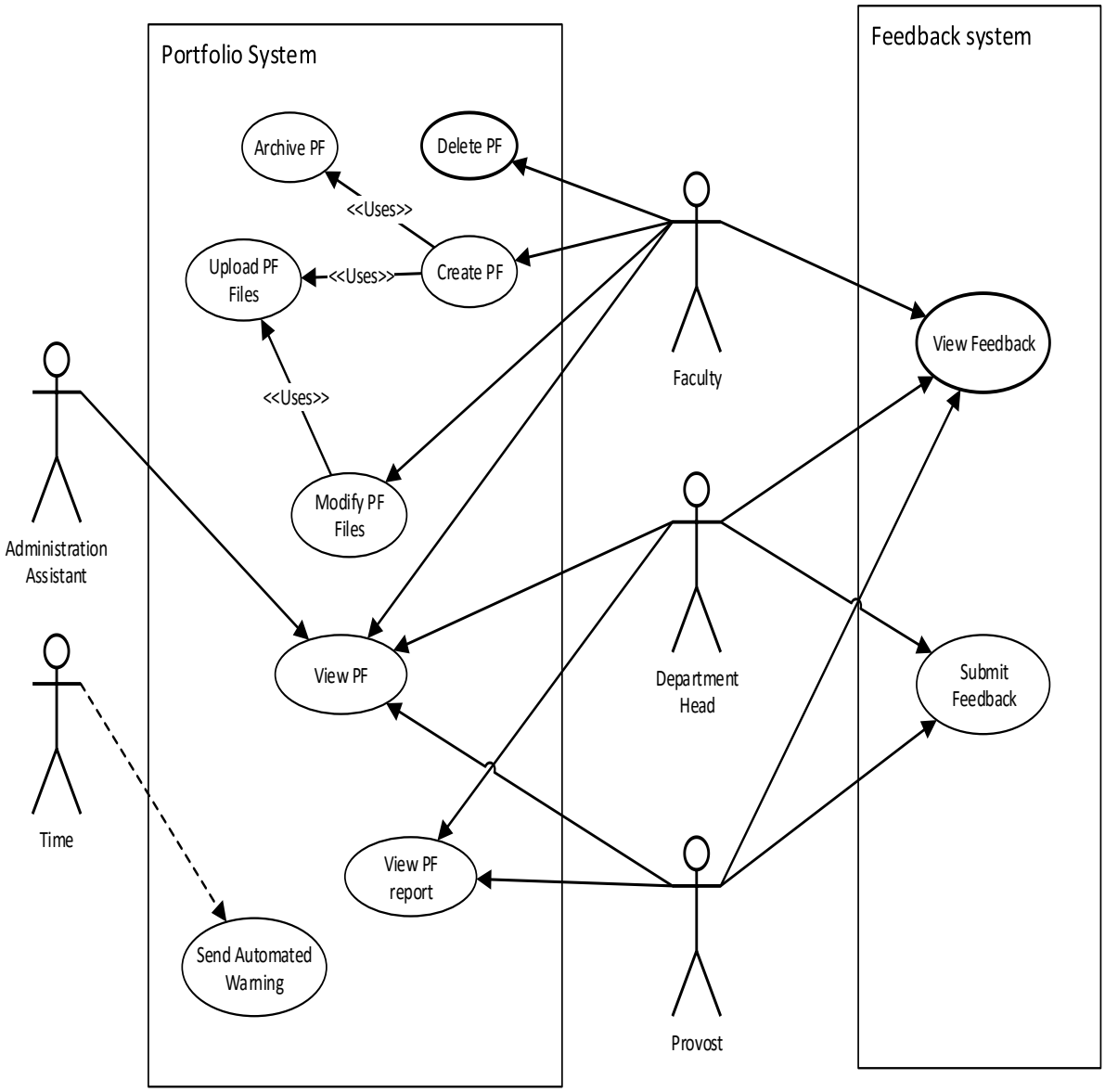
Use-Case Glossary

This Glossary is composed of definitions for each use case.

Use-Case Glossary		
Use-Case Name	**Use-Case Description**	**Participating Actors and Roles**
Create PF	This use case describes the Faculty's action in creating the initial portfolio to upload files.	Faculty
Upload PF files	This is an abstract use case that holds the functionality for actually uploading files into the system. It will be used by "modify portfolio" and "create portfolio"	
Modify PF	This use case describes the user's action to add, delete, and modify portfolio file parts.	Faculty, Admin Assistant
View PF	This use case describes the action of viewing, searching, and printing the portfolio by the user	Faculty, Admin Assistant, Dept. head, Provost
Delete PF	This use case describes the Faculty's action in deleting their portfolio.	Faculty
Send Alert Automatically	This use-case describes the event of sending a warning to the faculty to complete creating the portfolio	Time
Submit Feedback	This use case describes the ability to upload the PF Feedback provided by the Dept. head & provost	Provost, Dept. head
View feedback	This use case describes the ability for users to access Uploaded feedback to each course	Faculty, Dept. Head, provost
Archive PF	This is an abstract use case that holds the functionality for actually closing old portfolios. It will be used by "Create Pf".	
View Pf Report	This Use Case Describes the Ability of the users to create Reports based on portfolio's data	Provost, Dept. head

Use-Case Model Diagram

This diagram describes how each user interacts with the use case. (Systems, 2014)



Fully-documented Use-Case Narrative

This is a documentation of how one use case interacts with the system and defines the roles of the actor with the systems response.

Course portfolio management system -01

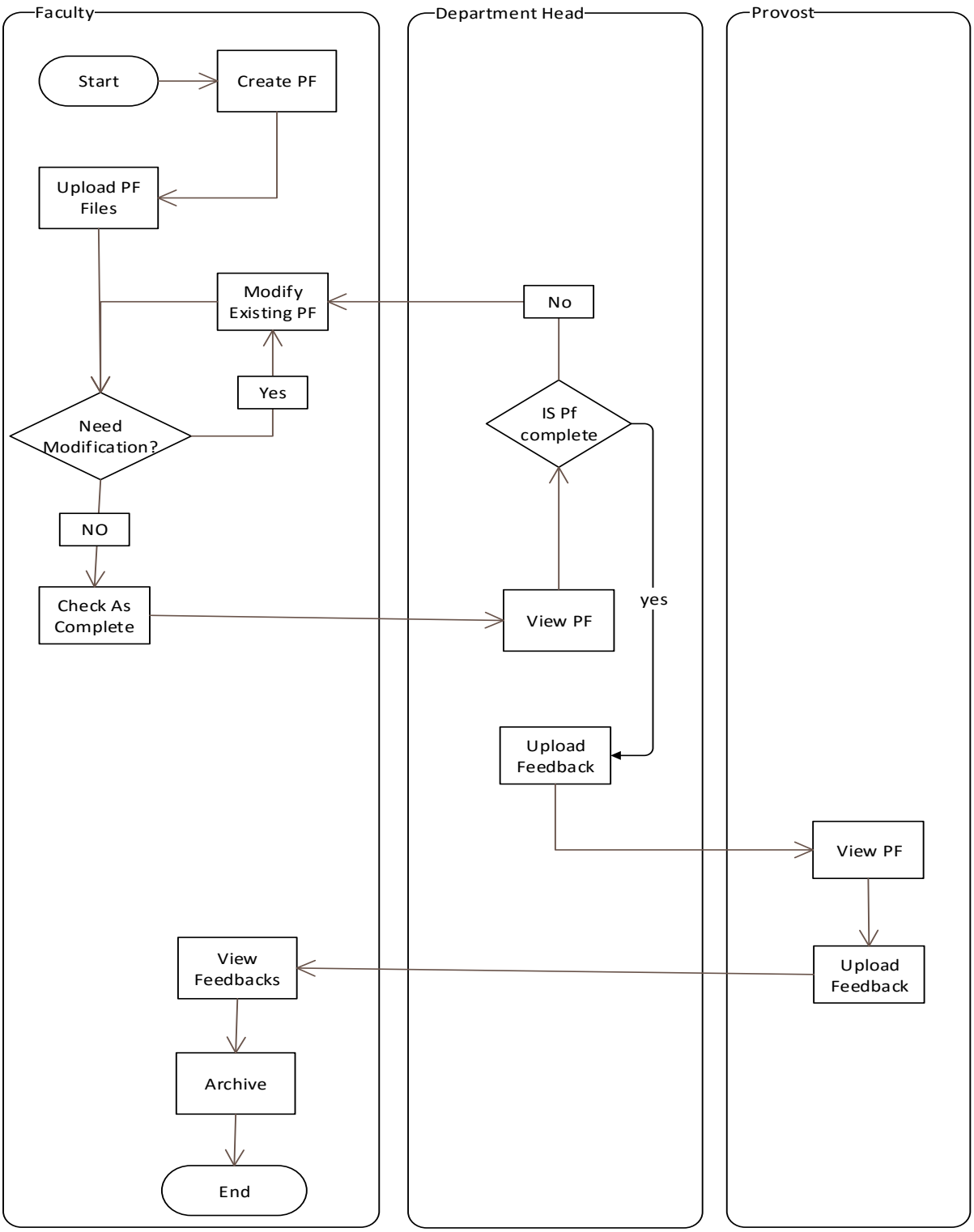
Author: Wael Atrash Date: 11-nov-2014

Use-Case Name:	Create PF	Use Case Type Business Requirements ☑
Use-Case ID:	*CPMS-01*	
Priority:	High	
Source:	Requirement – MSS-R1.00	
Primary System Actor:	Faculty	
Primary Business Actor:	Faculty	
Other Participating Actors:	None	
Other Interested Stakeholders:	Dept. Head	
Description:	This use case describes the Faculty's action in creating the initial portfolio to upload files. Upon the user's instructions, the file is created where the system will allocate it resources to begin the whole creation and upload of the portfolio.	
Precondition:	New semester is created in AHU System	
Trigger:	Login	
Typical Course Of Events:	**Actor Action**	**System Response**
	Step 1: This use case is initiated when a Faculty selects the option create a new portfolio.	**Step 2:** The system responds by displaying a list of the Courses in the current semester related to that Faculty Member.
	Step 3: the Faculty selects the course that they want to create the portfolio for.	**Step 4: T**he system authenticates the user. Then registers the initial Portfolio into the database, and opens up the menu to start uploading files
Alternate Courses:	**Alt Step 4:** the system checks if the user is authorized, then checks if there is an existing portfolio for the same semester/course. If these checks fail, a warning will be alerted saying they are unauthorized or the course already has a portfolio. Or the system may be designed so that the Create portfolio is never given as an option to a user lacking that right.	
Conclusion:	This use case concludes when there are no more courses left to create, or the user logs out	
Post condition:	Initiate a list that the Faculty can access according to the courses under their name. If there is a previous Portfolio for the same course but previous semester, the system archives the old Portfolio.	

Business Rules:	Even If more than one Faculty is giving the course only one Course Portfolio is allowed
Implementation Constraints and Specifications:	Limit course creation per current semester. Even if multiple faculty, only one portfolio is created. The implementation will be web based programming to allow easy access to the system for faculty, and each faculty is limited to their current semester course
Assumptions:	None
Open Issues:	Should the System already have the course list to create ready before the faculty clicks create to reduce the risk of creating an exact course portfolio for the semester? How will the faculty handle having two people creating one PF for the same course?

User Activity Flow-Chart

The user activity Flow-Chart is an old based method of describing the actions of the user on the system in the order it is intended to. Flowcharts are used to document and showcase different process through a step by step methodological diagram that can be analysed and managed. (SEVOCAB, 2014)



Data-Modelling Solution

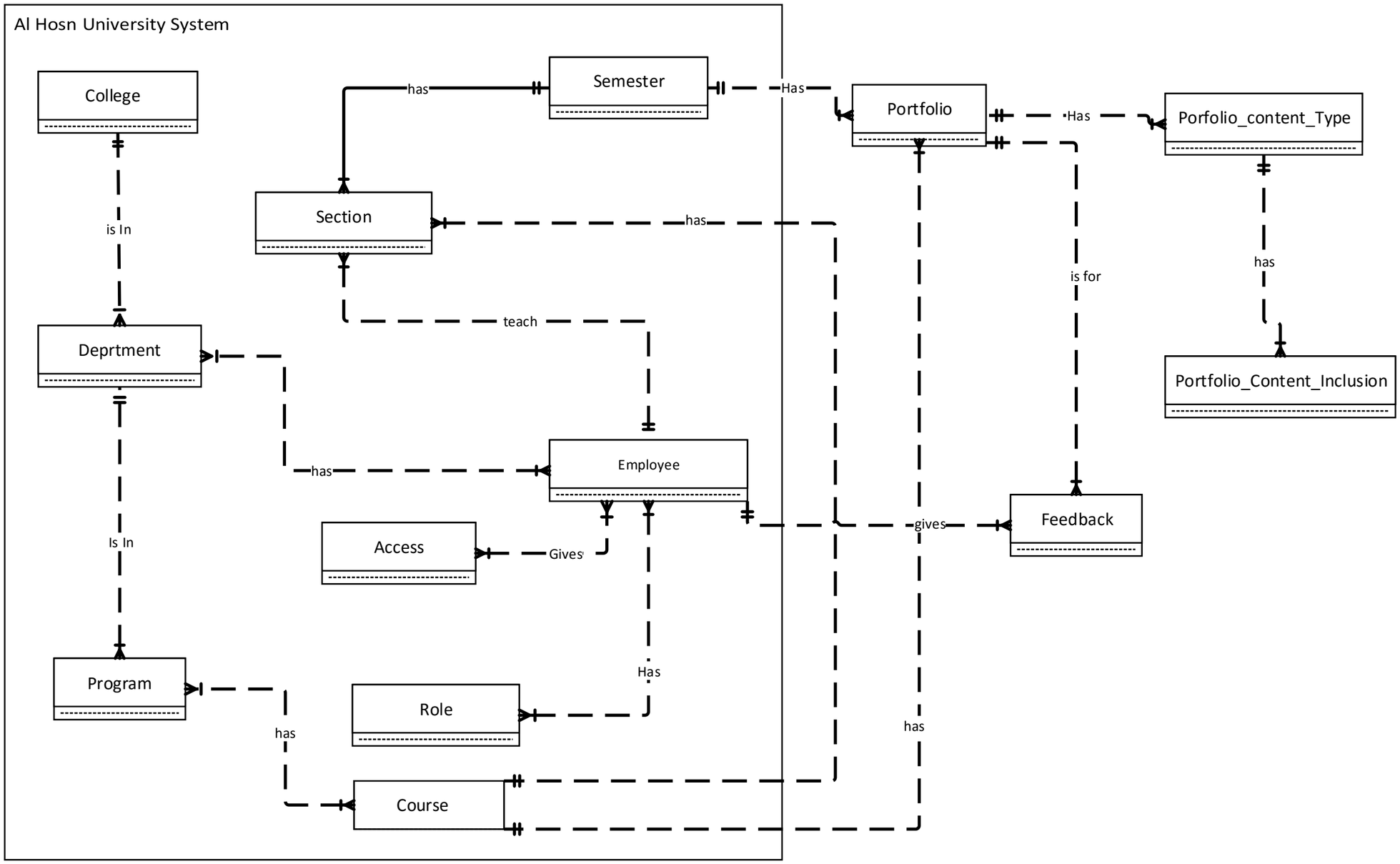
In this section, the Creation of the Entity relationship Diagram (ERD) is started. The ERD is the Database used by the system to store the Data needed. It is composed to primary keys, foreign keys, and Super Keys that are used to identify the main attribute of the entity and link other entities to it. Each entity is composed of its own attributes, and there exists a relationship between the Entities. (Janssen C. , 2014)

Entity/Definition Matrix

ENTITY	BUSINESS DEFINITION
	Major Entities
Employee	Users of the system, split into four groups: Faculty, Dept. head, Provost, and administration assistant
Course	The subjects given at the university
Semester	The time frame in which the courses are given split into 4 seasons in the given year.
Portfolio	The Composite file of the course that the teachers need to hand in
Portfolio_content_Inclusion	Parts of the portfolio that fall under the same content category but have multiple files, like chapters
Portfolio_Content_Type	Categories of Portfolio content that contain multiple files
Feedback	The response given to the teacher from the provost and dept. head regarding the course and portfolio
Department	The division of academic disciplines in the university
College	A constitutional part of the university
Program	Is the syllabus a student follows to attain an academic degree
Role	The Type of Employee in the System (faculty, dept. head, ETC)
Access	Security access privilege to the CPMS System that allows for read, write, or execute
Section	One of the classes formed by dividing the students taking a course

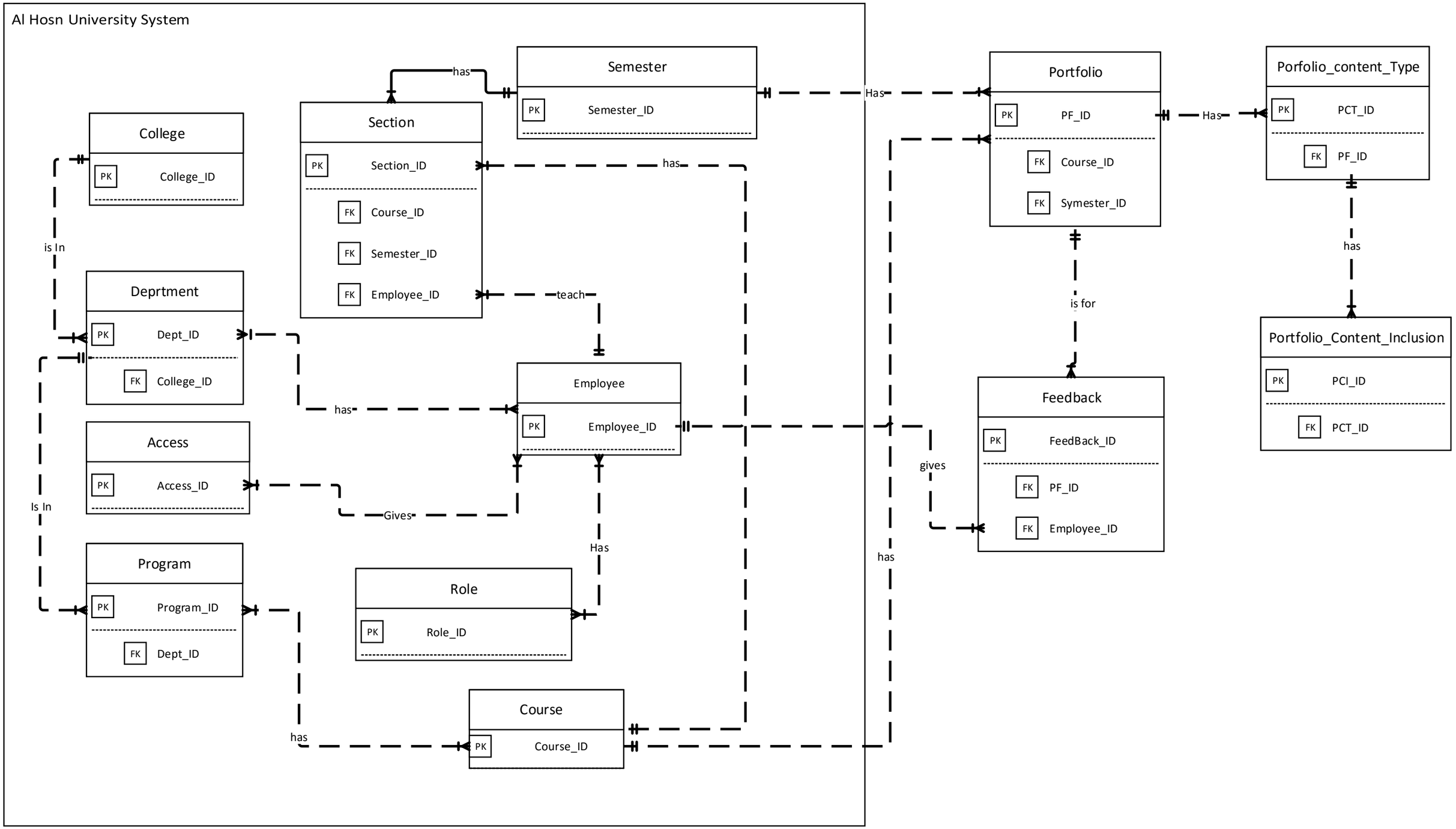
Context Data model Diagram:

The Context data model is a diagram representing the entities and their relationship with each other. These entities are a set of instances relating to the facts of the table. Dotted lines represent weak dependences while solid represent strong ones.

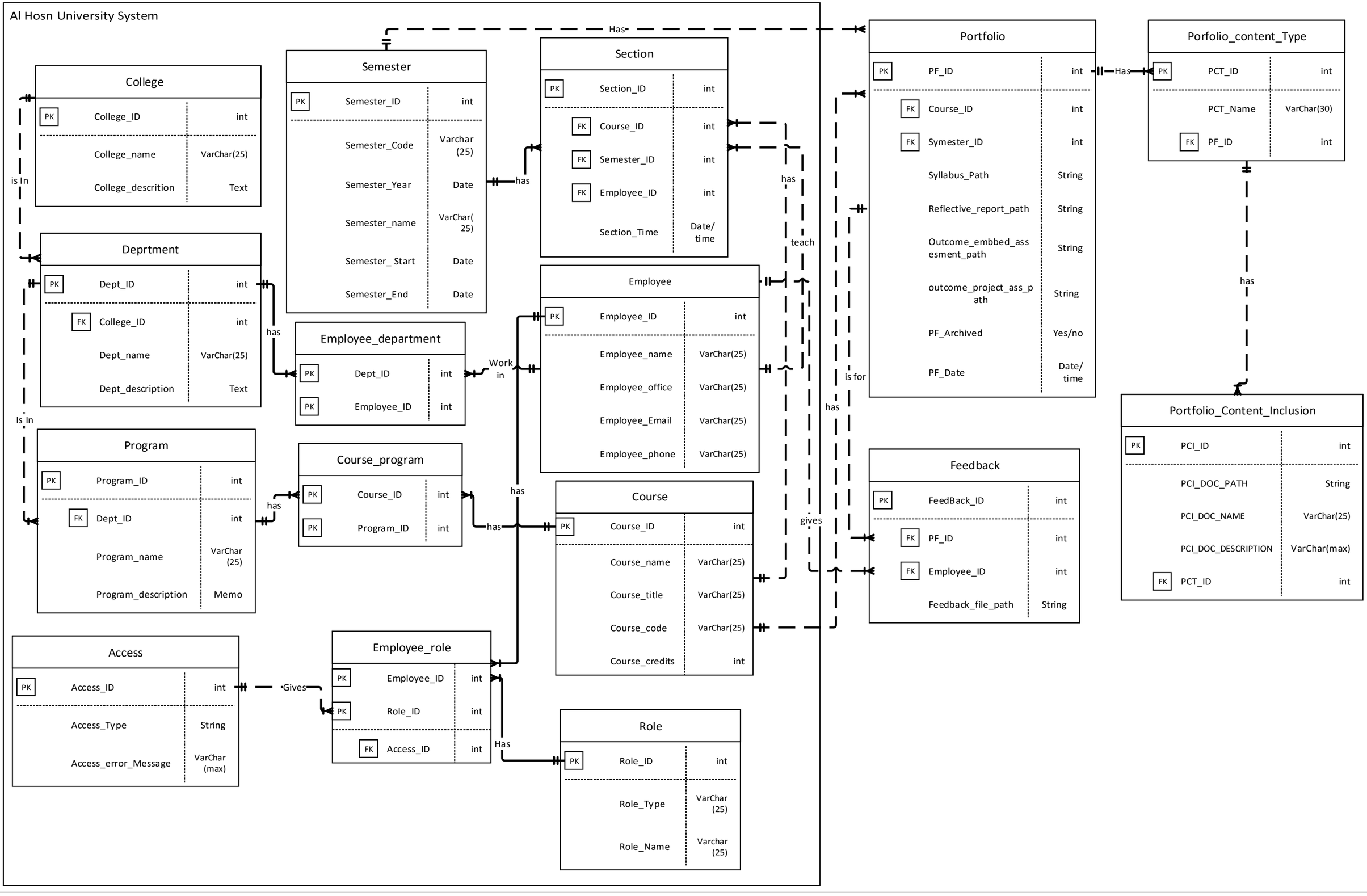


Key Based Diagram:

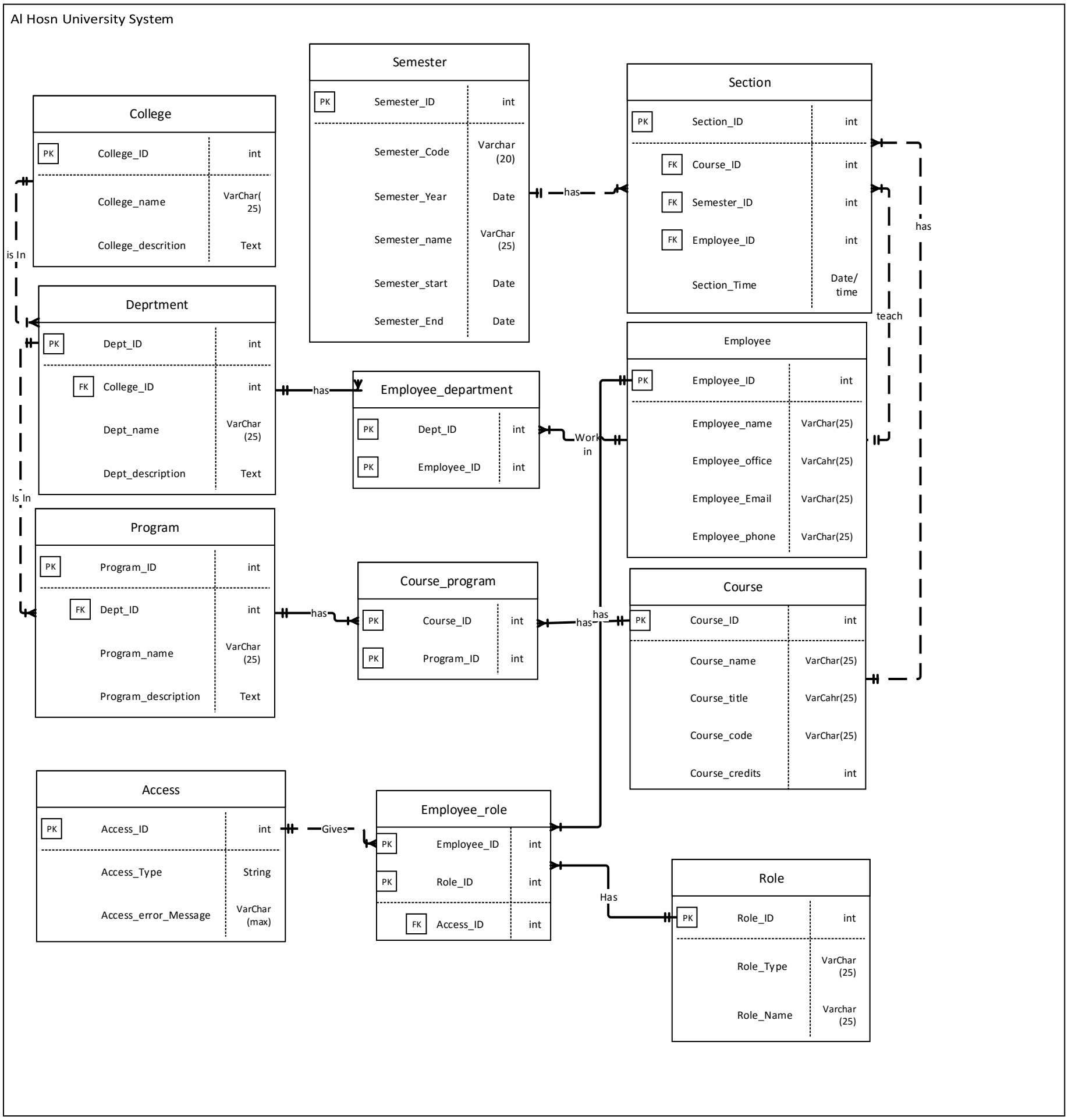
Key Based Diagrams are used to describe the Primary and Foreign key that are important to each entity. (Whitten & Bently L.D, 2007)



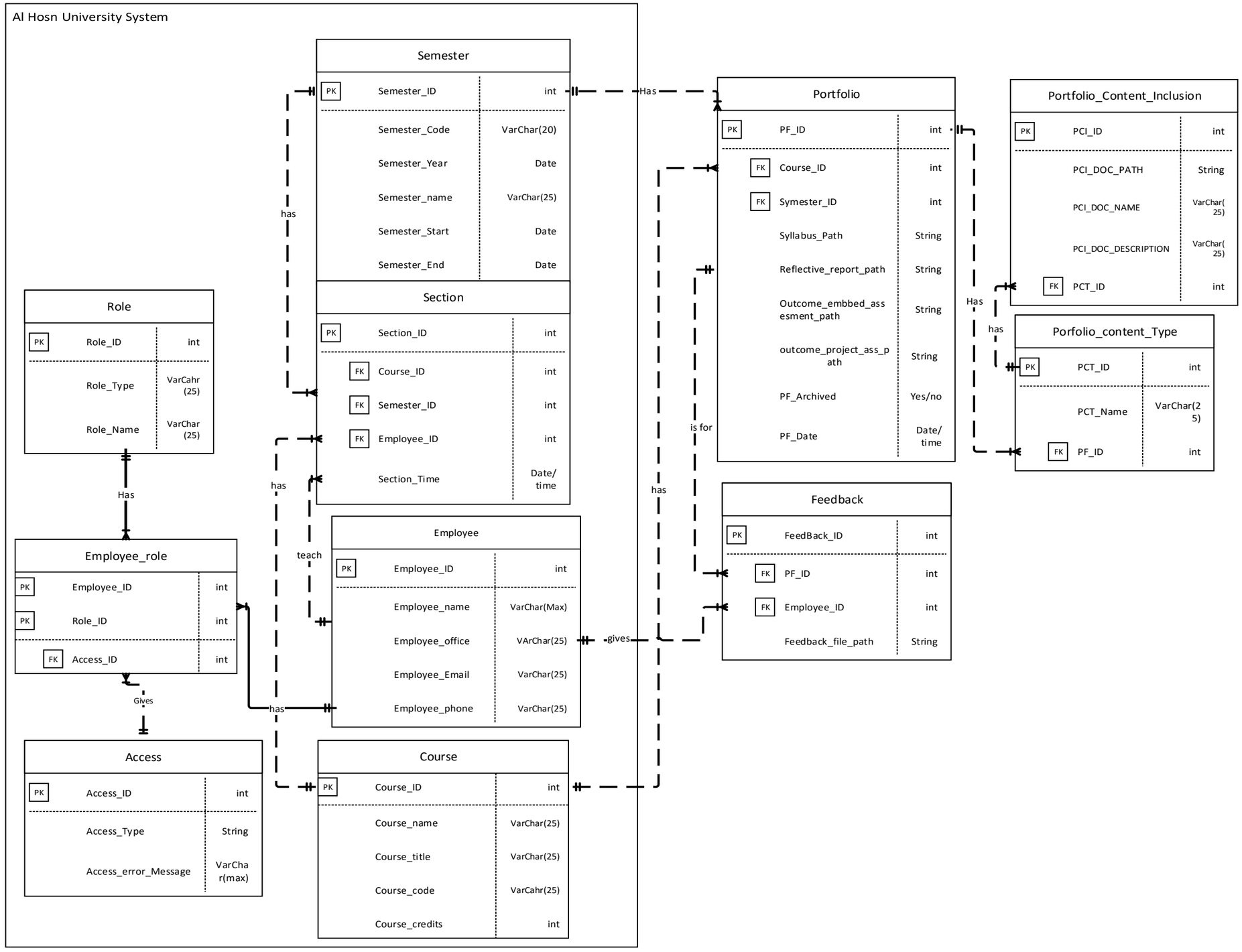
Fully attributed and normalized Data Model (ERD)



ERD of AL HOSN University System:



ERD of Portfolio Sub-System



Key-based and Fully Attributed Data Model

Key-based data and fully Attributed data are all the attributes that describes entitles of the above ERD (Whitten & Bently L.D, 2007). The ERD Is spilt into two systems, the existing AHU's Database and CPMS Database.

College:

College_ID is set as the primary key to differentiate between the existing AHU colleges, and contains attributes about the each college. It also contains the college description and name attribute.

Department:

Department_ID is the primary key of entity to differentiate between the different departments in AHU. College_ID is a foreign key because a department belongs to a college. The department entity also contains the Department's attribute's name and type.

Program:

Program_ID is the primary key of the entity to differentiate between the different programs offered in AHU. Department_ID is a foreign key in this entity because a program belongs in a specific department. The Program entity also contains the Program's attribute's name and type such as description and name.

Course_Program:

This entity's sole purpose is to split the course program many-to-many relationship, so it has two primary keys Course_ID and Program_ID from the entities course and program. This requires no additional attributes.

Course:

Course_ID is the primary key n this table to differentiate between the different courses offered at AHU. Its attributes will have information about the course itself. The Course entity also contains the Courses's attribute's name and type such as name, title, code, and Credits attribute.

Employee Department

The main purpose of this entity is to split the employee department many-to-many relationship, so it has two primary keys Dept_ID and Employee_ID from the entities Employee and department functioning as a SuperKey. This entity requires no additional attributes.

Semester

Semester_ID is the primary key of the entity to differentiate between the different semesters in AHU. The Semester entity also contains the Semesters's attribute's name and type such as Year, name, Start date, and End Date.

Section

Section_ID is the primary key of entity to differentiate between the different sections. Course_ID, Semester_ID and Employee_ID are foreign keys because a Section belongs to course, Semester and employee. This required section time as an attribute.

Role

Role_ID is the primary key of the entity to differentiate between the different Roles for each Employee in AHU. Role Type and Role name the two attributes about the each role.

Employee_Role

The main purpose of this entity is to split the employee Roles many-to-many relationship, so it has two primary keys Employee_ID and Role_ID from the entities Employee and Role. This requires Access_ID attributes as a Foreign Key.

Portfolio

PF_ID is the primary key of entity to differentiate between the different courses portfolios in AHU. Course_ID and Semester_ID are foreign keys because a portfolio belongs to course and semester. The Portfolio's Entity contains attributes about the each portfolio details like date, archive and path for each item.

Portfilio_content_type

PCT_ID is the primary key of entity to differentiate between the different types of contents in each portfolio.PF_ID is foreign key because a Portfilio_content_type belongs to Portfolio and contains PCT_name attribute about the each content name.

Portfolio_content_Inclosion

PCI_ID is the primary key of entity to differentiate between the different Inclusion content in each portfolio. PCT_ID is foreign key because a Portfolio_content_Inclosion belongs to Portfilio_content_type. This Entity contains PCT_name attribute about the each content name, and contains attributes about the each inclusion.

Employee

Employee_ID is set as the primary key to differentiate between Employees in the AHU's college, and contains attributes about each employee.

Access

Access_ID is set as the primary key to make different access types, and contains attributes about the each type and name.

Feedback

Feedback_ID is the primary key of entity to differentiate between the different feedbacks in each portfolio. PF_ID and Employee_ID is foreign key because a Feedback belongs to Portfolio and employee.

Event Phase

Event Diagrams

The Event Diagram is a representation of the data flow in the context of a single event with a single user separately, and it purpose is to show the system interactions with external agents and data flows (Whitten & Bently L.D, 2007).

Figure 1 Create Portfolio event

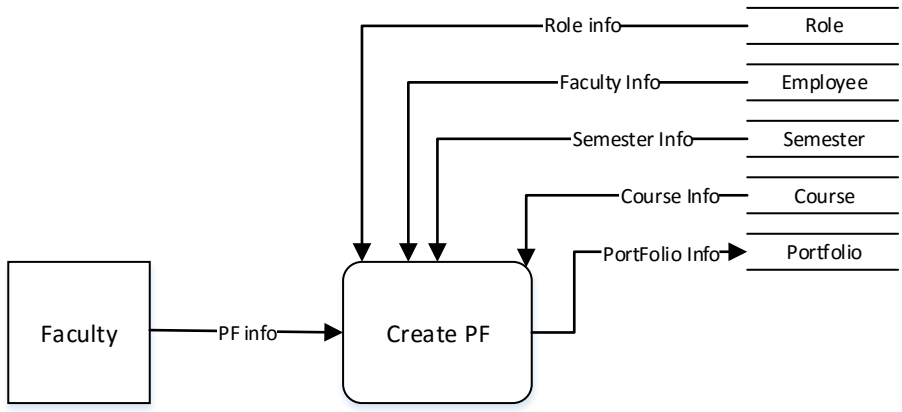


*Figure 1A: Create Portfolio Event Decomposition Event**

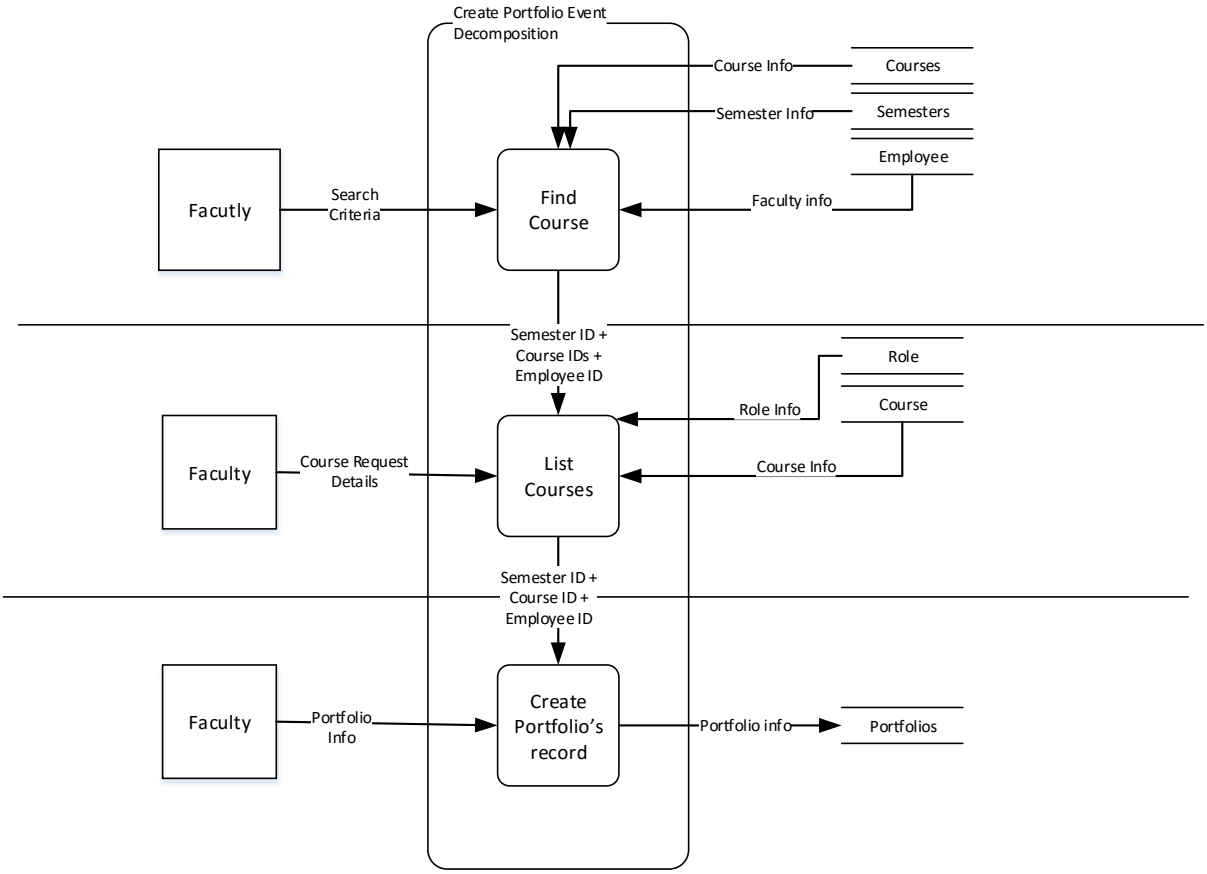


Figure 2a View Portfolio Event

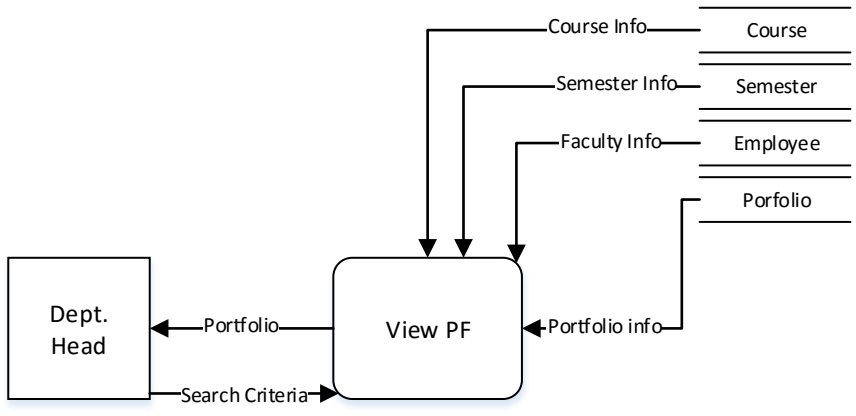


*Figure 2a-1: View Portfolio Decomposition Event **

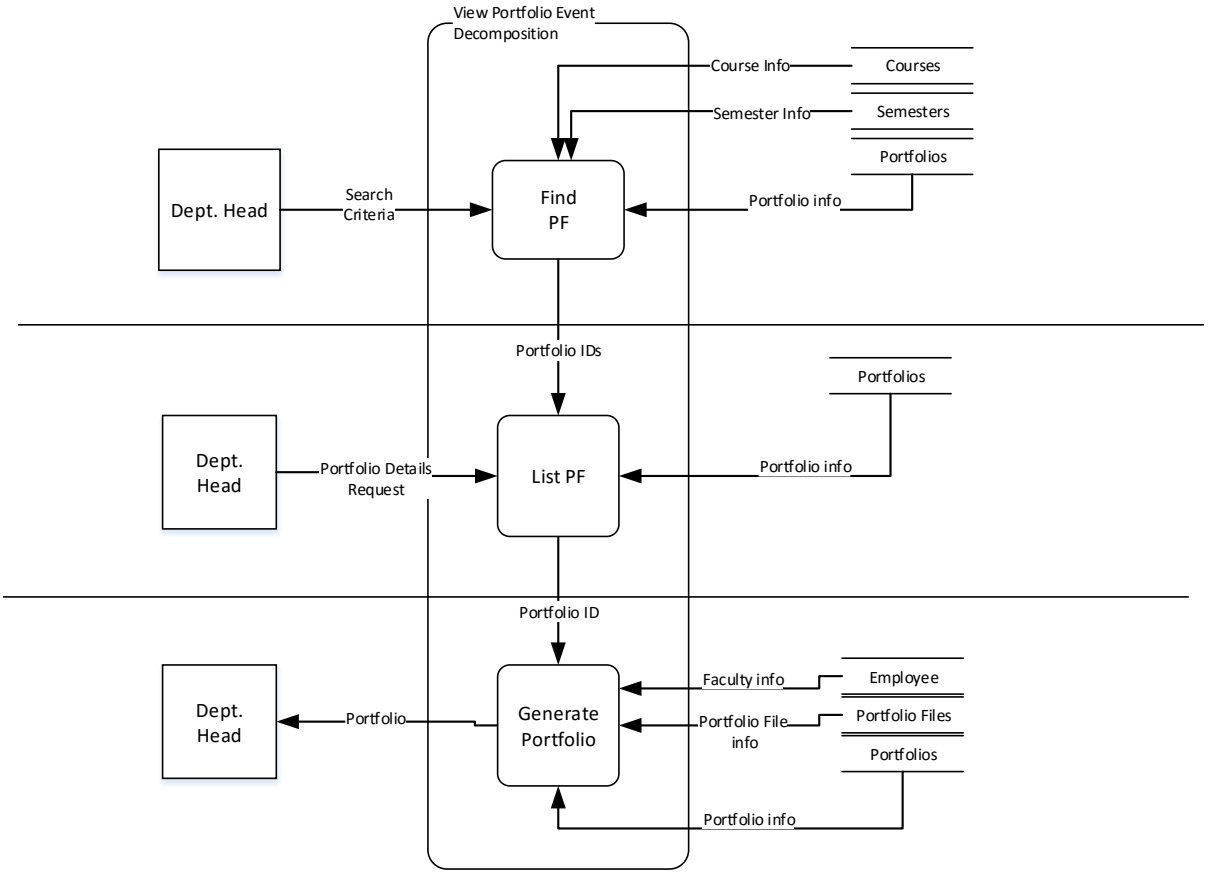


Figure 2b View Portfolio Event

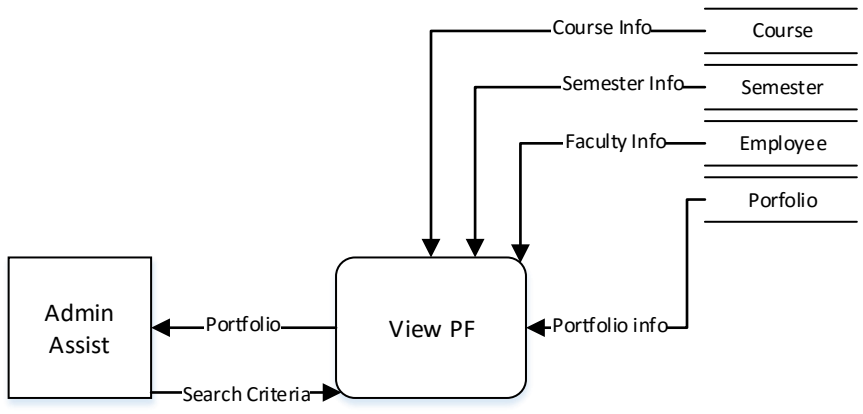


Figure 2c View Portfolio Event

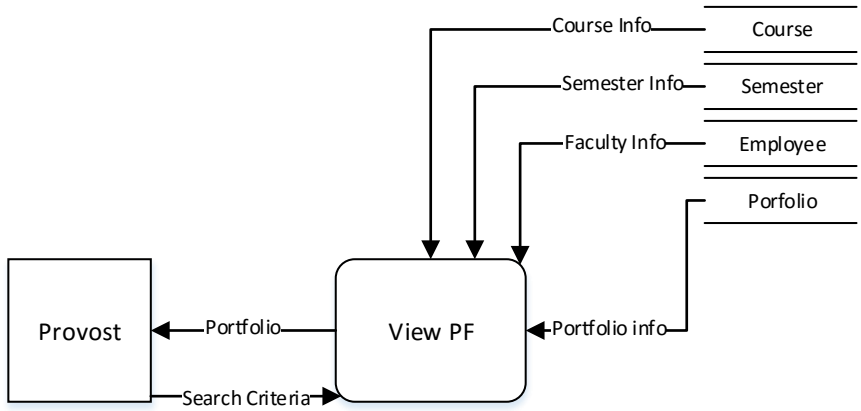


Figure 2d View Portfolio Event

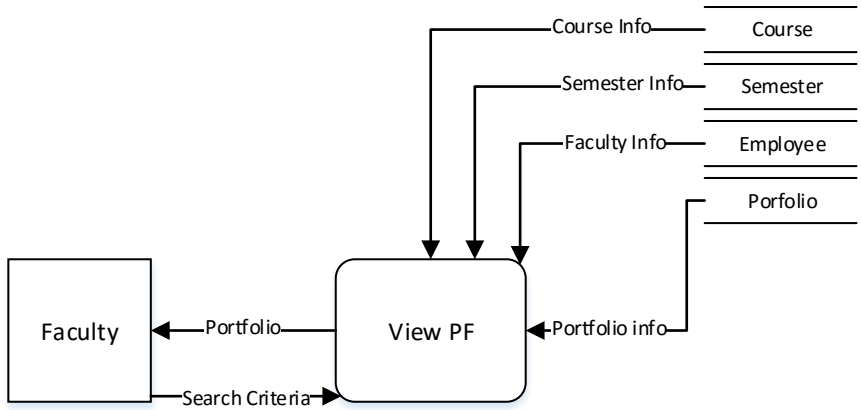


Figure 3a Modify Files portfolio Event

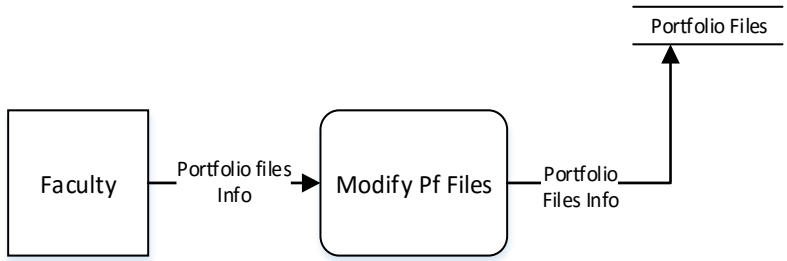


Figure 4 Delete portfolio event

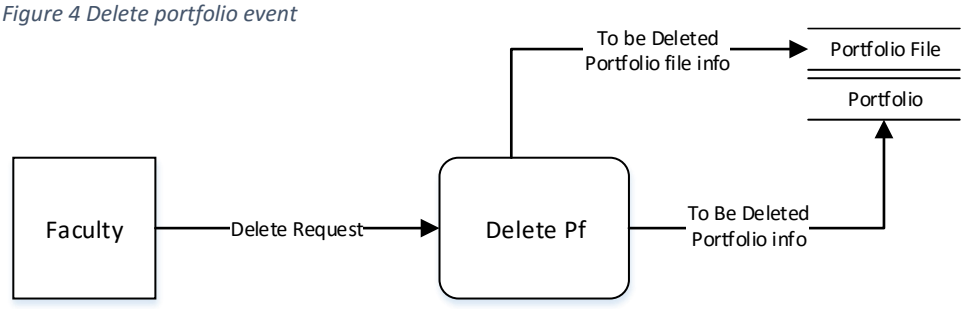


Figure 5a Send Alert Automatically Event

Figure 5b Send Alert Automatically event

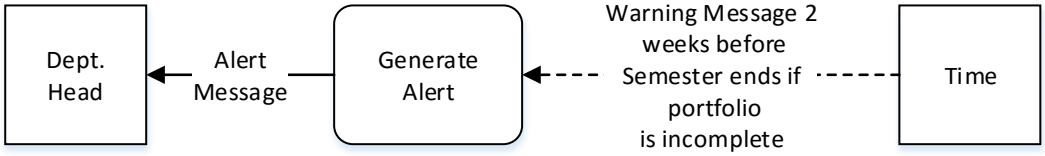


Figure 6a Upload feedback Event

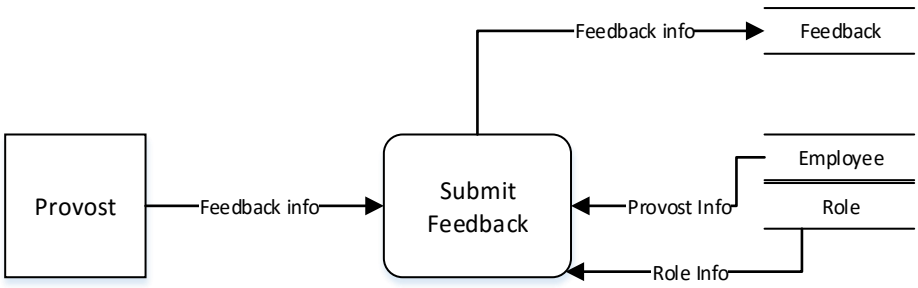


Figure 6b Upload feedback Event

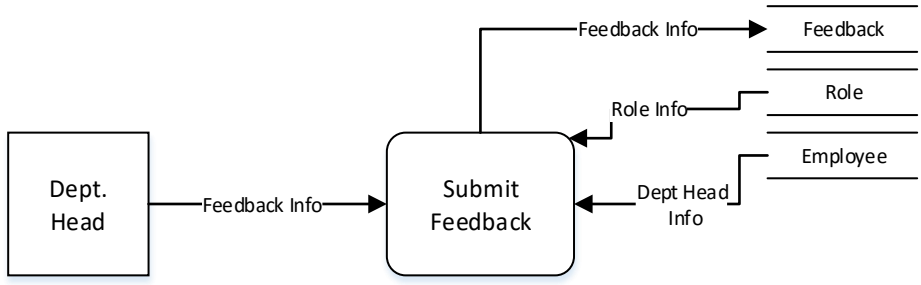


Figure 7a View Feedback Event

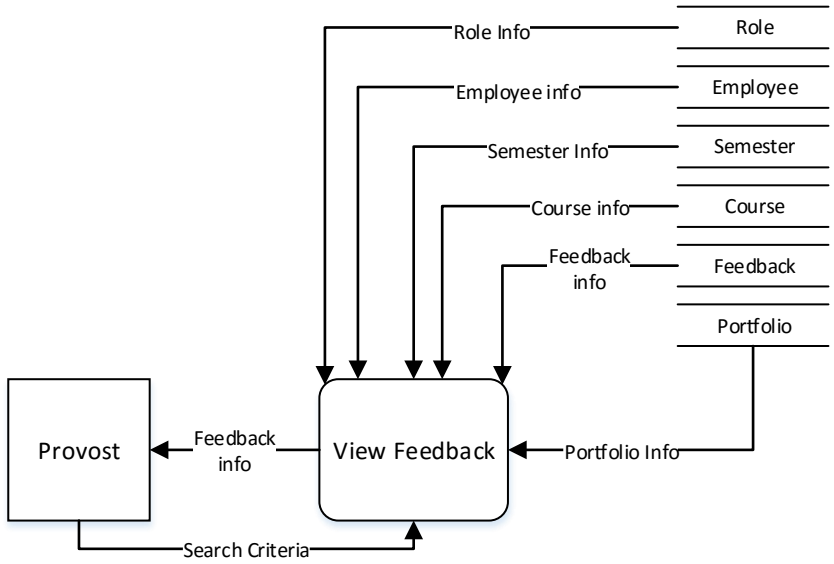


*Figure 7a-1: View Feedback Decomposition Event**

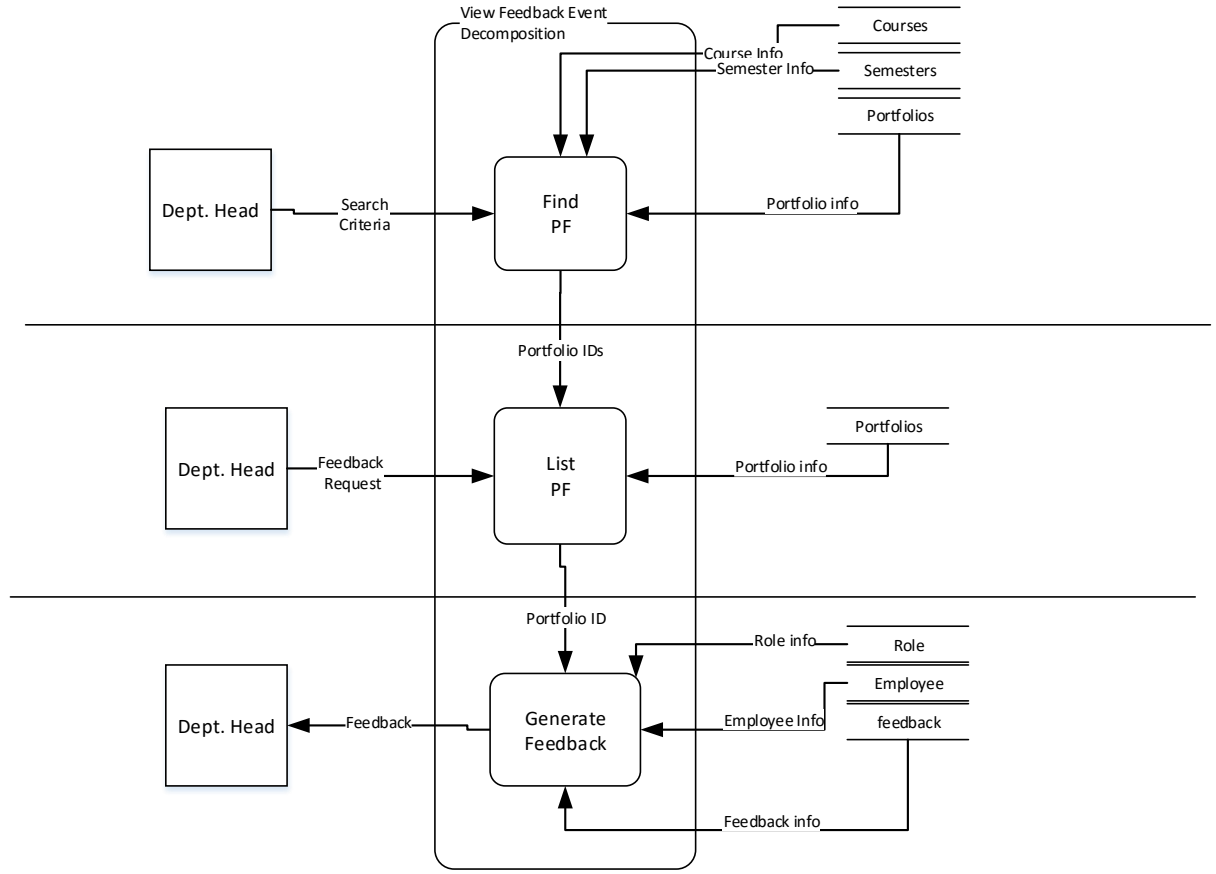


Figure 7b View Feedback Event

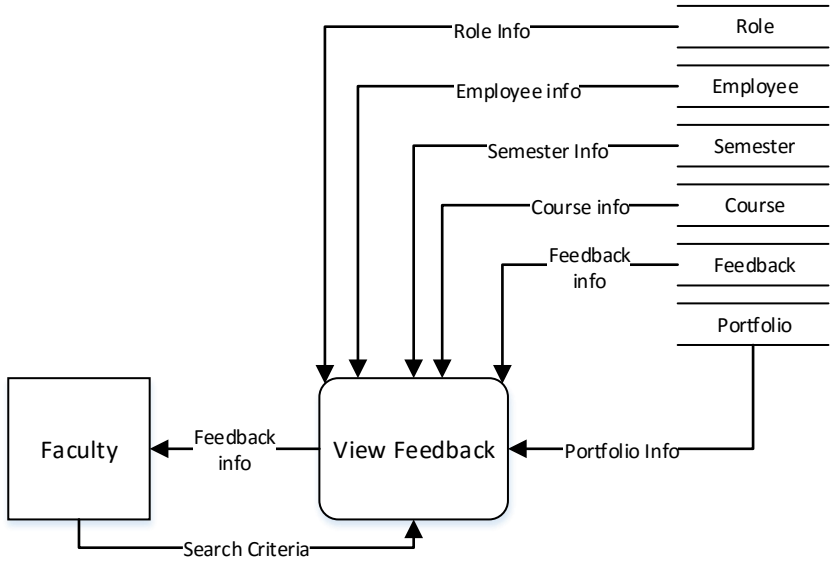
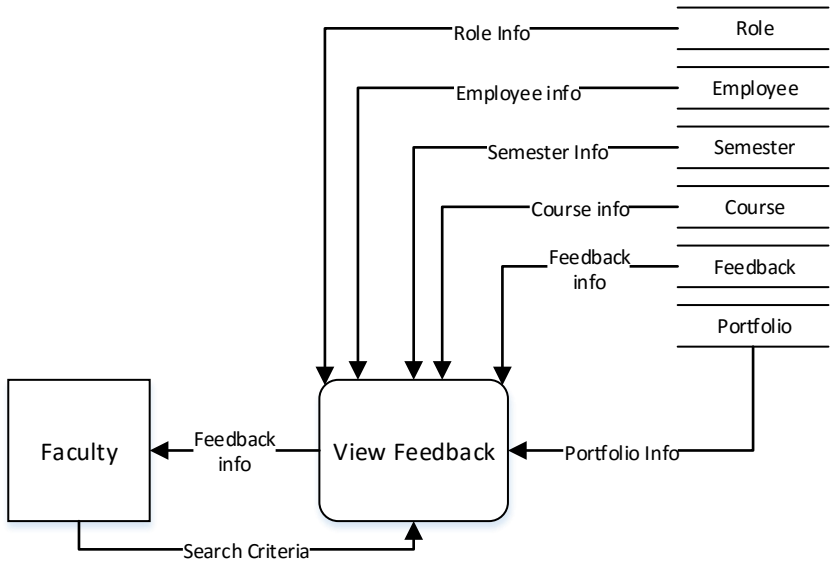
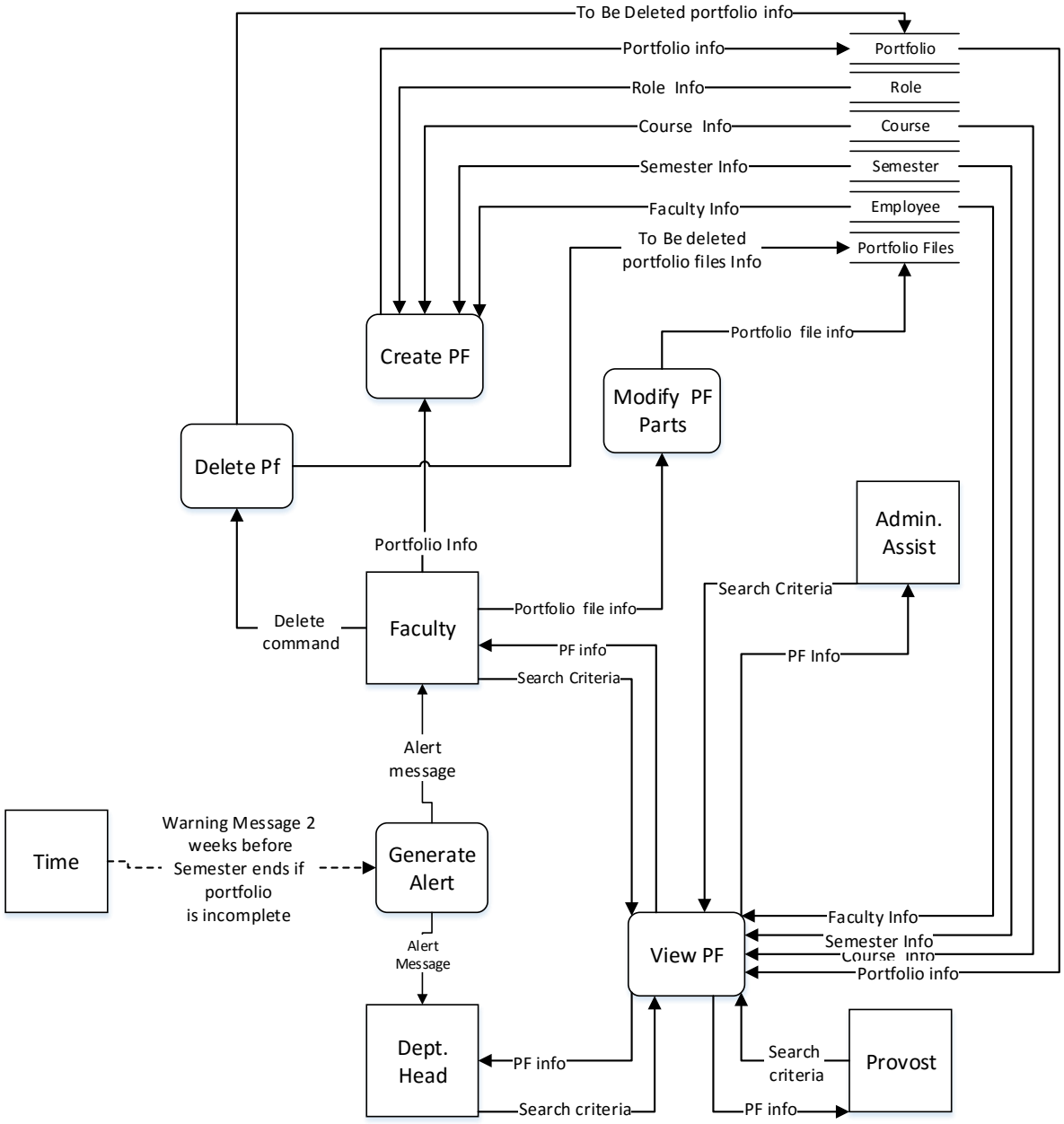


Figure 7c View Feedback Event

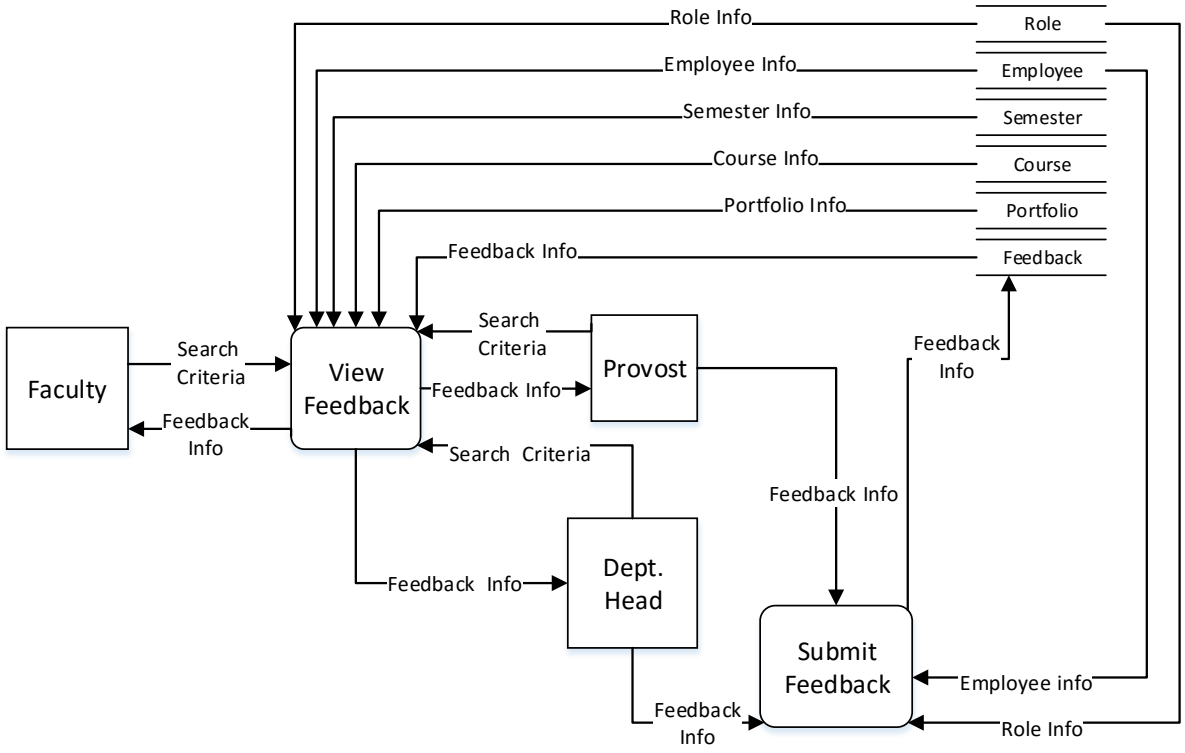


*Note: all the figures have been decomposed because they are Similar.

CPMS Portfolio Subsystem System Diagram:



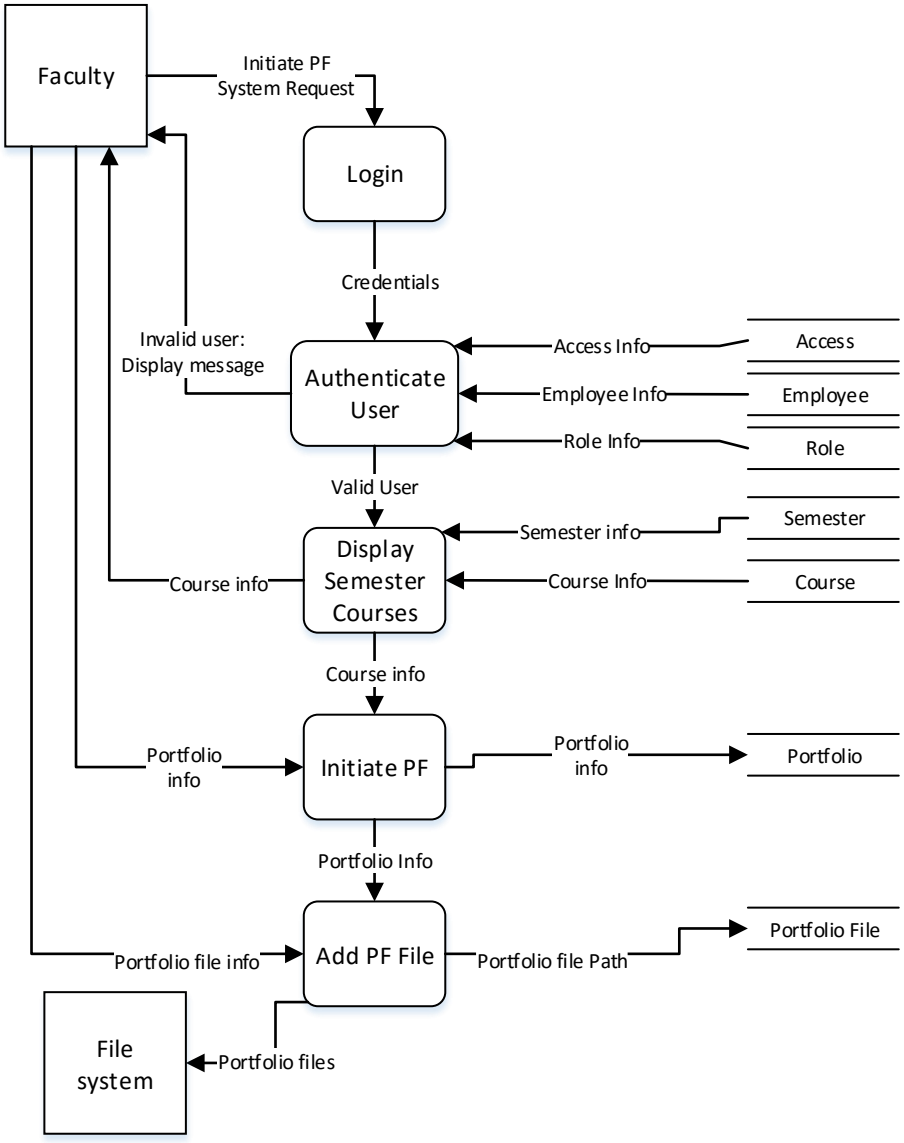
CPMS Feedback Subsystem System Diagram



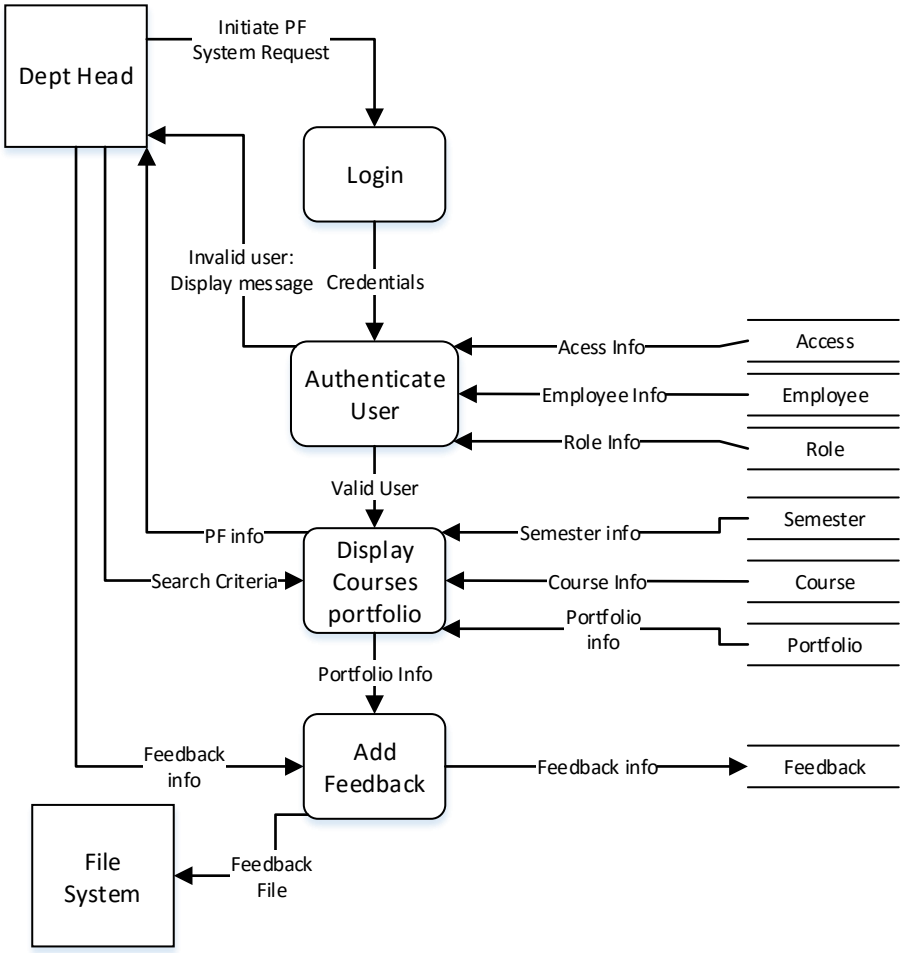
Primitive design:

A primitive design is a diagram for showing how one single event follows through its processes to reach its lowest form in the system (Whitten & Bently L.D, 2007).

CPMS Create Portfolio Primitive Diagram:



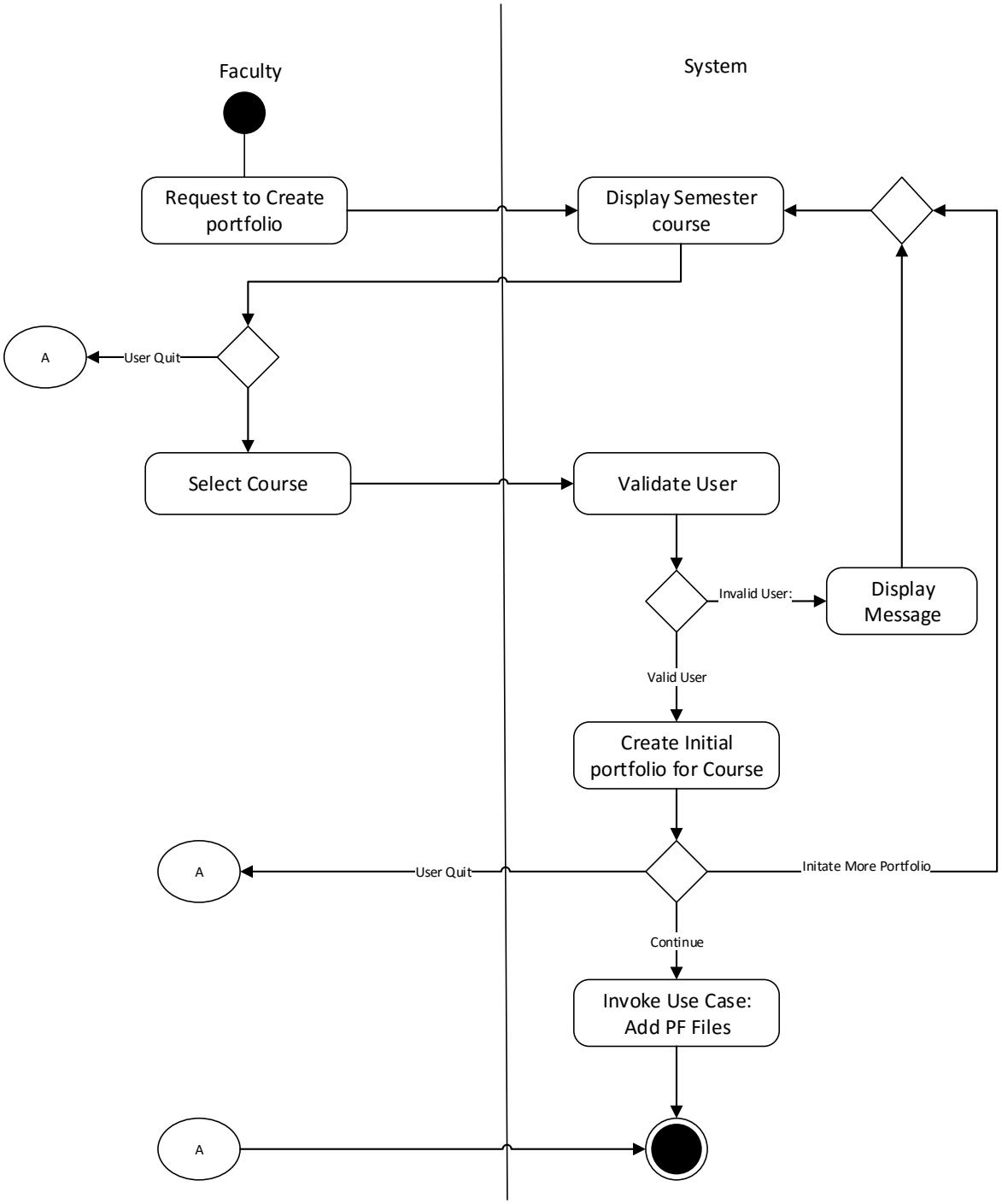
CPMS Feedback Primitive Design:



Object Modelling Phase

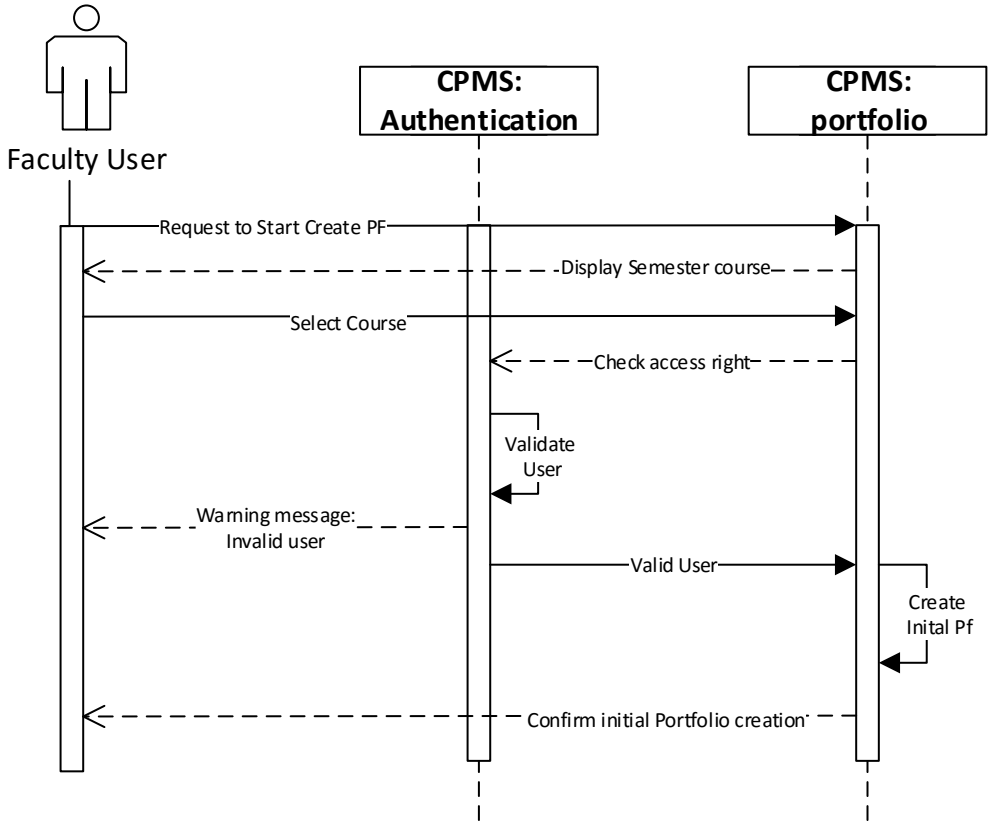
Activity Diagram:

Activity Diagram is a graphic representation of the systems operations step by step from start of the workflow till the end. (Sparx, 2014) This activity Diagram Combines Event 1 (Creating new pf) and event 3 (Modify) by the user Faculty.



System Sequence Diagram:

This part is about the user and system interaction going back and forth to show how the actors interact with the system and how the system responds to it. (Sparx, 2014) This Diagram is about event 1:



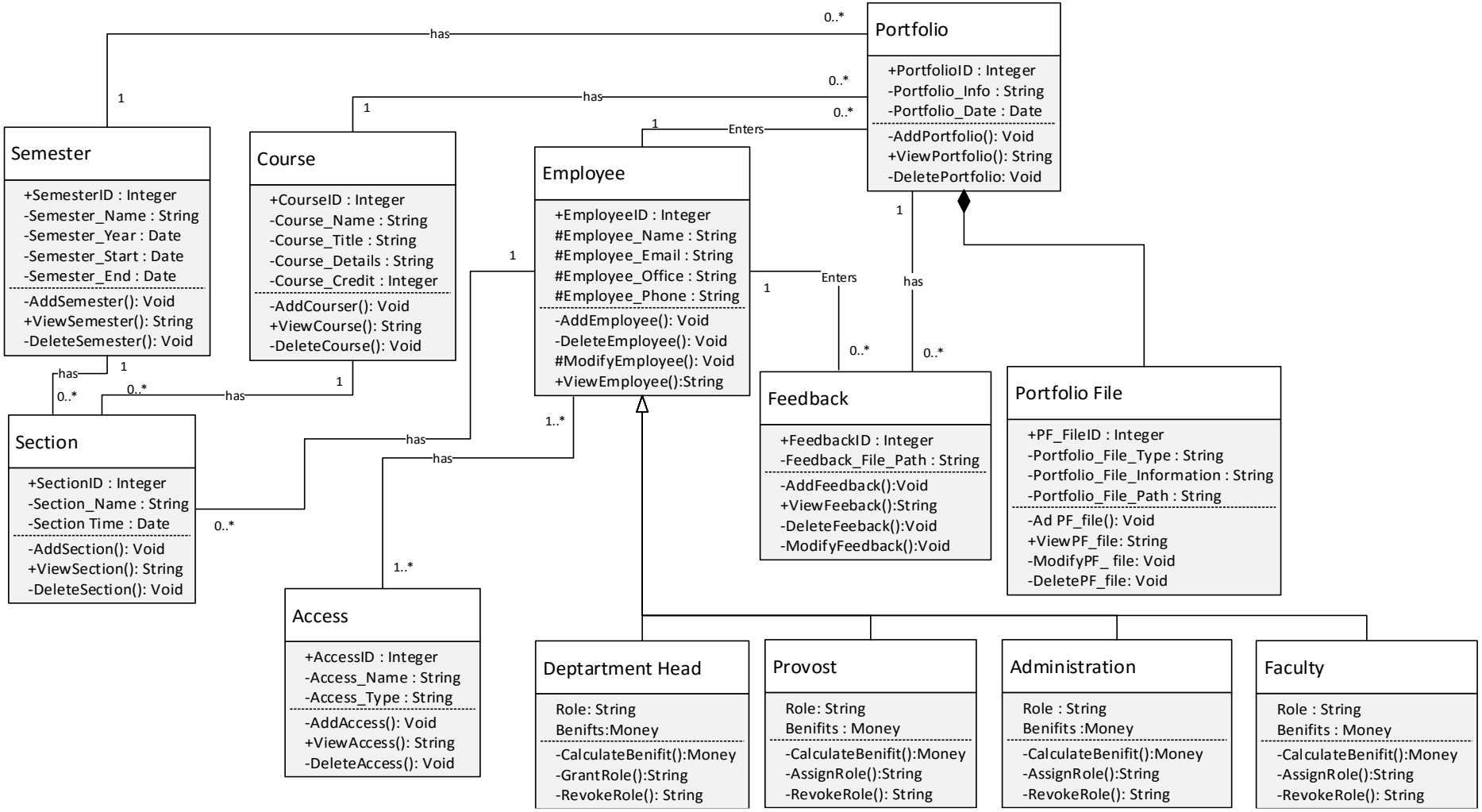
Potential Object List:

Potential Object	Notes	Obj.	Reason
Portfolio	The Composite file of the course that the teachers need to hand in	√	
Portfolio_ID	A unique identifier for portfolios	X	Attribute of portfolio
Portfolio_Info	Details regarding the portfolio	X	Attribute of Portfolio
Portfolio_Date	The Date in Which the Portfolio was initially created	X	Attribute of portfolio
Course	The subjects given at the university	√	
CourseID	A unique identifier for Course	X	Attribute of Course
Course_Name	The name of the Subjects given at university	X	Attribute of Course
Course_Details	Description of the course	X	Attribute of Course
Course_Title	The Given name of the Course	X	Attribute of Course
Semester	The time frame in which the courses are given split into 4 seasons in the given year.	√	
SemesterID	A unique identifier for Semester	X	Attribute of Semester
Semester_Name	The name of the given semester	X	Attribute of Semester
Semester_Year	The year in which the semester occurred	X	Attribute of Semester
Semester_Start	The date in which the Semester starts	X	Attribute of semester
Semester_End	The date in which the semester ends	X	Attribute of semester
Portfolio File	The file held within a portfolio	√	
Portfolio_FileID	Unique identifier of Portfolio file	X	Attribute of Portfolio File
Portfolio_File_Type	The type of file	X	Attribute of Portfolio File
Portfolio_File_Information	Details regarding the file in the portfolio	X	Attribute of portfolio File
Portfolio_File_Path	The physical location of the file on the Server	X	Attribute of portfolio file
Feedback	The response given to the teacher from the provost and dept. head regarding the course and portfolio	√	
FeedbackID	The Unique identifier of Feedback	X	Attribute of Feedback
Feedback_File_Path	The physical location of the file on the Server	X	Attribute of Feedback

Section	A Group of classes for the same course in the same section	√	
SectionID	The unique identifier of the section	X	Attribute of Section
Section_Name	The given name to the course section	X	Attribute of Section
Section_Time	The timing and date of the when the course is given	X	Attribute of Section
Employee	A person Employed by the university	√	
EmployeeID	A unique identifier of Employee	X	Attribute of Employee
Employee_Name	Full Given name of employee	X	Attribute of Employee
Employee_Office	The location of the employee's office	X	Attribute of Employee
Employee_Email	The Email that the Employee uses	X	Attribute of Employee
Faculty	A type of employee, designated as the teacher of the course	√	
Dept. Head	The person responsible for managing the university's department	√	
Provost	The higher management of the university	√	
Administration assistant	Assistants to the employees in the university	√	
Access	Security access privilege to the CPMS System that allows for read, write, or execute	√	
AccessID	A unique identifier of Access	X	Attribute of Access
Access_Name	The given name for the access type	X	Attribute of Access
Access_Type	The type of the access given user of the System	X	Attribute of Access

Class Diagram:

"Class diagrams show the classes of the system, their interrelationships (including inheritance, aggregation, and association), and the operations and attributes of the classes. Class diagrams are used for a wide variety of purposes, including both conceptual/domain modelling and detailed design modelling." (Amber, 2015)



System proposal Solution:

Characteristics	Candidate 1	Candidate 2
Description of System	SQL Server database for Database. ASP .NET C# web application written for the system Data Server. Integrated with existing AHU System	Online Company Supported System offered through Secure Web-based login interaction
Portion of System Computerized **Brief description of that portion of the system that would be computerized in this candidate.**	Entire portfolio and feedback System.	Same as candidate 1
Benefits **Brief description of the business benefits that would be realized for this candidate.**	Fully supports user requirements. AHU has the tools and competencies to develop this quickly. And can be Modified later as requirements changes.	Fully supports user requirements. Comes with added benefits that may be later implemented.
Servers and Workstations **A description of the servers and workstations needed to support this candidate.**	Requires Windows Server enabled servers, and a dedicated data-storage server	No additional servers or workstations.
Software Tools Needed **Software tools needed to design and build the candidate**	Microsoft SQL Server Windows Internet Information Server Visual Studio .NET	No Software tools needed
Application Software **A description of the software to be purchased, built, accessed, or some combination of these techniques.**	Custom solution	Purchased Application software.
Method of Data Processing **Generally some combination of: on-line, batch, deferred batch, remote batch, and real-time.**	Client/Server with distributed data N-Tier Web Architecture	N-Tier Web Architecture
Output Devices and Implications **A description of output devices that would be**	Existing Printers, & Monitors, mobile devices.	Same as candidate 1

used, special output requirements,		
Input Devices and Implications **A description of Input methods to be used, input devices**	Keyboard, Mouse, scanner, Mobile devices	Same as candidate 1
Storage Devices and Implications **Brief description of what data would be stored, what data would be accessed from existing stores, what storage media would be used, how much storage capacity would be needed, and how data would be organized.**	Microsoft SQL Server, which fully supports data replication and synchronization. Dedicated Data Storage Server to handle the amounts of files.	None

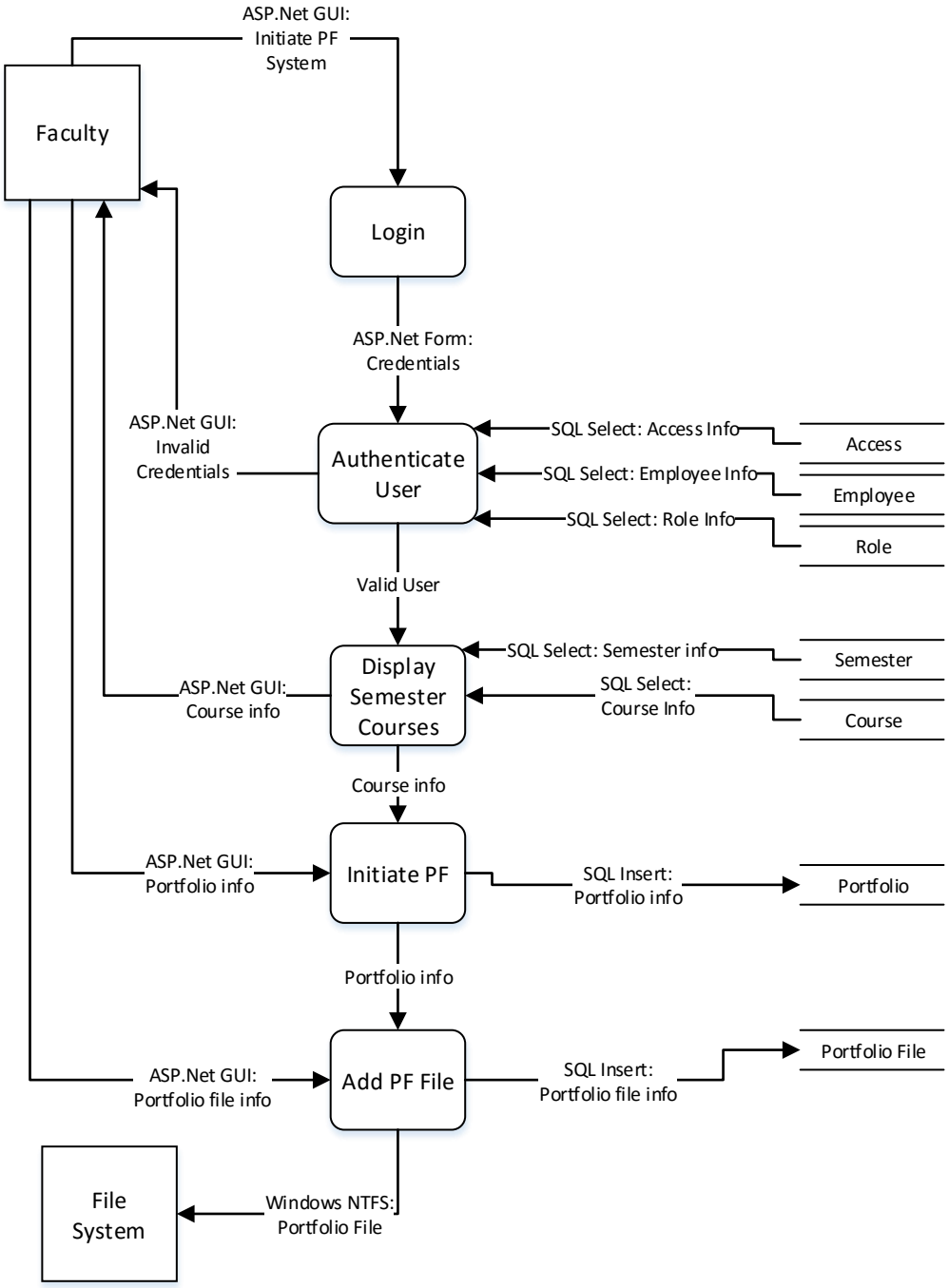
Technical Memo

No extra technical details are required.

Application Architecture:

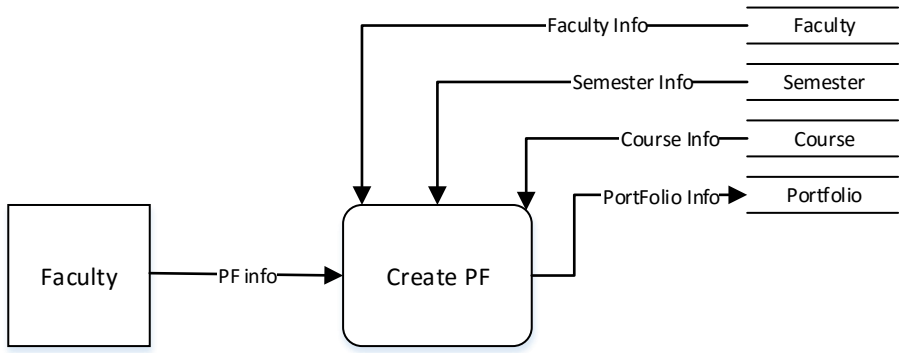
Application Architecture is the design phase of the system interaction between servers and components that create a blueprint for the program (Holmes, 2014).

Physical Data Flow Diagram:



Structured English:

Structured English is used to describe the rules used by the diagram, and its logical specification in the English language (Janssen C. , 2014).



When the faculty decides to create a new portfolio, the system will generate the list of courses they are teaching in the current semester from the database. The Faculty will choose which course to begin the initial portfolio creation, then the data about the course and semester will be used to create the initial portfolio.

The Following is the structured English for creating a portfolio:

Establish a connection to database

Get Semester information from Semester Data table

Get Course information from Course Data table

Get Faculty information from Employee Data table

If Faculty has access

Create initial Portfolio Information in Portfolio data table

For each required file

Insert file path information in the Portfolio_content_inclusion data table

Upload and store file in dedicated folder

Else

Display message (“Access denied”)

User Interface:

Login Screen:

Since the CPMS will be integrated into the AHU's portal System, the Login Screen will be exactly like that of the universities website. Here the Users can log in to start the System.

Main Page:

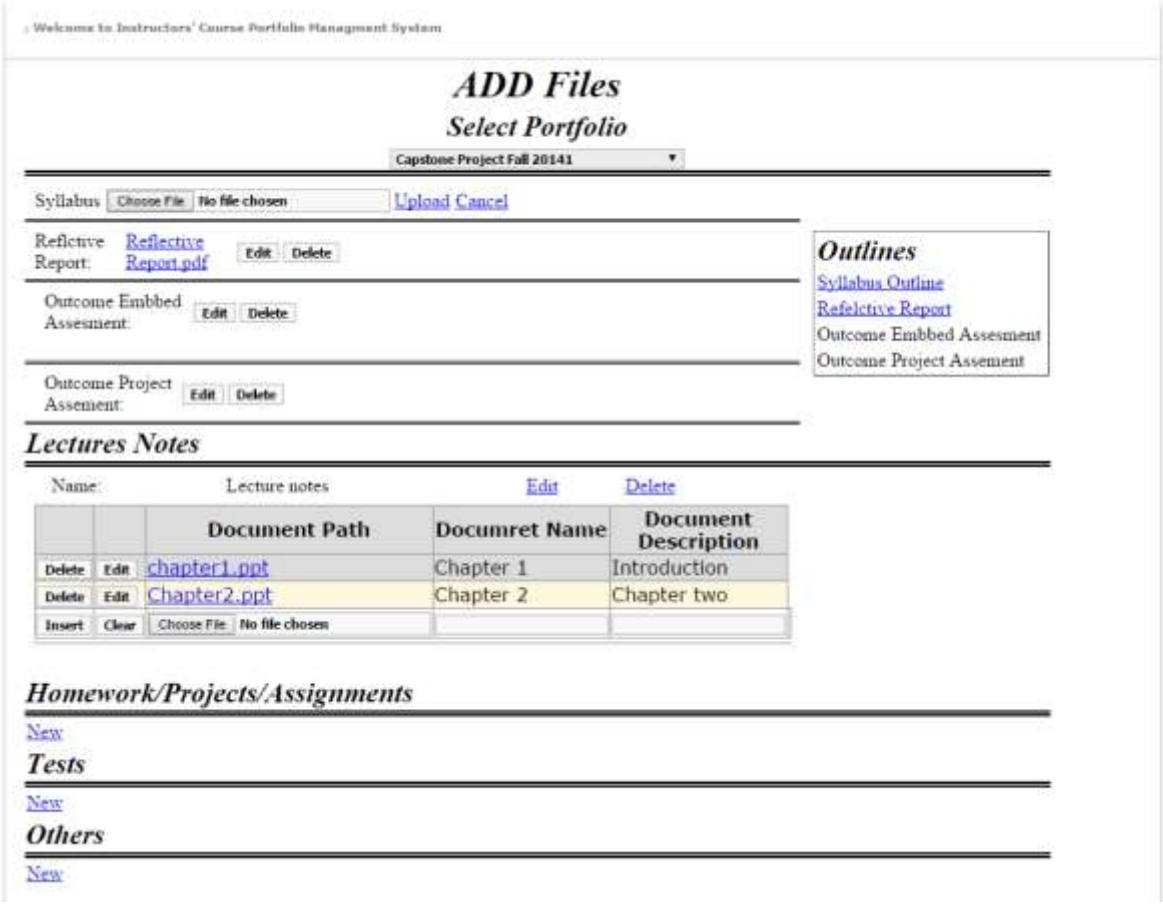
The main page previews the option that all the users would have, in the Future the Options will be limited depending on the user role and access.

Create portfolio

This the screen that the Faculty user will use to create the initial Portfolio. It is simplified into two parts, first the Semester, then the course they are teaching.

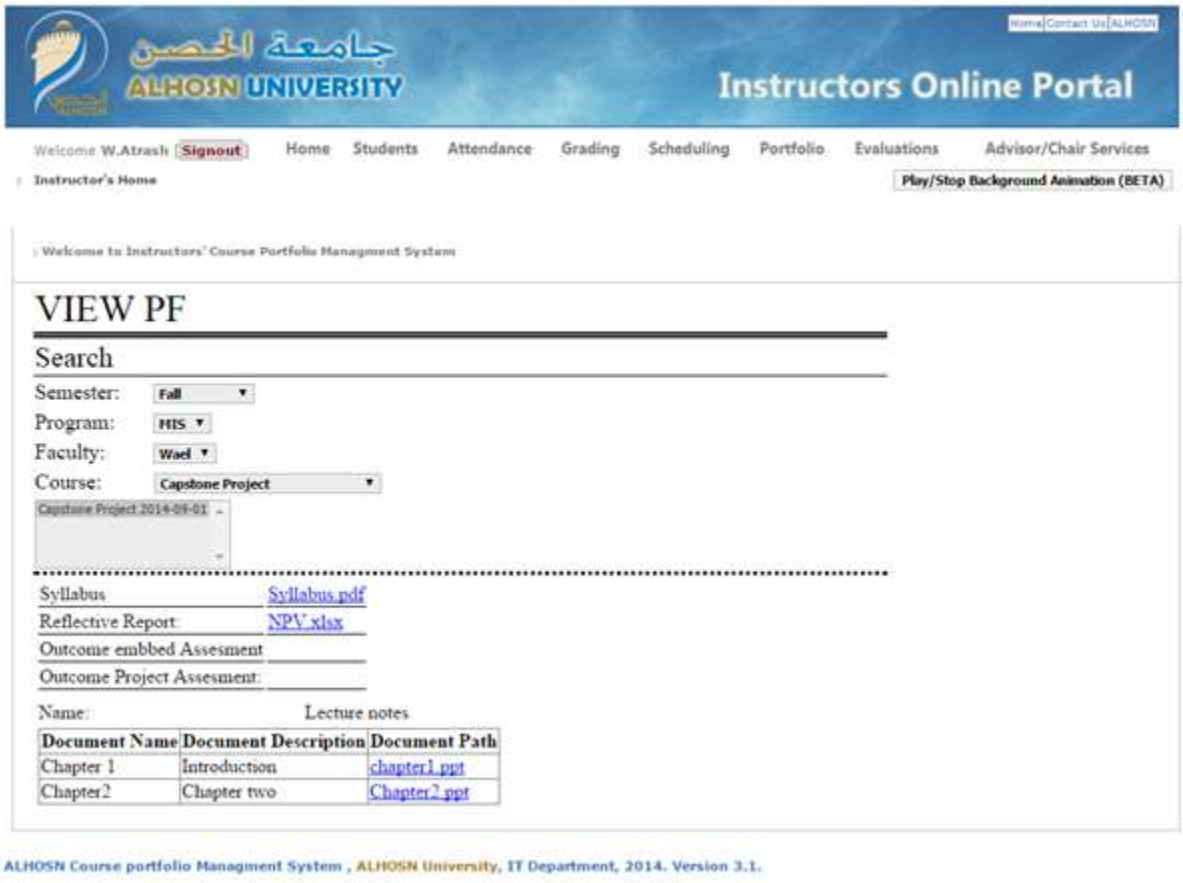
Add portfolio File:

This is the Section where the Faculty and the Administration assistant can upload files to the System.



View Portfolio:

In this screen all users are capable of view and downloading the portfolio files:



Submit Feedback:

This the page the Provost and department heads will use to submit their feedback.

View Feedback:

This is the Page where the Faculty, department head, and provost and view the submitted feedback

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Appendix

Appendix 1(Dr. Marko's suggested System)

ALHOSN Course e-base - Project task – 9.02.2012.

Objectives:

- To improve Quality culture in area of teaching
- To establish electronic archive of course portfolio data for all courses offered at ALHOSN University
- To stimulate and follow up continuous course development
- To make course data more transparent for different stakeholders (Management, Faculty, Students, Employers, CAA, ADEC...)

Structure:

- Database is expected to be treated as matrix between courses (overall list) and semesters (terms) when courses are organized. Particular major field will keep all relevant data about particular course as organized during particular term
- Major field will consist of the following:
  - Course syllabus (as presented in QA/CE/01 form)
  - Weekly units (14 active and 2 examination weeks), with similar structure adjusted for summer semester
  - Extra activities records (if some)
  - Homework/Quiz/Examination/... task templates
  - List of students registered for a course
  - Examples of students works and exams (linked with weekly units)
  - Student evaluation record
  - Grade sheets, tables and graphs
  - Course instructor report (as presented in QA/CE/02 form)
  - Additional post-exam documentation (if some, e.g. grade change forms, complaints,...)

Links:

- Database will be linked with following available data:
  - Study programs – list of courses, interdependence (pre-req, co-req)
  - Student records – registration, grades
  - Course lists – registered students list
  - Academic calendar and schedule – unit dates, timing and location
  - Faculty member list (incl. part timers) – course instructor per semester

Tasks:

- Input of Course syllabus through e-portal, at the beginning of semester (time limit 2 weeks after term starts, following by warning sent to instructor, chair and provost)
- Option to copy data from previous semester easily (information about the number and name of fields A-J where changes in comparison with previous semester have been made sent to provost)
- Student evaluation (based on new form) organized to stimulate respond, during the last two weeks of the term (special regime for summer term)
- Course instructor report compulsory to be filled (as well as other material required to close the file submitted) to release and submit the final grades
- Overall list of courses existing in offer available (with selected data) on internet
- List of currently offered and "to be offered in next term" courses available on internet
- Different search and filter options for getting data
- Different report options - digital and printouts (e.g. faculty workload
- Different statistical data analysis (numbers of students registered, grades averages and distribution...)

This project task is to be considered as general requirement. All modifications during the development and in pilot implementation phase will be recorded, and done in cooperation between Mr. Mohamed Farouk and Dr. Marko Savic. All records will be submitted to VC.

VC Office - QA Unit

Dr. Marko Savic, Director

COURSE SYLLABUS (QA/CE/01)

Course title	
Course code	
Credits	
Prerequisite(s)	
Study program(s)	

Semester	
Academic year	

Instructor	
Teaching Assistant	
Office	
Phone	
E-mail	
Class schedule	
Office hours	

Lecture hours (per week, or per day in summer term)	
Lab hours (per week or overall per semester – please state clearly)	
Studio hours (per week, or per day in summer term)	

A. Purpose statement

Please type purpose statement in this text box

B. Course description

Please type course description in this text box

C. Textbook(s)

No.	Author	Title	Publisher
1			

D. Reference texts

No.	Author	Title	Publisher
1			

Appendix 2 (syllabus Format)

E. Other resources

Please type other resources (if some) in this text box

F. Course learning outcomes

Upon the successful completion of the course, students are expected to ...

No.	Learning Outcome
1	
2	
3	
4	
5	
6	

G. Course outline

Week	Date	Topic
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

H. Course activities and management

Please type description of course activities and management in this text box

I. Grading

No.	week	Assessment	Percentage (grade out of 100)
1			
2			
3			
4			

J. Additional comments

Please type additional comments (if any) in this text box

\

Appendix 3: NPV

NPV For candidate 1					
Discount rate	7.00%				
	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Benefits* **	0.00	80,000.00	80,000.00	80,000.00	80,000.00
PV of benefits	0.00	74,766.36	69,875.10	65,303.83	61,031.62
PV of all Benefits		74,766.36	144,641.45	209,945.28	270,976.90
One Time Cost*	50,000.00				
Recurring Cost**		25,000.00	25,000.00	25,000.00	2,500.00
PV of recurring Costs	50,000.00	23,364.49	21,835.97	20,407.45	19,072.38
PV of all Costs	50,000.00	73,364.49	95,200.45	115,607.90	134,680.28
Break Even Analysis					
Yearly NPV cash Flow	-50,000.00	51,401.87	48,039.13	44,896.38	41,959.24
Overall NPV Cash Flow	-50,000.00	1,401.87	49,441.00	94,337.38	136,296.62
This company will break even in 1 year					
ROI	101.20%				

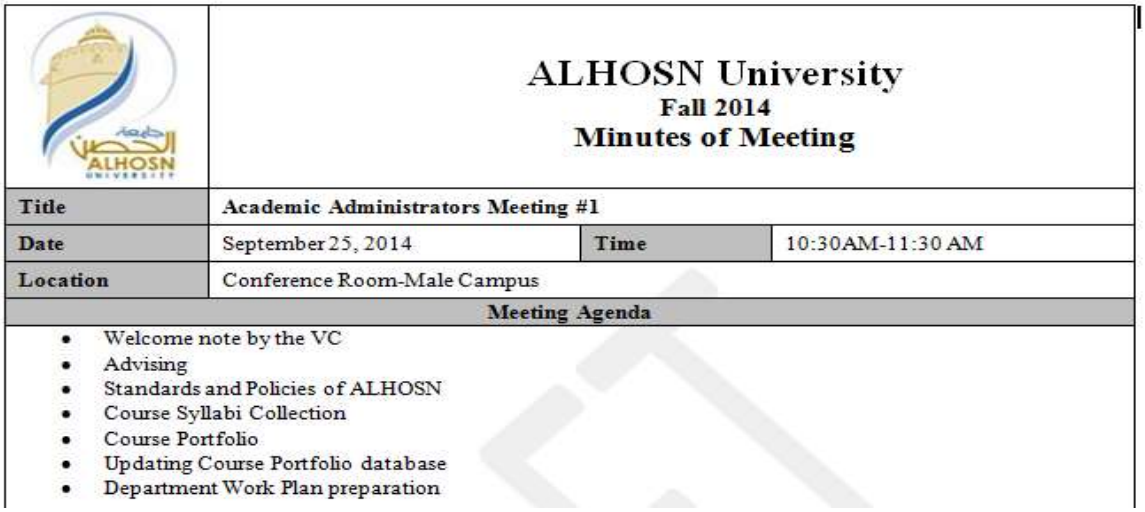
* Onetime Cost includes the cost of the programmer, program, and installation cost

** Recurring cost is the cost of maintenance, and upgrade to the software and hardware

*** Benefits in this case are calculated based upon the Money saved due to reduction of time

NPV For candidate 2					
Discount rate	7.00%				
	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Benefits* **	0.00	80,000.00	80,000.00	80,000.00	80,000.00
PV of benefits	0.00	74,766.36	69,875.10	65,303.83	61,031.62
PV of all Benefits		74,766.36	144,641.45	209,945.28	270,976.90
One Time Cost*	75,000.00				
Recurring Cost**		30,000.00	30,000.00	30,000.00	30,000.00
PV of recurring Costs	75,000.00	23,364.49	21,835.97	20,407.45	19,072.38
PV of all Costs	75,000.00	98,364.49	120,200.45	140,607.90	159,680.28
Break Even Analysis					
Yearly NPV cash Flow	-75,000.00	51,401.87	48,039.13	44,896.38	41,959.24
Overall NPV Cash Flow	-75,000.00	-23,598.13	24,441.00	69,337.38	111,296.62
This company will break even in 2 year					
ROI	69.70%				

Appendix 4: Minutes of meeting



ALHOSN University
Fall 2014
Minutes of Meeting

Title	**Academic Administrators Meeting #1**		
Date	September 25, 2014	**Time**	10:30AM-11:30 AM
Location	Conference Room-Male Campus		

Meeting Agenda

- Welcome note by the VC
- Advising
- Standards and Policies of ALHOSN
- Course Syllabi Collection
- Course Portfolio
- Updating Course Portfolio database
- Department Work Plan preparation

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4. Course Syllabi Collection

Dr. Marko thanked Faulty of Arts and Social Sciences and Faculty of Engineering and Applied Sciences for sending their course syllabi. Dr. Marko suggested that the Chairs review the syllabi before sending them. Dr. Marko went on to say that there is a certain freedom for changing the content, designing courses, topics etc but not the learning outcomes. The learning outcomes are part of the fixed structure of the accredited program. Changing them requires the CAA approval.

Prof. Kamel remarked that earlier changes were done to few courses' learning outcomes, to meet the Emirates Qualification Framework.

Prof. Zohdi stated that minor changes in the syllabi do not require approval from ministry.

5. Course Portfolio

Course portfolio has to be updated every term.

Prof. Zohdi remarked that the University should come up with a common policy to be adopted (a common template) to maintain consistency.

6. Updating Course Portfolio database

Dr. Fadia suggested putting all course portfolios in a database system from where they could be retrieved and analyzed.

Dr. Zineddine remarked that with the availability of scanners the course portfolios could be made available in the instructors' portal.

• • •

7. Adjournment:

The meeting was adjourned at 11:30 AM with a word of thanks by Dr. Adel.