QMB 6930
BA and IT Experiential Learning Projects
Spring 2018

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OFFICE HOURS	:	TBA
CLASS HOURS	:	Tue, 7-8, STZ 101

PREREQUISITES

ACADEMIC

Though not required students who have completed ISM 6129, ISM6215, ISM6257, and ISM6222 or have relevant work experience will benefit most from this course.

COMPUTING

Students must have access to a laptop.

RECOMMENDED TEXT

There is no required or recommended text for this course. I will suggest readings for groups depending on the projects.

REQUIRED SOFTWARE

SW needs, if any, will depend on the project you are working on. We have access to

- Microsoft SW at
(http://e5.onthehub.com/WebStore/Welcome.aspx?ws=5e7151bd-739b-e011-969d-0030487d8897&vsro=8).
- Oracle SW at

http://www.oracle.com/technetwork/java/javase/downloads/index.html

COURSE OBJECTIVES

This two-credit course is an experiential learning course where the only requirement is successful completion of a project provided by an institution. Students will interact with employees of firms who need real solutions to their business problems. Though projects vary, they include SW development, data analytics, technology selection, business process design, etc. For a successful completion the students will
- Elicit user requirements from project owners and users, and negotiate a project scope.
- Create a project plan and timeline to complete their project on time.
- Design a solution consistent with user requirements.

- Implement their design and test the final product.
- Document their design and implementation details (including user manuals if relevant).
- Present their solution to the project owner.

There is quite a bit of self-learning required. The class meeting times will be used to discuss projects, reinforce some of the course content you have covered earlier in the program and cover new material as needed.

ASSURANCE OF LEARNING

Each program at the Warrington College of Business Administration has developed goals and objectives that express the most valued skills and knowledge that students should be able to demonstrate upon completion of the total learning experiences in that program. The following goals are mapped to QMB6930.

- <u>Learning Goal 1</u>: Our graduates will be knowledgeable in core Information Technology, Decision Support, and Analytical Skills.
- <u>1B</u>. Students will demonstrate competency in: Database Design; Systems Analysis and Design; Telecommunication Strategies and Technologies; Network Security; Analytical Tools, and Project Management.
- Think critically and analytically in formulating business solutions.

COURSE EVALUATION

Assignments—There are no specific assignments however there will be specific deliverables during the semester.

Exams/Quizzes -- There will be no exams or quizzes.

Grading— I will grade your in-progress deliverables. Your final grade depends on the feedback from the project owner and my evaluation of your final project.

You are expected to calculate your own grade based on the following weights and scale (A at 93, A- at 89, B+ at 85, B at 81, B- at 77, C+ at 73, C at 70, C- at 67, D+ at 63, D at 60, D- 57, E below 57).

- **Deliverable 1** - Requirements elicitation and Project plan	20%
- **Deliverable 2** - Design of solution	20%
- **Deliverable 3** – Prototype	10%
- **Final Report and presentation**	50%

ACADEMIC DISHONESTY

For any academic class activity, students must follow the University of Florida Student Honor Code (http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php). **Any violation of the honor code will automatically result in a grade of E (Fail) for this course and further sanctions that may include a suspension or expulsion from the University.** All incidents will be reported to Student Conduct and Conflict Resolution at the University of Florida.

CLASS POLICIES AND PARTICIPATION

By enrolling in this course **you agree to abide by the following policies.**

ATTENDANCE

Attendance is <u>compulsory</u>.

MAKE-UP WORK

No makeup work will be provided for this course. All members must be present for all team activities, including presentations.

EXTRA CREDIT

There will be **no extra credit work available** at any time for any part of the coursework.

LAPTOPS

You can bring your laptops to class since we may have short tutorials from time to time. However, you need to keep them turned off all other times.

CELL/SMART PHONES IN THE CLASSROOM

Absolutely no cell/smart phones can be used in the classroom during lectures and exams.

STUDENTS WITH DISABILITIES

Students requesting special classroom accommodations must first register with the Dean of Students Office and obtain the necessary documentation to request appropriate in-class accommodations.

Current Projects

Top Program Dependency/Health Dashboard
Institution: Raymond James Financials
Contact: Golan Rotenberg

<u>Challenge</u>: Managing the complex dependencies across the Top Program Portfolio is a labor intensive and challenging effort. As dependencies change across the portfolio (Resources, Deliverables, Dates, etc..) management needs to be aware of the overall impact to each of the projects within the portfolio in order to make corrective actions.

<u>Opportunity</u>: Assess vendor technology or prototype solution that will track enterprise level dependencies for the Top Programs. Include workflow with real-time status updates and a health check dashboard.

Extensible Workflow and Delegation Hierarchy
Institution: Raymond James Financials
Contact: Golan Rotenberg

<u>Challenge</u>: An enterprise wide solution for application workflow and delegation does not exist which creates challenges when supervisors need to delegate an application function to another user.

<u>Opportunity</u>: Create a prototype of a solution that will store the different workflow and delegation hierarchy for various applications. Demonstrate the UI, Services, and DB components that will be required for maintenance and how the different application will interact with the new tool.

Mobile Application for Directory Lookup
Institution: Raymond James Financials
Contact: Golan Rotenberg

<u>Challenge</u>: Users do not have the ability to search or perform a lookup for another associate to obtain directory level information. (Phone, email, title, etc…). This causes challenges when users are not in front of their PC but need to get a hold of someone.

<u>Opportunity</u>: Prototype a mobile directory solution that integrates with our mobile security platform, MobileIron

ExonMobil Recruiting Management Tool
Institution: ExxonMobil
Contact: Michael Adrian

Many of the recruiting processes that the ExxonMobil UF recruiting team uses today are painfully manual in nature.

Automating these recruiting processes will enable the recruiting team to spend more time building better relationships with the students and future employees of ExxonMobil.

To help accomplish this goal, a solution would have the following key features:

- Quickly store / access candidate information

- Schedule candidate interviews

- Send targeted email communications and calendar invites

- Device agnostic support and formatting (e.g., works on a PC, phone, or tablet).

Malignant Hyperthermia North American Data Registry

Institution: UF Health
Coordinator: Patrick Tighe MD MS

Overview

Malignant hyperthermia (MH) is a rare disease characterized by muscle rigidity, excessive carbon dioxide production, fast heart rate, and extreme hyperthermia affecting between 1:5000 and 1:50000 patients undergoing general anesthesia using anesthetic vapors. Untreated, the mortality is estimated at 75%; prompt treatment may reduce the mortality rate to approximately 5%.

Due to the relative rarity of disease (many anesthesiologists will encounter only one-two cases over their professional lifetime), the Malignant Hyperthermia Association of the United States (MHAUS) has implemented a number of strategies to reduce the risk for surgical patients. MHAUS has developed a protocol for treatment, staffs a hotline 24/7 to support physicians caring for suspected MH patients, and has developed a national registry of MH cases to track patterns in disease and recovery across North America.

In 2017, the University of Florida was designated the coordinating center for the MHAUS national registry. This system is currently in the design phase. The registry will track cases reported by patients, patient families, clinicians, and laboratories from across the US. Data may be entered for both clinical and research purposes, and may contain varying degrees of identifiable and sensitive data. Data entry mechanisms can include paper forms (rare), telephone calls to a UF research coordinator, or direct entry into a web form created using the REDCap system (web platform over MySQL database). The UF system will need to extract, transform, and load (ETL) existing database (MSSQL) and paper records from a preexisting database housed at the University of Pittsburgh.

Student Objectives

Students may be involved at varying levels of scope, system/sub-system design, and system implementation. Following implementation, there will be copious opportunities for analysis including potential consideration of unstructured data elements. Dissemination of findings, marketing of efforts, and user interface testing/refinement also possible depending on student interest. Students will need to interact with project participants at several levels including multiple healthcare executives with varying financial and policy incentives.

Perioperative Cognitive Anesthesia Network (PECAN)

Institution: UF Health
Coordinator: Patrick Tighe MD MS
PI: Cate Price PhD

Overview

Following major surgery, up to 10% of older adults will suffer cognitive deterioration in the months afterwards. While numerous mechanisms remain under active exploration, to date researchers have yet to identify a key process mediating this postoperative cognitive decline. However, observational studies thus far do suggest associations between increasing age, lower baseline cognitive status, and lower education levels.

In 2017, the University of Florida launched the Perioperative Cognitive Anesthesia Network (PECAN) to enhance the research and care of those older adults at-risk for perioperative cognitive difficulties. This team brings together a host of experts in neuropsychology, anesthesiology, surgery, pain management, statistics, neuroimaging, and machine learning to address preoperative, intraoperative, and postoperative facets of this challenge. UF is one of the only institutions in the world to maintain a preoperative evaluation clinic dedicated to evaluating and caring for this patient population.

Given the wide array of experts in PECAN, it is perhaps unsurprising that there are an incredibly diverse set of data flows. Many data sources involve unstructured, narrative text documents in need of feature extraction via natural language processing. Other data challenges require systematic unification of neuroimaging voxels alongside graph/network data, as well as more structured sets of features. Still other aspects of this collaborative explore semi-autonomous data collection both as preoperative predictors as well as indicators of postoperative function.

Student Objectives

Students may be involved at varying levels of scope, system/sub-system design, and system implementation. Following implementation, there will be copious opportunities for analysis including potential consideration of unstructured data elements. Dissemination of findings, marketing of efforts, and user interface testing/refinement also possible depending on student interest. Students will need to interact with project participants at several levels including multiple healthcare executives with varying financial and policy incentives. The final project or subprojects must be operational and durable over extended periods of time.

Deep Dive into Student Performance in the Warrington MBA programs[1]

Institution: Warrington College of Business
Coordinator: John Gresley, MBA Director

Data about current and former MBA students are stored in several databases in different formats, and as such, cannot be analyzed easily. The MBA office is interested in
   (1) creating processes to merge and validate the data
   (2) analyzing the data to understand patterns such as predictors of academic success, placement patterns, etc.

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[1] This description is based on a conversation with the Director of the MBA programs. The final requirements are likely to change. It may also need additional approvals and may not be available for Spring 2018.

QMB6930 - Tentative Schedule

Week	Topic	Readings/Assignments Due
1	Syllabus Meeting with project owners (throughout the week)	
2	Meeting with project owners	
3	**Speaker** (TBD) – The art and sciences of requirements elicitation	
4	**Speaker** (TBD) – Creating a project plan (deliverables, roles, expectations, timelines)	Deliverable 1 – Friday
5	**Speaker** (TBD) – Documenting your design	
6	Lecture (Haldun) - RAD/Prototyping/Visual Development	
7	**Lecture** (Haldun) – Working with Data	Deliverable 2 – Friday
8	Finals week – no class	
9	Spring Break	
10	**Speaker** – Preparing effective presentations	
11	**Speaker –** Testing (Dr. Seema Bandyopadhyay)	
12	Prototype Presentations	Deliverable 3 – In-class presentation
13	Lecture (TBD) – Application Security	
14	In-class discussions	
15	In-class discussions	
16	Final Presentations	Deliverable 4 – Final Report