

## OVERVIEW

The Information Systems Milieux course includes an interactive, case-based team project. The project involves development *of a business case and prototype solution of an emerging technology to solve existing business problems*. Included in this document are the project overview, requirements and deliverable due dates, and grading rubrics.

Upon successful completion of the project, students will have gained an understanding of information systems and associated topics. Specific learning objectives are:

- Analyze various systems at multiple levels of the enterprise architecture view including the enterprise strategy, business, application, information, and infrastructure layers.
- Identify key issues and apply fundamental concepts (including competitive advantage strategies) to a real-world business case.
- Apply structured approaches and techniques to designing and building an information system prototype (i.e., learn a new technology).
- Demonstrate your responsibilities and contributions in a team-based environment based upon pre-negotiated group timelines, roles and deliverables.

## REQUIREMENTS AND DELIVERABLES

Assume your team has been hired as external consultants for Big Skinny to address several challenges they are facing (see the corresponding case). Detailed below are the requirements and deliverable due dates associated with the project.

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|---------------------------------|---|
| • Presentation (Team)           | Presented in class on May 2 <sup>nd</sup> |
| • Executive Summary (Team)      | Due May 4 <sup>th</sup>                   |
| • IS Prototype (Team)           | Due May 4 <sup>th</sup>                   |
| • Reflection Essay (Individual) | Due May 4 <sup>th</sup>                   |

### Presentation

***Each team is expected to give a formal presentation in class on May 4<sup>th</sup>***

A group presentation of the executive summary and a demonstration of the prototype are required. Each group will give a 5-minute presentation to discuss the project and demo your prototype. Be sure to introduce your prototype, the core functionality and other relevant analysis and design considerations. *Please note that the presentation should follow a business-style format*. Assume you are giving the presentation as your consulting firm to the Big Skinny executives (i.e., your audience is Kiril Alexandrov, CEO of Big Skinny).

Keep in mind that each team will be allocated a total of 5-minute blocks of time in which to give an oral report on your group project. ***DO NOT include more than 2 slides or spend no more than 1-2 minutes discussing the executive summary!*** The website prototype demonstration should be discussed in the most depth for approximately 3 minutes. ***Time limits will be strictly enforced – groups who exceed their 5-minute allotment will be interrupted!*** Everyone on the team must speak and participate equally in this presentation.

It is important to come to class on time on the presentation day. Your dress code is business casual (no jeans or sneakers). *Your classmates will judge the presentations* – voting for rewards on a variety of categories will be discussed in class. Categories include: best dressed / best presentation, best case analysis, most innovative prototype, and overall best project.

## Executive Summary

***Due May 4<sup>th</sup>***

The Big Skinny executive team has heard that enterprise architecture is important for companies looking to succeed with IS. They hired your consulting team to conduct an analysis of the company's enterprise architecture and key strategic goals. They also want you to provide feedback on areas of improvement. They would like an executive summary that details this analysis. This is an opportunity to apply course material and creative thinking in designing an overall business-IS solution to the case.

Submission: The executive summary is a written report for the executive management of Big Skinny. The executive summary should follow a business-style format (using headings, bulleted lists, and concise language). Your analysis should be included in a PDF document.

Suggested Outline (approximately 2 to 3 pages in length – excluding the cover page or appendixes):

- Cover Page: The cover page should include the title, consulting firm name, team member names, course information and the date.
- Strategic Analysis and Recommendations:
  - Apply Porter's five forces to the wallet (or the global handbag / purse) industry. Describe how Big Skinny is competing in the industry (i.e., what are they doing well and where can they improve)?
  - There are a wide variety of online advertising technologies outlined in the case. It is important to understand the strengths and weaknesses of each technology. Some technologies (such as sponsored search or display advertising) attract consumer traffic. Others (such as most site-based interactive media) increase the likelihood that a site visit will lead to a sale. Still others (such as A/B testing) allow the advertiser to evaluate and improve its online presence. Identify one strength and one weakness of each of the outlined technologies. Which technology (or technologies) is most important for Big Skinny? Why?
  - Identify three ways Big Skinny could use IS to excel and innovate going forward. These suggestions can be new uses of IS or extensions / improvements of existing solutions (as gathered from the case or through your research). Prioritize the recommendations based on relevant factors (such as financial implications, customer experience, growth potential, etc.). Suppose Big Skinny were to implement the recommendations you have suggested. How does Big Skinny know that the new solutions are working?
- References: Identify and use at least three reputable references to support your analysis.

## IS Prototype

***Due May 4<sup>th</sup>***

The Big Skinny executive team has also identified several areas where they would like your team to develop two prototypes (a website and an ERD) to help them think through their next major implementation. This is an opportunity to apply course material and creative thinking in designing a technical solution to the case.

Website Prototype: The team should redesign the homepage and supporting pages in the website (e.g., men's wallets, women's wallets, card cases, RFID wallets, etc.). The Big Skinny executive team has outlined the following priorities:

- 1) Select a target user group. Decide if the website prototype is intended for general (all types) of customers. Or you can create a version of the website prototype that is for a specific customer type. For example, how might the website design and content be specific for your customer focus (i.e., pick one user type such as college students, working professionals, parents, travelers, etc.). The team should be explicit in the user type (general or specific) and the users must be considered throughout the design and implementation.
- 2) Create a general design aesthetic that better showcases their 'street fair' sales culture.
- 3) Reorganize the site's information architecture as many customers have complained about the difficulty in finding products and navigating the organization.
- 4) Simply the content of the nine pages into 2-3 pages with more images, videos and less text. You do not need to create text (placeholder text is okay) but navigation labels and headings should be accurate.

- 5) Select an additional interactive content feature to include or improve – possible suggestions outlined in the case include: an interactive wallet selection guide, browsing products in a way that follows a street fair approach or a website contest for coupon prizes. The additional feature is considered to be a prototype and thus does NOT have to be a fully functioning application, but rather a front-end only website. For instance, if you include a shopping cart feature that mimics a street fair – this can be hard coded and only demonstrate the process without fully functioning (e.g., clicking “place order” might redirect to a new HTML page that is hardcoded with purchase confirmation without making a real purchase or update to a database).

You must use HTML, CSS and JavaScript to create the prototype. You are welcome to experiment with CSS templates, frameworks or JavaScript libraries. The team will likely need to create content (logos, images, text (placeholder text is okay), etc.) and determine the objectives and the user stories given materials presented in the case. Creativity is key – think outside of the box and be innovative!

It is up to each team to discuss their capabilities and possible implementations that satisfy the needs of Big Skinny. Students are expected to challenge themselves with the prototype – specifications that do not relate to the case or are not effective (too simple) will not receive full credit. The prototype may act as a proof of concept for a larger system that students are not able to fully implement in this course. Generally the prototype should contain a minimum of 4-5 pages with 8-10 user stories (functional or semi-functional). Teams should consult the instructor with questions about the level of difficulty or appropriateness as needed.

Database Prototype: Big Skinny experienced an issue with online promotions – allowing 4,000 people to order wallets for basically free. The executives at Big Skinny would like your team to create an ERD that designs their online sales database so that they can verify their current model is correct. Your ERD should include all entities, attributes (including primary and foreign keys) relationships (including modality and cardinality) and any assumptions.

The database will be used to track sales that occur online only (street fair and store sales are excluded). Each order will have a date and time of purchase, the location of the purchase such as an IP address and the customer number. You can assume each customer has a unique customer ID that is used to track customers in another customer relationship database (i.e., you do not need to store any additional customer information such as name or address). Payment information (such as credit card number) and shipping information is also stored in the customer information database and can be excluded from your ERD. Each order can include one or many products from the Big Skinny inventory. Each product has a name (such as the ‘executive checkbook bi-fold wallet’), a long description, a price, a weight, dimensions of height, width and length (measured in inches), and a color. The colors of each wallet include (ocean blue, tuxedo black, red, graphite and chocolate brown) with a longer description of the hue. Some colors are more expensive than others. A wallet also belongs to one or more categories such as (best seller, new arrival, men’s, women’s, car cases, travel wallets, etc.). The database should also store coupon promotions. These promotions will have a name (e.g., spring sale), a percentage amount off the total order and start and end promotion runs. A coupon can be applied to any order.

Submission: To submit the website prototype and ERD – you should organize your work in a PDF document (with relevant attachments).

Suggested Outline (approximately 3 to 4 pages in length – excluding the cover page or appendixes):

- Cover Page: The cover page should include the title, consulting firm name, team member names, course information and the date.
- Website Prototype: Summary of the prototype your team developed including screen shots of each of the webpages. Also include any supporting documentation to demo the implementation (e.g., URLs of the deployed application (not required), append source code files in a zipped folder (required if the prototype is not deployed)).
- Website Prototype Implementation: In this section, you should include: 1) a description of the methodology that was used to create your website prototype (e.g., structured or agile); 2) a task breakdown with tasks, planned and actual deadlines; 3) a list of the major requirements (user

stories) addressed in the prototype; and 4) a summary of the successes and areas for improvement if extra time was given.

- ERD Prototype: A one page ERD that includes the entities, attributes (including PKs and FKs), and the relationships (including modality and cardinality).

### **Individual Reflection Essay**

#### ***Due May 4<sup>th</sup>***

The last deliverable is an individual reflection essay. The essay should be no more than 1 page in length (single spaced, 12-point font) and completed/submitted individually by each team member (all submission will be kept confidential from other team members). You should describe your specific contributions to the project. You should also describe what every other team member contributed to the project (e.g., effort spent, cooperativeness, accessibility, and communications skills). State if you would be willing to work with each individual in a future project and why or why not. Finally, you should identify at least three lessons you have learned from the group project experience and how these might prepare you for future courses.

### **GRADING RUBRIC**

The project is 10% of your final course grade and based on several components:

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|--|-----|
| • Presentation (one grade per team)                      | 20% |
| • Executive Summary (one grade per team)                 | 25% |
| • IS Prototype (one grade per team)                      | 40% |
| • Individual Reflection Essay (one grade per individual) | 15% |

This is a team assignment. Your team should complete the deliverables together and turn in one copy for the team. Everyone on the team will be fully accountable for the team's deliverables and will earn the same grade for all the components except for the individual reflection essay. Peer evaluations included in the individual reflection essay will be used to adjust any team member's grade, either up or down, if necessary.

You will be evaluated on the following rubric for the final presentation:

<b>Component</b>	<b>Sophisticated</b>	<b>Competent</b>	<b>Not Yet Complete</b>
Content and Creativity (40 Points)	The presentation contained an abundance of material, which clearly related to the main arguments. External research was used to justify arguments or solutions. The presentation of the material was original and presented in a creative way that held audience attention.	The presentation contained material to support the main arguments, but: 1) not all material clearly related to the arguments; 2) limited external research was used to justify arguments or solutions; and/or 3) the presentation of the material was appropriate, but somewhat held audience attention.	The audience had to make considerable effort to understand the underlying logical and flow of ideas. Major aspects of the analysis or recommendations were absent. No external research was used to justify arguments or solutions. The presentation lacked creativity and did not hold audience attention.
Coherence and Organization (30 Points)	The thesis, argument and solution were clearly stated and examples were appropriate. The transitions and flow were easy to follow. Slides were error-free and logically presented.	The thesis, argument and solution were clearly stated, but: 1) not all examples were supportive illustrations; 2) the transitions and/or flow were somewhat difficult to follow; and/or 3) slides were error-free and logically presented.	The thesis, argument, solution and examples were not clearly stated. The conclusion was unclear. The transitions and flow were not logical. Slides contained errors and a lack of logical progression.
Speaking Skills and Participation (30 Points)	Team members were poised and had clear articulation. Every team member spoke and participated at a very high and balanced level. Speakers demonstrated good volume, and eye contact. Enthusiasm and confidence was exuded. The presentation fit into the 5-minute allotment.	Team members were mostly audible and/or fluent on the topic, but: 1) not all team members spoke and/or participated in a balanced level; 2) speakers demonstrated fair volume and/or eye contact was broken with audience; 3) light discomfort with public speaking was exuded; and/or 4) the presentation slightly went over the 5-minute allotment.	Team members were often inaudible and/or hesitant and relied heavily on notes. Speakers made distracting gestures with little or no audience eye contact. A high level of discomfort with public speaking was exuded. The presentation went over the 5-minute allotment.

You will be evaluated on the following rubric for the executive summary:

<b>Component</b>	<b>Sophisticated</b>	<b>Competent</b>	<b>Not Yet Complete</b>
<b>Teamwork (25 Points)</b>	The team worked well together to achieve objectives. Each member contributed in a valuable way to the project. All data sources indicated a high level of mutual respect and collaboration.	The team worked well together most of the time, with only a few occurrences of communication breakdown or failure to collaborate when appropriate. Members were mostly respectful of each other.	Team did not collaborate or communicate well. Some members would work independently, without regard to objectives or priorities. A lack of respect and regard was frequently noted.
<b>Contribution (25 Points)</b>	All requirements and objectives are identified, evaluated and competed.  The deliverable offered new information or approach to the topic under discussion. Likewise, the solution is based on stated criteria, analysis and constraints.	All requirements are identified and evaluated but some objectives are not completed.  The deliverable offered some new information or approach to the topic under discussion. The solution is reasonable; further analysis of some of the alternatives or constraints may have led to a different recommendation.	Many requirements and objectives are not identified, evaluated and/or completed.  The deliverable offered no new information or approach to the topic under discussion. Few solution considerations are analyzed and other factors were ignored or incompletely analyzed.
<b>Subject Knowledge (25 Points)</b>	The deliverable demonstrated knowledge of the course content by integrating major and minor concepts into the response. The deliverable also demonstrated evidence of extensive research effort and a depth of thinking about the topic.	The deliverable demonstrated knowledge of the course content by integrating major concepts into the response. The deliverable also demonstrated evidence of limited research effort and/or initial of thinking about the topic.	The deliverable did not demonstrate knowledge of the course content, evidence of the research effort or depth of thinking about the topic.
<b>Supporting Material (20 Points)</b>	All relevant information was obtained and information sources were valid. Analysis and design considerations were well supported by the information.	Sufficient information was obtained and most sources were valid. Analysis and design considerations were mostly supported by the information.	Insufficient information was obtained and/or sources lack validity. Analysis and design considerations were not supported by the information collected.
<b>Composition (5 Points)</b>	The deliverable was well organized and clearly written. The underlying logic was clearly articulated and easy to follow. Words were chosen that precisely expressed the intended meaning and supported reader comprehension. Diagrams enhanced and clarified presentation of ideas. Sentences were grammatical and free from errors.	The deliverable was organized and clearly written for the most part. In some areas the logic and/or flow of ideas were difficult to follow. Words were well chosen with some minor expectations. Diagrams were consistent with the text. Sentences were mostly grammatical and/or only a few spelling errors were present but they did not hinder the reader.	The deliverable lacked overall organization. The reader had to make considerable effort to understand the underlying logic and flow of ideas. Diagrams were absent or inconsistent with the text. Grammatical and spelling errors made it difficult for the reader to interpret the text in places.

You will be evaluated on the following rubric for the IS prototype:

<b>Component</b>	<b>Sophisticated</b>	<b>Competent</b>	<b>Not Yet Complete</b>
Teamwork (30 Points)	The team worked well together to achieve objectives. Each member contributed in a valuable way to the project. All data sources indicated a high level of mutual respect and collaboration.	The team worked well together most of the time, with only a few occurrences of communication breakdown or failure to collaborate when necessary. Members were mostly respectful of each other.	The team did not collaborate or communicate well. Some members would work independently, without regard to objectives or priorities. A lack of respect and regard was frequently noted.
Contribution (30 Points)	The implementation offered new information or approach about the case. The implementation also showed strong effort was made in breaking new ground and building excitement about the solution.	The implementation offered some new information or approach about the case. The demonstration also showed initial effort was made in building excitement about the solution.	The implementation was not complete and offered no new information or approach about the case. The demonstration also showed that little effort was made in building excitement about the solution.
Content and Creativity (40 Points)	The implementation was imaginative and effective in conveying ideas to the audience.	The implementation techniques used were effective in conveying main ideas, but a bit unimaginative.	The implementation failed to capture the interest of the audience and/or is confusing in what was communicated.

You will be evaluated on the following rubric for the individual reflection essay:

<b>Component</b>	<b>Sophisticated</b>	<b>Competent</b>	<b>Not Yet Complete</b>
Contributions (50 Points)	The individual contributed in a valuable way to the project. The individual is also able to articulate the key performance criteria of successful teams and evaluate the group performance accordingly.	The individual did not contribute as heavily as others but did meet all responsibilities. The individual is also able to identify some key performance criteria of successful teams and/or draw related connections the group performance.	The individual did not contribute to the project and failed to meet responsibilities. The individual does not identify key performance criteria of successful teams or draw inference to own experience.
Lessons Learned (50 Points)	The individual had a level of engagement that demonstrated a strong commitment to the class and the learning outcomes. The voice of the individual writer is evident.	The individual had a level of engagement that demonstrated a commitment to the class and/or the learning outcomes. The level of analysis and reflection could have been deeper.	The individual had a level of engagement that did not demonstrate a commitment to the class or the learning outcomes. Conclusions simply involved restating information without reflective thought.