

**CORSICA Collaborative Outline**  
**Red Team**  
**Old Dominion University**  
**August 29th, 2014**  
**CS 411 Lab 1**

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## CS 411W LAB I - PRODUCT DESCRIPTION DOCUMENT

### 1 INTRODUCTION

### 2 CORSICA PRODUCT DESCRIPTION

#### 2.1 Key Product Features and Capabilities

#### 2.2 Major Components (Hardware/Software)

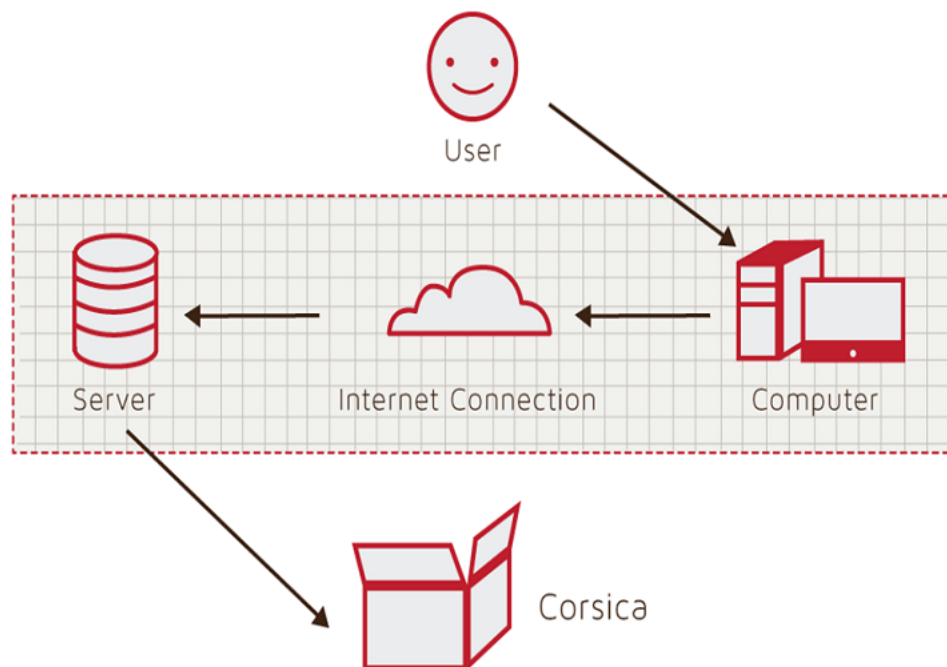


Figure 1

Hardware Components

### 3 IDENTIFICATION OF CASE STUDY

### 4 CORSICA PRODUCT PROTOTYPE DESCRIPTION

	Real World Product	Prototype
Environments for all Users:	Yes	No · Will demonstrate student, admin, and scheduler users
Notification System	Yes	No · Will be simulated with text box
Check for available seats	Yes	Yes
Add Student to Wait-list	Yes	Yes
Drop Student from Wait-list	Yes	Yes
Fair process	Yes	Yes
Alert System	Yes	No · Will be simulated with text box
Mostly automated	Yes	No · Will rely heavily on user interaction
Link to Banner	Yes	No · Will be loaded with data.txt files instead
Link to Leo-Online	Yes	No · Will be simulated with command box menu
GUI	Yes	Very Basic (Text System)
Seat Analysis System	Yes	No

Figure 2  
Real World Product and Prototype Comparison

### 4.1 Prototype Architecture (Hardware/Software)

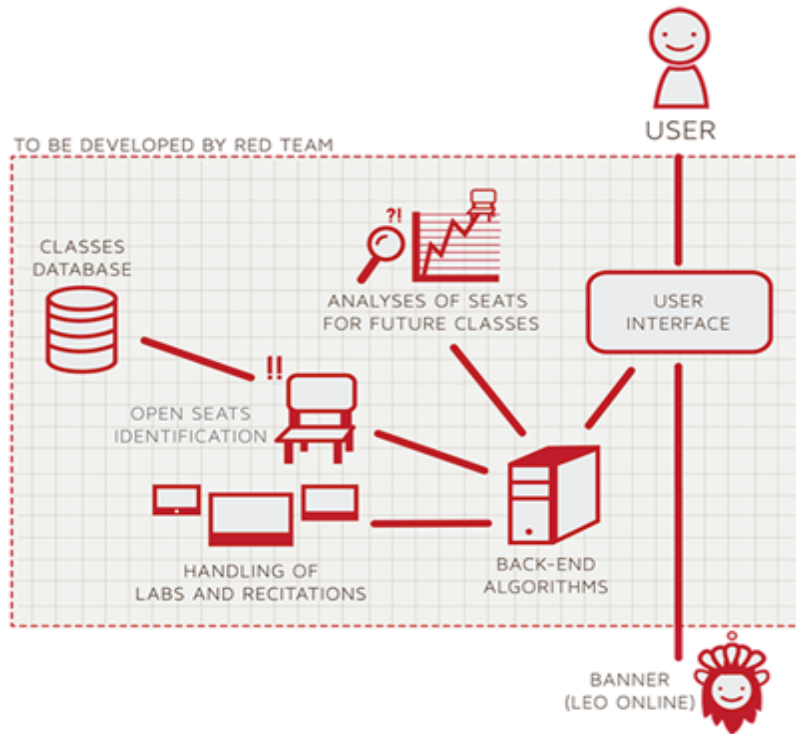


Figure 3

Prototype Major Functional Components Diagram

Algorithm	How it functions
Load Enrollment Data Files	Course data files are loaded into CORSICA.

	<p><b>Files contain course: Capacity, Number of Enrollments, and Available seats.</b></p>
<p><b>Open Course</b></p>	<p><b>An Administrator or Scheduler user logs into Banner and opens a course for students to enroll in.</b></p> <p><b>Banner database is updated</b></p> <p><b>CORSICA database is notified of change and is updated</b></p>
<p><b>Check for Open Seats</b></p>	<p><b>Once a course becomes full, a wait-list is activated for it by CORSICA</b></p> <p><b>CORSICA will continually reference the current course capacity and amount of students enrolled.</b></p> <p><b>If the amount of students enrolled is less than course capacity, a seat has become available.</b></p> <p><b>CORSICA database updates</b></p> <p><b>Calls notification algorithm</b></p>
<p><b>Add Student to Wait-list</b></p>	<p><b>Student X wishes to enroll in Course Y's wait-list</b></p> <p><b>CORSICA receives this request and adds Students X to wait-list queue</b></p> <p><b>Course Y's wait-list is updated</b></p>
<p><b>Notification</b></p>	<p><b>The check for open seats algorithm completes and returns true for an available seat</b></p>

	<p><b>All students on the wait-list queue are notified of opening</b></p> <p><b>Students respond</b></p>
<p><b>Drop Student from Wait-list</b></p>	<p><b>Student X wishes to be dropped from Course Y's wait-list or the time window for that student has expired</b></p> <p><b>CORSICA receives this request and removes Student X from the wait-list queue</b></p> <p><b>Course Y's wait-list is updated</b></p>
<p><b>Increase Course Capacity</b></p>	<p><b>Administrator logs into Banner and increases course capacity for Course Y</b></p> <p><b>Banner database is updated</b></p> <p><b>CORSICA database is notified of change and is updated</b></p>
<p><b>Close Course</b></p>	<p><b>An Administrator or Scheduler user logs into Banner and closes a course as an available option for students to enroll in</b></p> <p><b>Banner database is updated</b></p> <p><b>CORSICA database is notified of change is updated</b></p>

Figure 4

Description of Algorithms

## 4.2 Prototype Features and Capabilities

<b>Customer Risks</b>	<b>Technical Risks</b>
C1: Department Use Rejection	T1: Ability to Integrate with Banner
C2: Transition to New GUI	T2: Software Upgrades
C3: Cost of Product	T3: Availability of Server Storage
C4: Product Interest	T4: Security Vulnerability



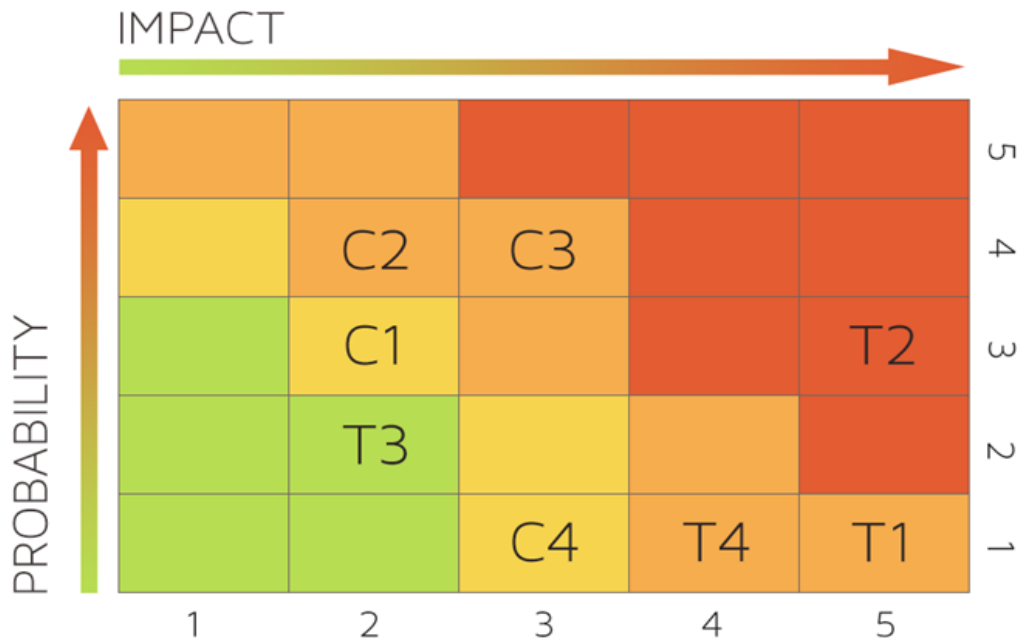


Figure 5

Risk Table and Matrix

### 4.3 Prototype Development Challenges

Objectives	Prototype	Challenges
<b>Environments for all Users:</b>	<b>No</b> · <b>Will demonstrate student, admin, and scheduler users</b>	<b>Working out all the bugs in CORSICA to allow all users to use CORSICA as intended</b>

<b>Notification System</b>	<b>No</b> · <b>Will be simulated with text box</b>	<b>Allowing CORSICA to sync EXACTLY with the University's Clock</b>
<b>Alert System</b>	<b>No</b> · <b>Will be simulated with text box</b>	<b>Making the Alert System actually recognize each change to help ensure intentional changes</b>
<b>Mostly automated</b>	<b>No</b> · <b>Will rely heavily on user interaction</b>	<b>Users need to be knowledgeable of CORSICA</b>
<b>Link to Banner</b>	<b>No</b> · <b>Will be loaded with data.txt files instead</b>	<b>Using Black Box Testing to certify the text file compatibility</b>
<b>Link to LEO Online</b>	<b>No</b> · <b>Will be simulated with command box menu</b>	<b>Maintaining LEO Online's layout while appending the CORSICA option on the course registration screen</b>
<b>GUI</b>	<b>Very Basic (Text System)</b>	<b>Coding a GUI that looks professional and is simple to navigate</b>

Figure 6

Prototype Challenges



## Glossary

• **Algorithm** - A set of steps that are followed in order to solve a mathematical problem or to complete a computer process.

•• **Banner** - Old Dominion University's centralized academic and administrative records system.

• **Browser** - A computer program that is used to find and look at information on the Internet.

•• **C++** - A general purpose programming language that is free-form and compiled.

•• **Cascading Style Sheets (CSS)** - A style sheet language used for describing the look and formatting of a document written in a markup language.

•• **Corsica Database (CDB)** - Corsica's prototype database that simulates Banner

• **Computer** - An electronic machine that can store and work with large amounts of information.

• **Database** - A collection of pieces of information that is organized and used on a computer.

• **E-mail** - A system for sending messages from one computer to another computer.

• **Graphical User Interface (GUI)** - A program that allows a person to work easily with a computer by using a mouse to point to small pictures and other elements on the screen.

**HyperText Markup Language (HTML)** - A computer language that is used to create documents or Web sites on the Internet.

• **Internet** - An electronic communications network that connects computer networks and organizational computer facilities around the world.

•• **Javascript** - A dynamic computer programming language, used as part of web browsers, whose implementations allow client-side scripts to interact with the user.

• **Laboratory** - A room or building with special equipment for doing scientific experiments and tests.

• **Lecture** - A talk or speech given to a group of people to teach them about a particular subject.

•• **MySQL** - A database management system.

• **Notification** - The act of notifying someone.

• **ODU** - Old Dominion University, a public 4-year university in Norfolk, Virginia.

•• **PHP** - A server-side scripting language designed for web development.

• **Prototype** - An original or first model of something from which other forms are copied or developed.

• **Recitation** - A class period especially in association with and for review of a lecture.

• **Server** - The main computer in a network which provides files and services that are used by the other computers.

• **SQL** - A programming language designed for managing data held in a relational database management system.

• **Text Message** - A short message that is sent electronically to a cell phone or other device.

• **University Identification Number (UIN)** - A unique identification number given out to students at Old Dominion University.

• **Wait-list** - To be put on a waiting list.

• Found at <http://www.merriam-webster.com/>

• Found at <http://en.wikipedia.org/wiki/>

• Found at <https://www.odu.edu>

## References

1. (March 24, 2014). Employment Projections. *Bureau of Labor Statistics*. Retrieved May 1, 2014, from [http://www.bls.gov/emp/ep\\_chart\\_001.htm](http://www.bls.gov/emp/ep_chart_001.htm)
2. Yu, R. (2012, September 3). Voice mail in decline with rise of text, loss of patience. *USATODAY.COM*. Retrieved April 27, 2014, from <http://usatoday30.usatoday.com/tech/news/story/2012-09-03/voicemail-decline/57556358/1>