

CORSICA

COMpuTeR ScienCe wAitlist

Milestone Presentation

CS410 Red Team

Team Corsica



Anthony Baron
Web Master



Patrick DeBerry
Reporting &
Analyses



Latimer Gerle
Database &
Project Manager



Nicholas LoGioco
Algorithms



Bitaseme Mboe
Interface



Lookmai Rattana
Front End Developer
& User Interface

cs.odu.edu/~410red

Outline

- Identification and Analysis of Societal Problem
- Identification and Analysis of Customer
- Current Process Flow
- Current Process with Proposed Improvements
- Solution Design
- Major Functional Components Identified
- Hardware Requirements Identified
- Software Requirements Identified
- Software Development Described
- Software Details & Logic Approach
- Technical Risks
- Customer Risks

What is Corsica?

- It is an improved waitlist management and enrollment system
- For the Computer Science Department

The Issue



Current system
causes
confusion



Time consuming



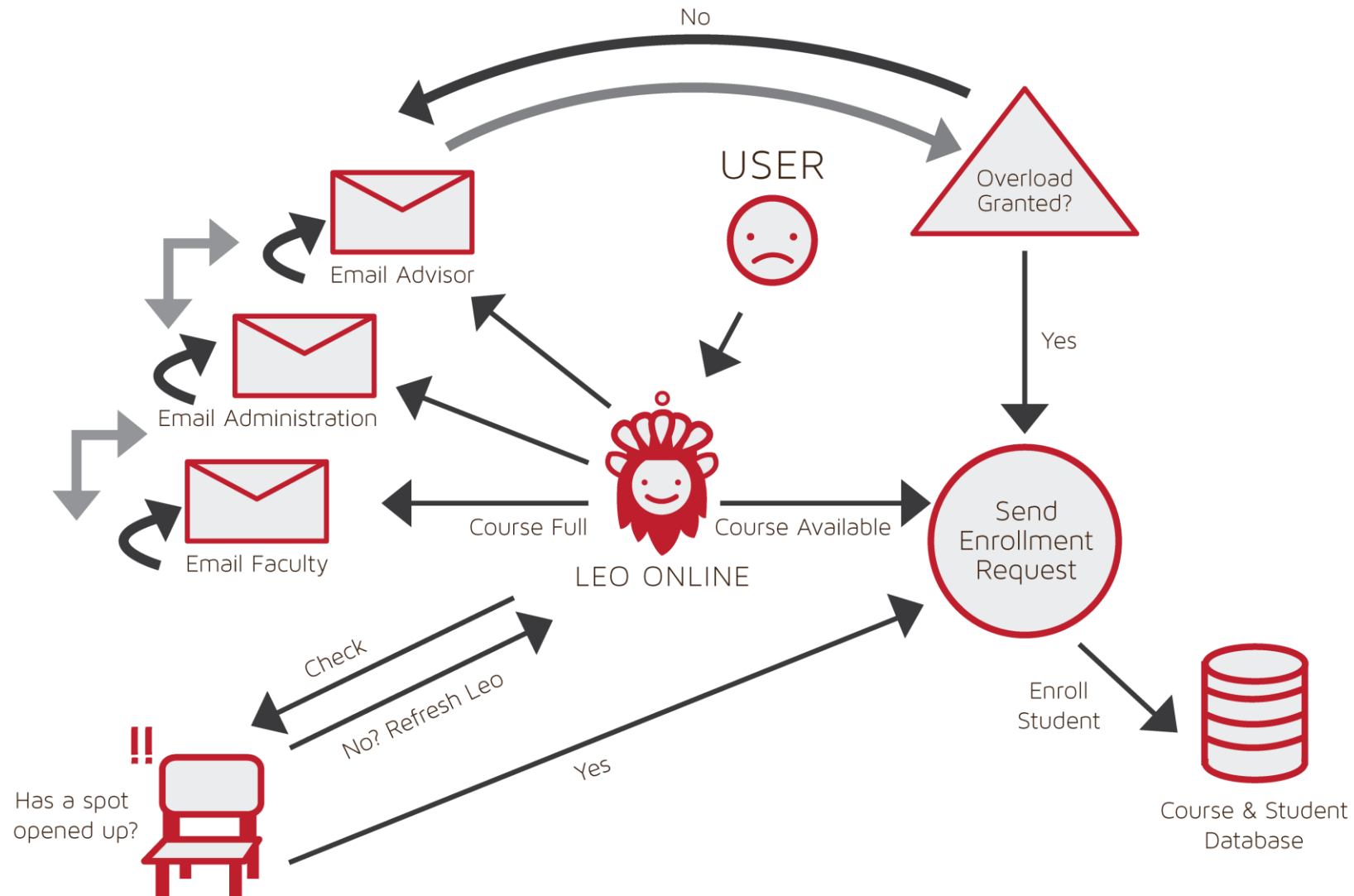
Insufficient and
Unfair

The current class enrollment system is insufficient for handling course overflows

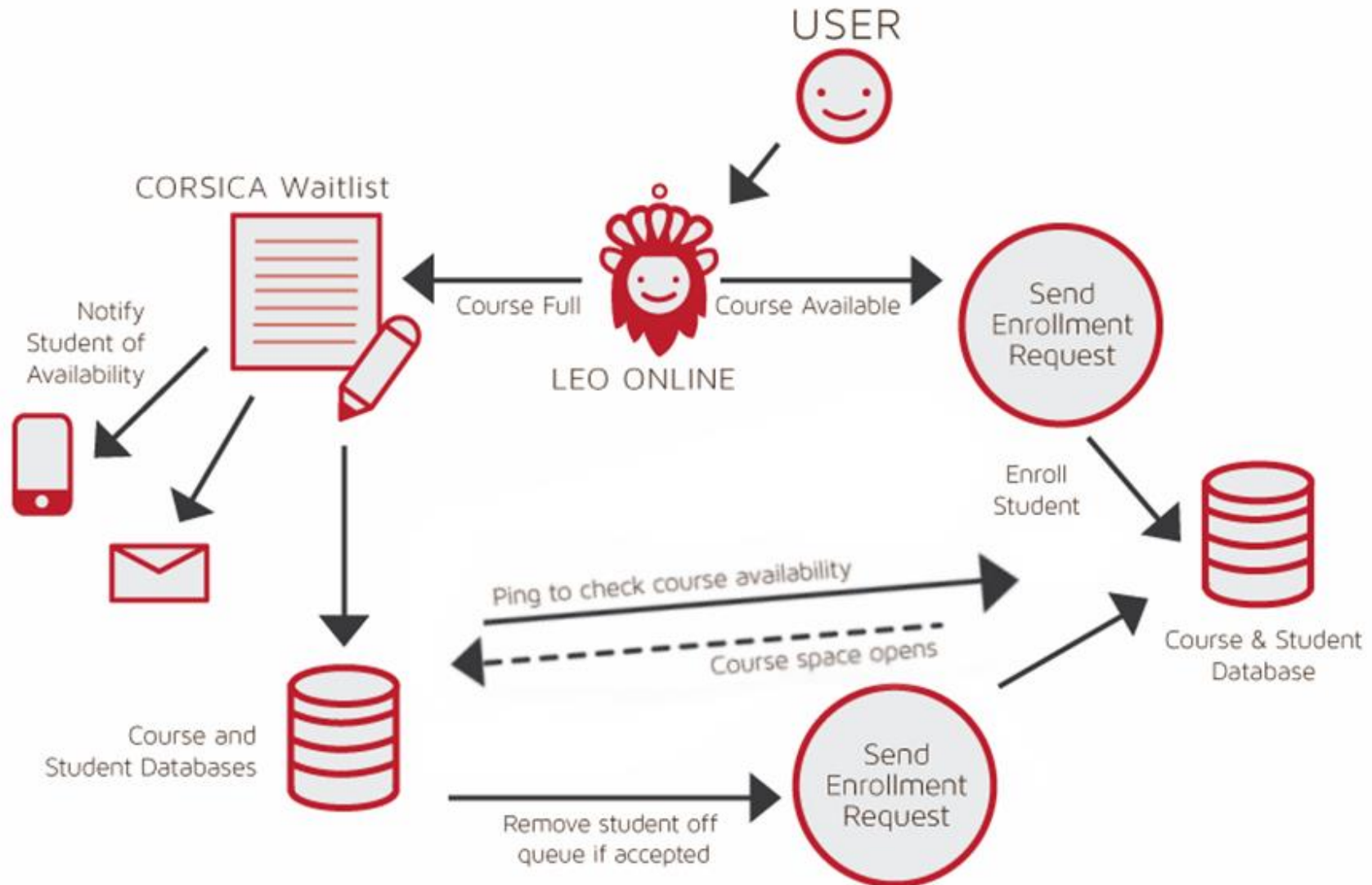
Who it affects

- Administration
- Advisors
- Faculty
- Students

Current Process



New Process Flow



Mission

- Corsica will cause the enrollment process to become more efficient and streamlined by
 - Improve course waitlist system
 - To handle course fill ups during enrollment process
 - Improve the communication system
 - Let students know a course has an open seat by email and/or text message

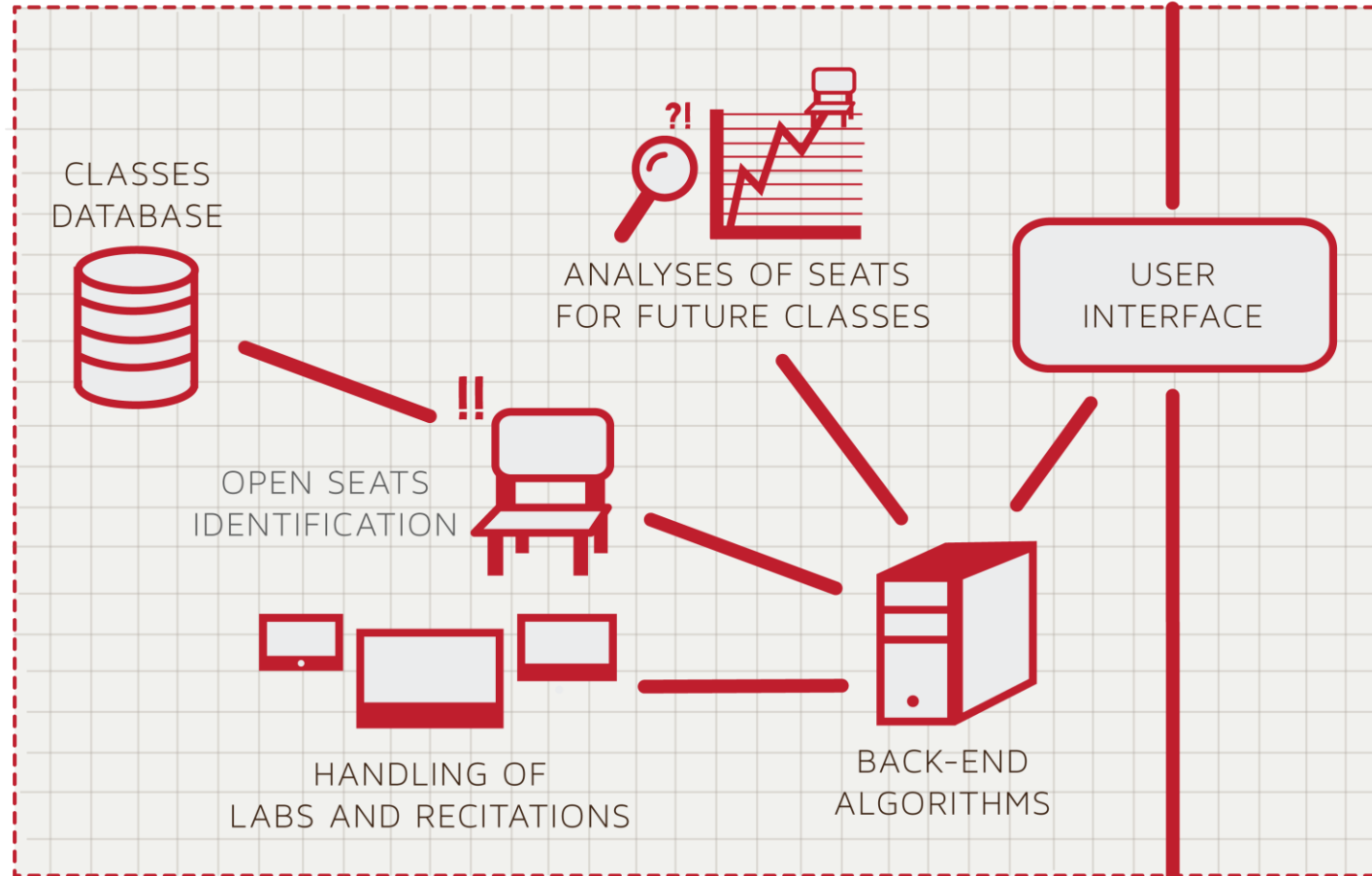
Solution Goals

- Provide automated system through which:
 - Faculty and students can be notified of available seats
 - Reserves the available seats for student on waitlist
 - Ensures fair process
 - Triggers alerts for enrollment aspects



USER

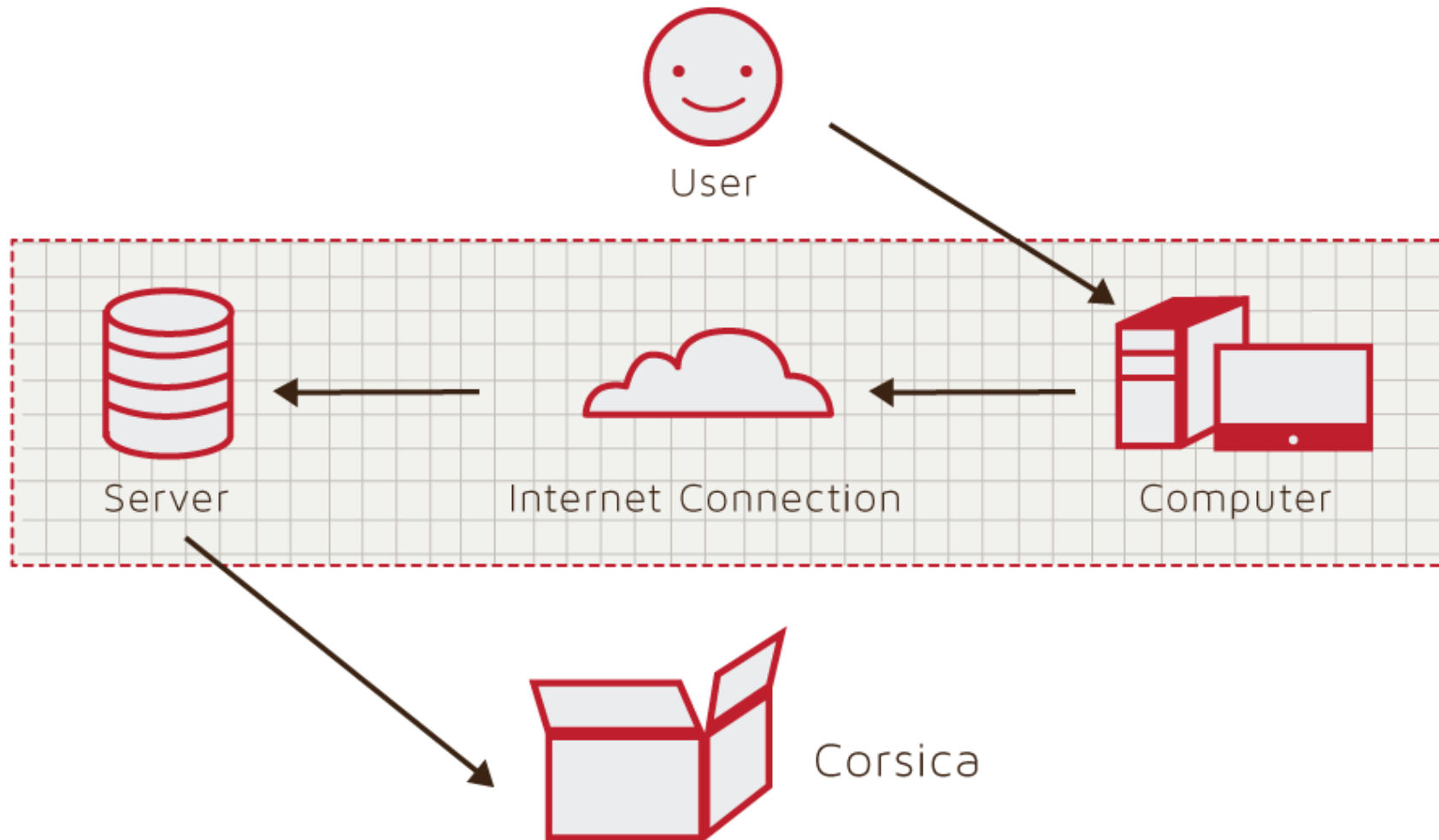
TO BE DEVELOPED BY RED TEAM



BANNER
(LEO ONLINE)



Hardware Requirements Identified



Software Requirements Identified

- Database
 - Essential information
- Algorithms
 - The workhorse behind CORSICA
- Interfaces
 - Variety of views
- Notification System
 - Notify students of an open seat
- Test Case
 - Test the capability of CORSICA

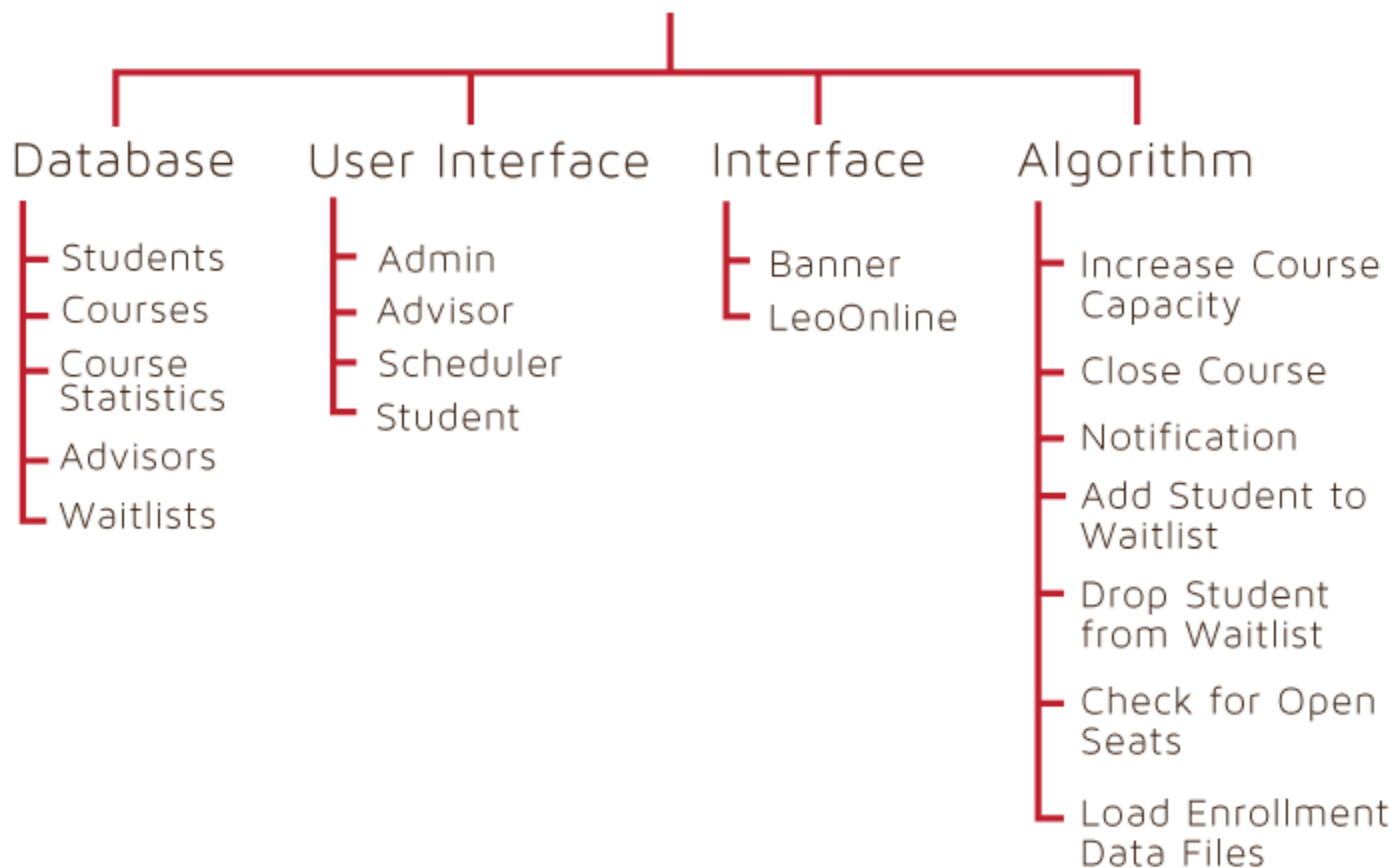
Software Development Described

- Algorithm:
 - C++
- Database:
 - MySQL
- GUI:
 - HTML
 - CSS
 - Javascript

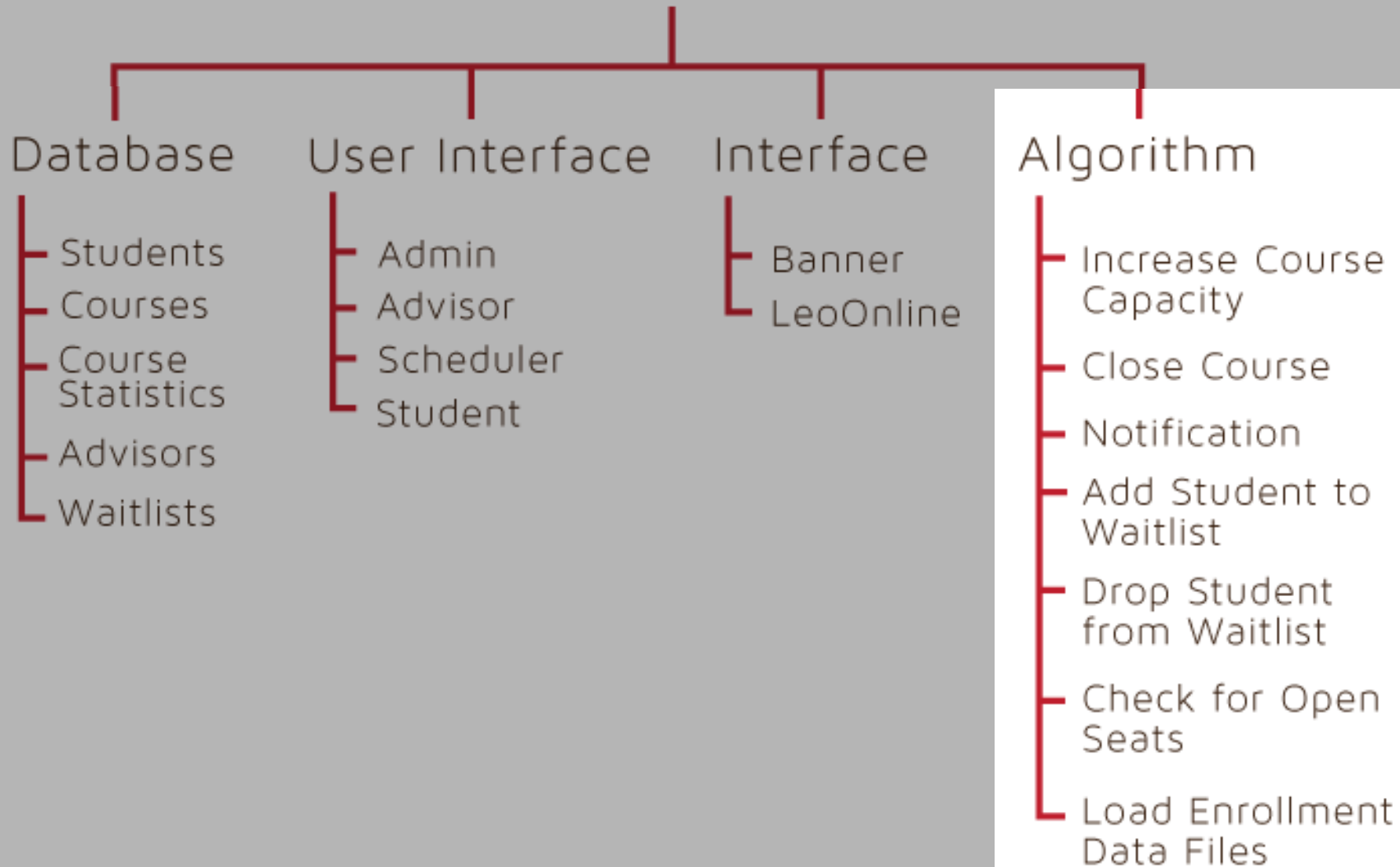
Software Details & Logic Approach

- Algorithm
- Database
- GUI
- Notification System

CORSICA

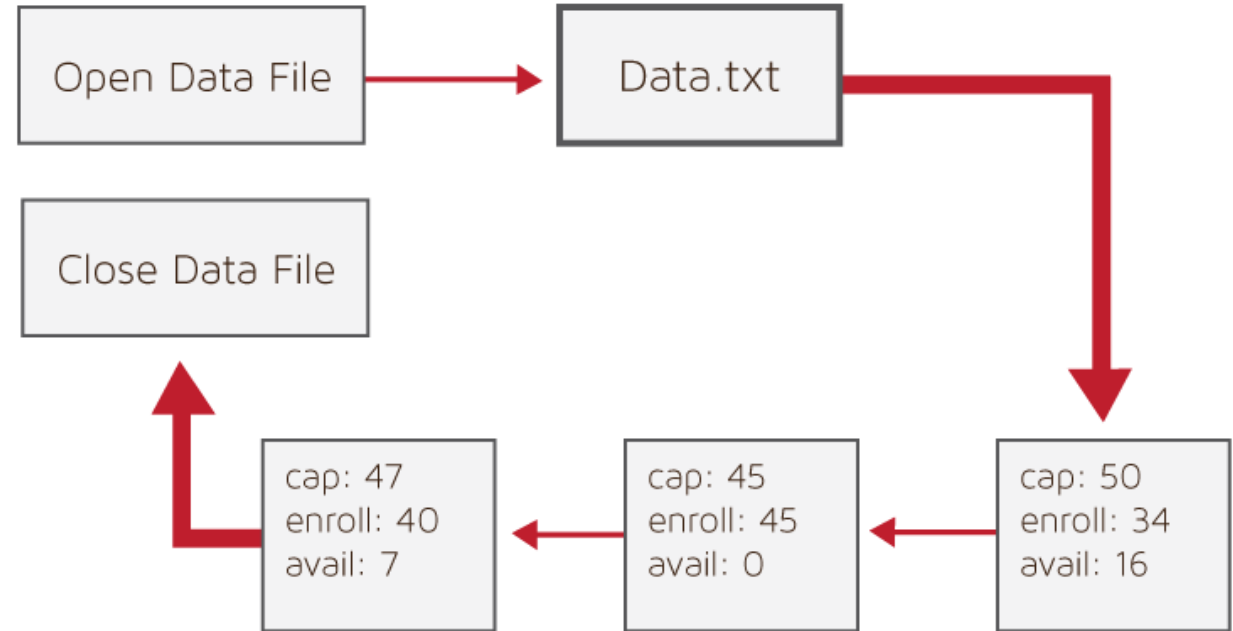


CORSICA



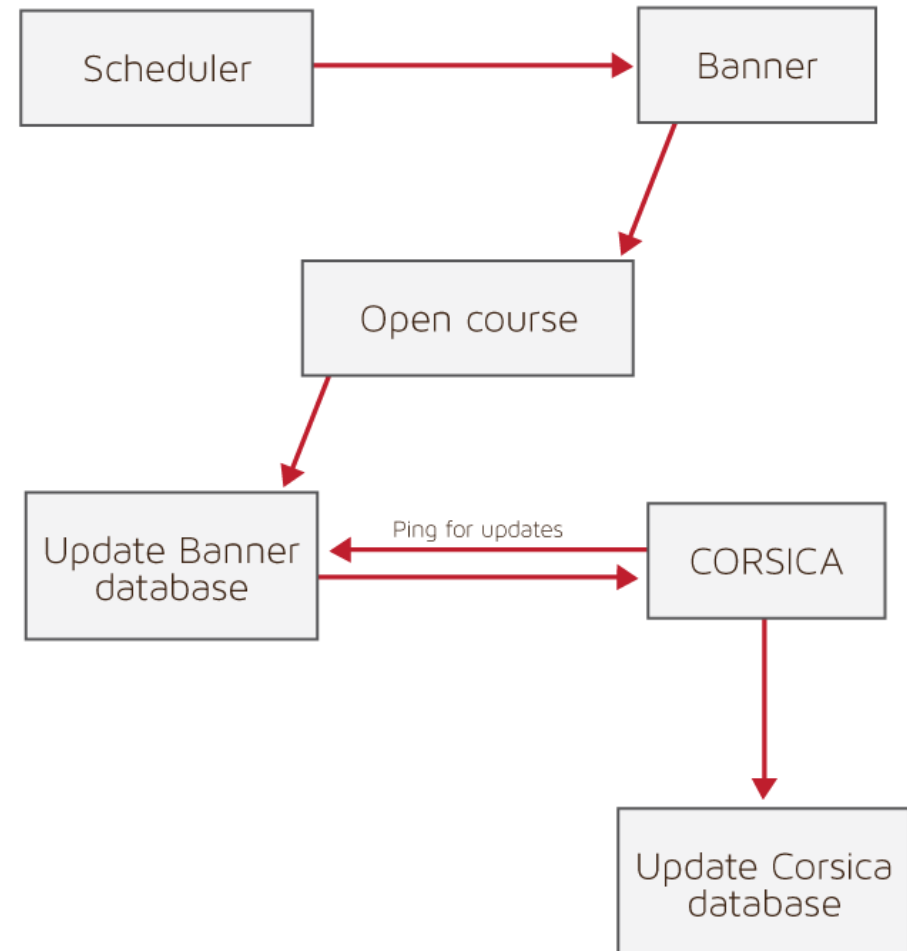
Algorithm: Load Enrollment Data Files

- Purpose: Load Corsica with course information
- Procedure:
 - Open data file
 - Copy data file information into Corsica
 - Close data file upon completion
- Data File Contents:
 - Course capacity
 - Course enrollments
 - Available seats



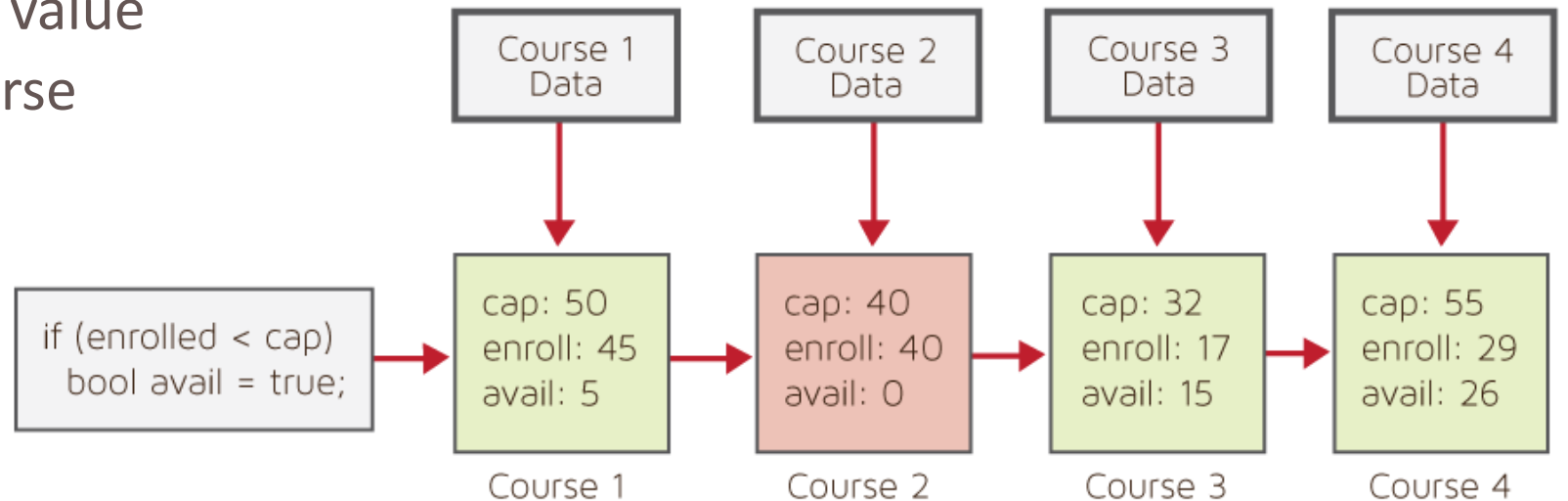
Algorithm: Open Course

- Purpose: Add course as waitlist option
- Procedure:
 - Scheduler locates course in Banner
 - Scheduler adds the course as available option
 - Banner database is updated
 - Corsica is notified of change
 - Corsica database is updated



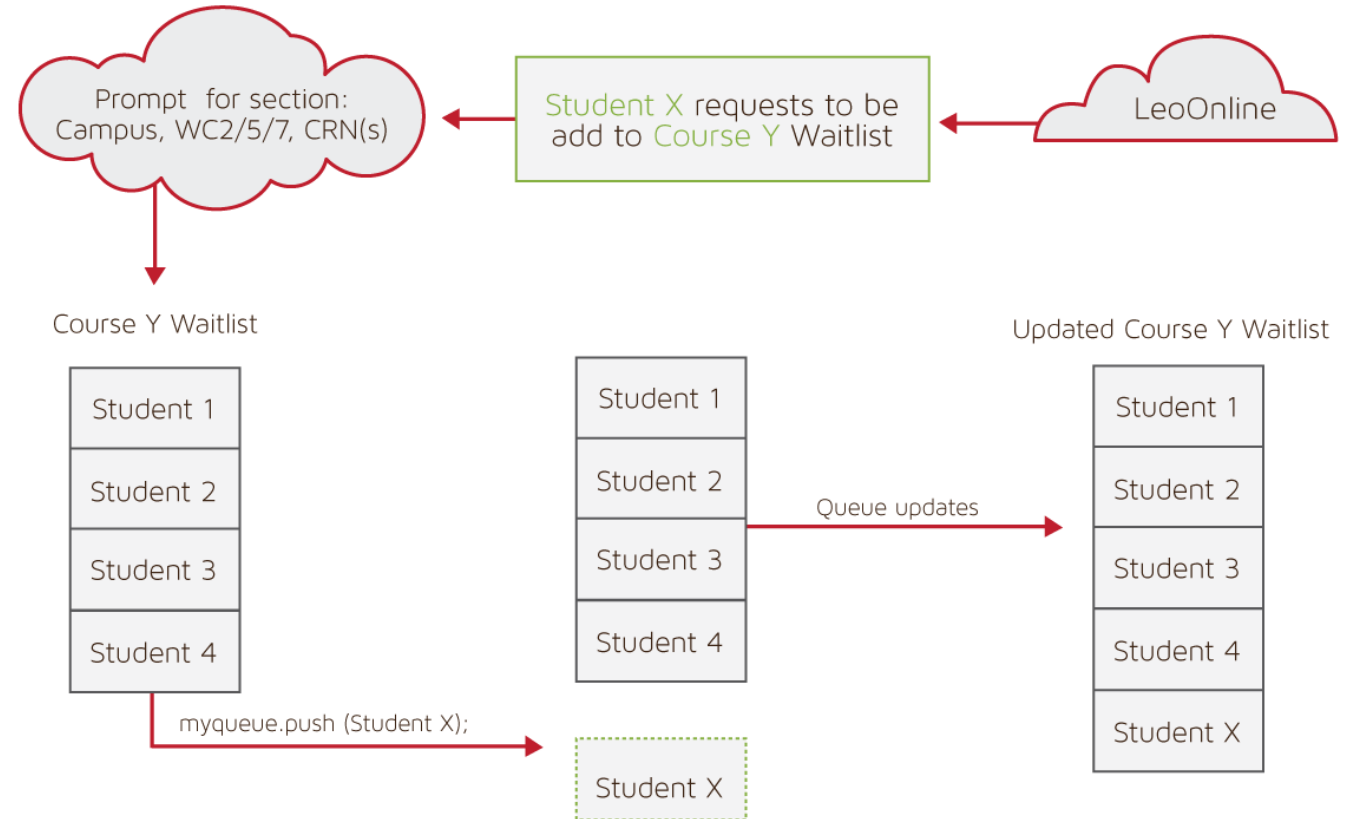
Algorithm: Check for Open Seats

- Purpose: Corsica functionality
- Procedure:
 - Pull course information
 - Check if there are available seats
 - Return a Boolean value
 - Move to next course



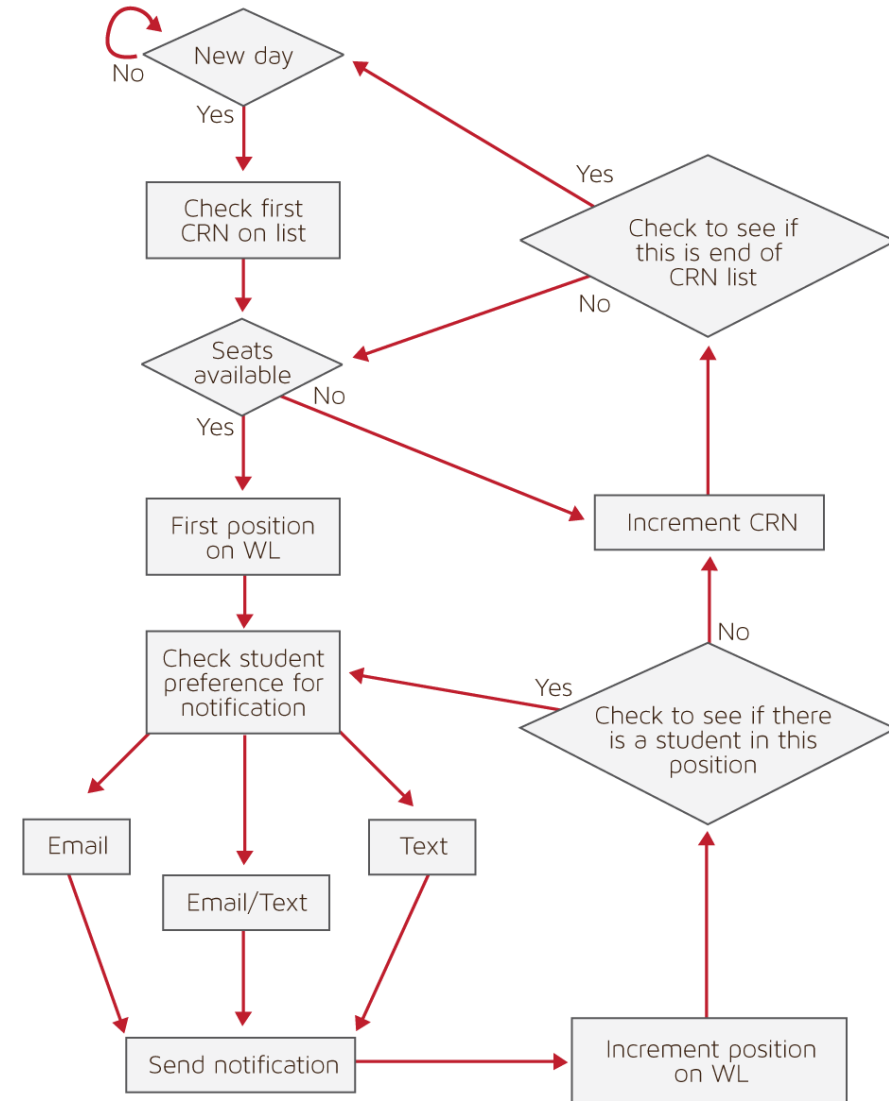
Algorithm: Add Student to Waitlist

- Purpose: Allow student to be placed on waitlist
- Procedure:
 - Student X wishes to be on Course Y waitlist
 - Student is prompted for section
 - Course Y waitlist is pulled up by Corsica
 - Student is placed at end of queue
 - Course Y waitlist updates



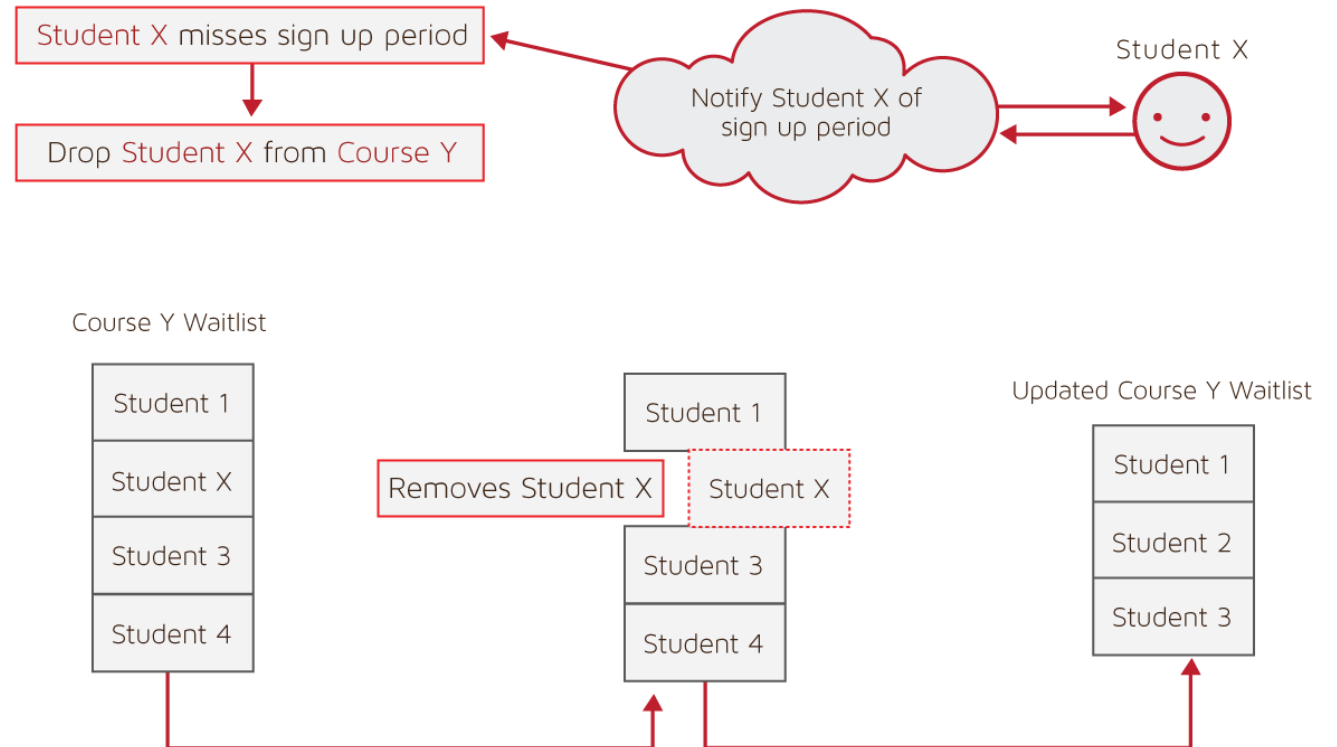
Algorithm: Notification

- Purpose: Notify students on waitlist of an open seat
- Procedure:
 - Pull course information
 - Return Boolean value
 - If true
 - Check notification preference for students
 - Notify students via email and/or text
 - If false
 - Increment course



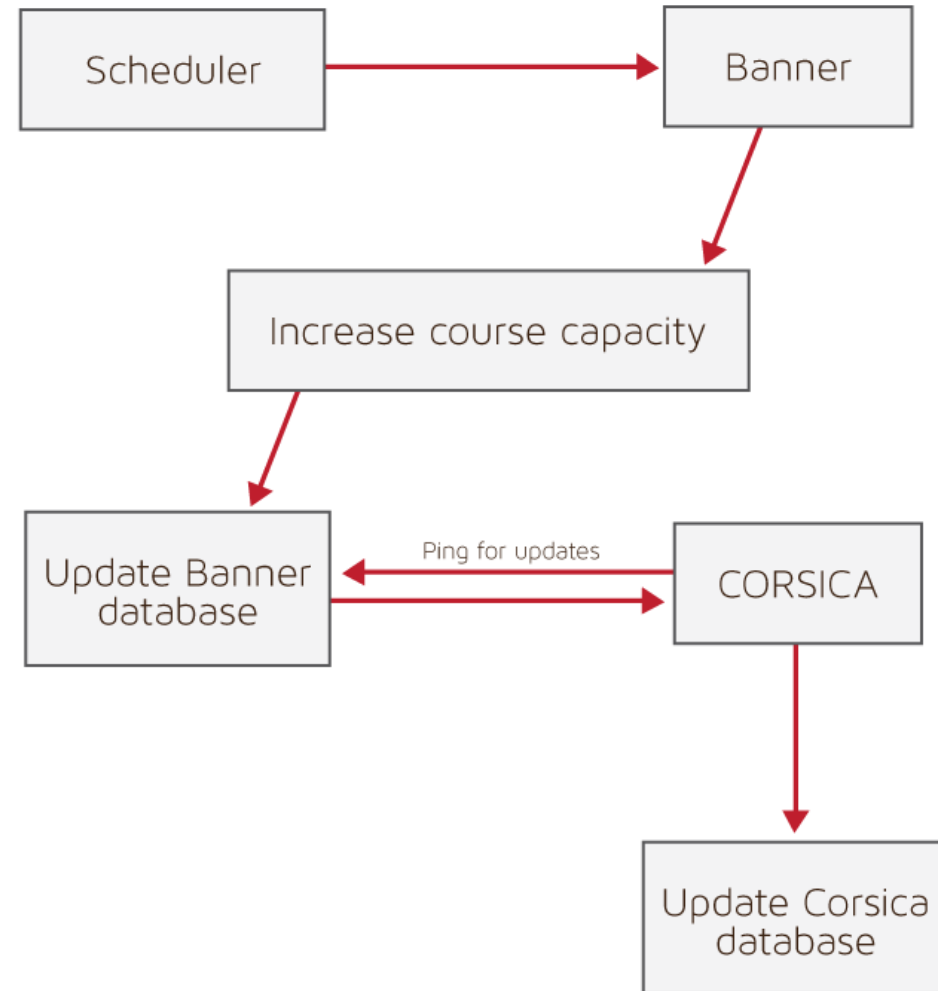
Algorithm: Drop Student from Waitlist

- Purpose: Remove student from waitlist
- Procedure:
 - Student X either misses window or signs up for Course Y
 - Course Y waitlist is pulled up
 - Student X is located in queue
 - Student X is removed from queue
 - Course Y waitlist updates



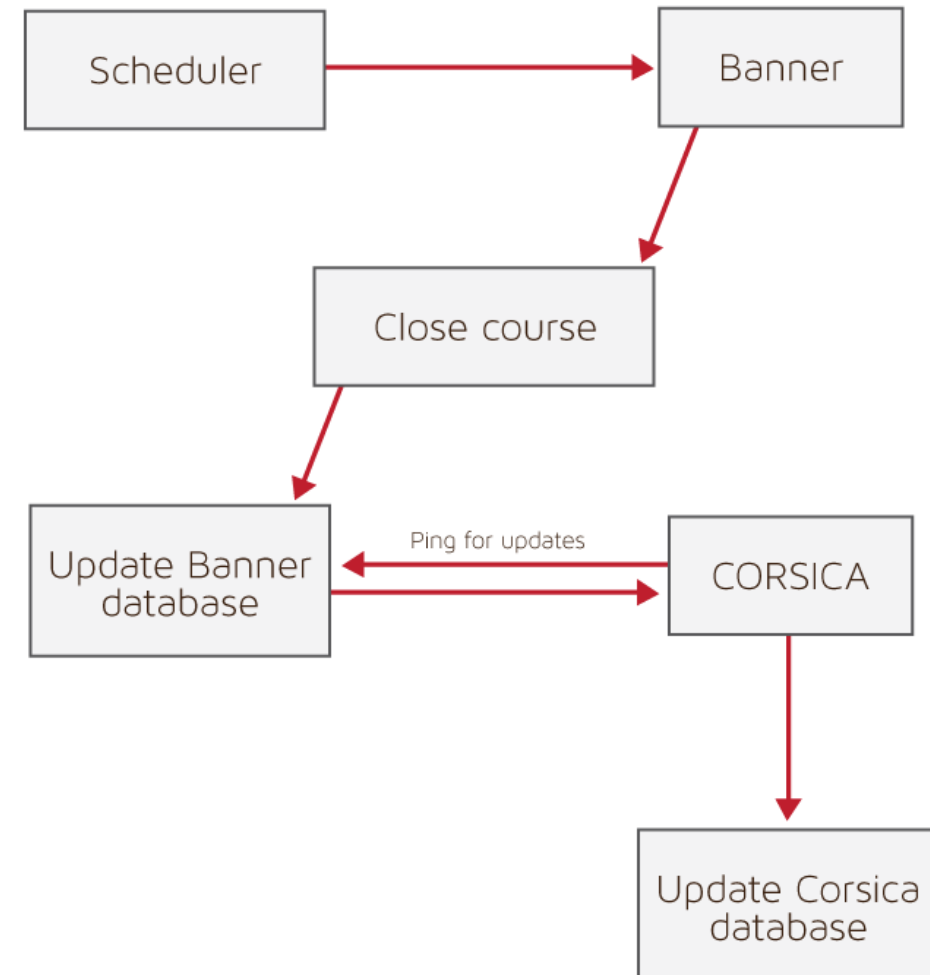
Algorithm: Increase Course Capacity

- Purpose: Increase a course's capacity
- Procedure:
 - Scheduler locates course in Banner
 - Scheduler increases capacity
 - Banner database is updated
 - Corsica is notified of change
 - Corsica database is updated



Algorithm: Close Course

- Purpose: Remove course as waitlist option
- Procedure:
 - Admin Locates Course in Banner
 - Admin removes the course as available option
 - Banner Database is updated
 - Corsica is notified of change
 - Corsica Database is updated



CORSICA

Database

- Students
- Courses
- Course Statistics
- Advisors
- Waitlists

User Interface

- Admin
- Advisor
- Scheduler
- Student

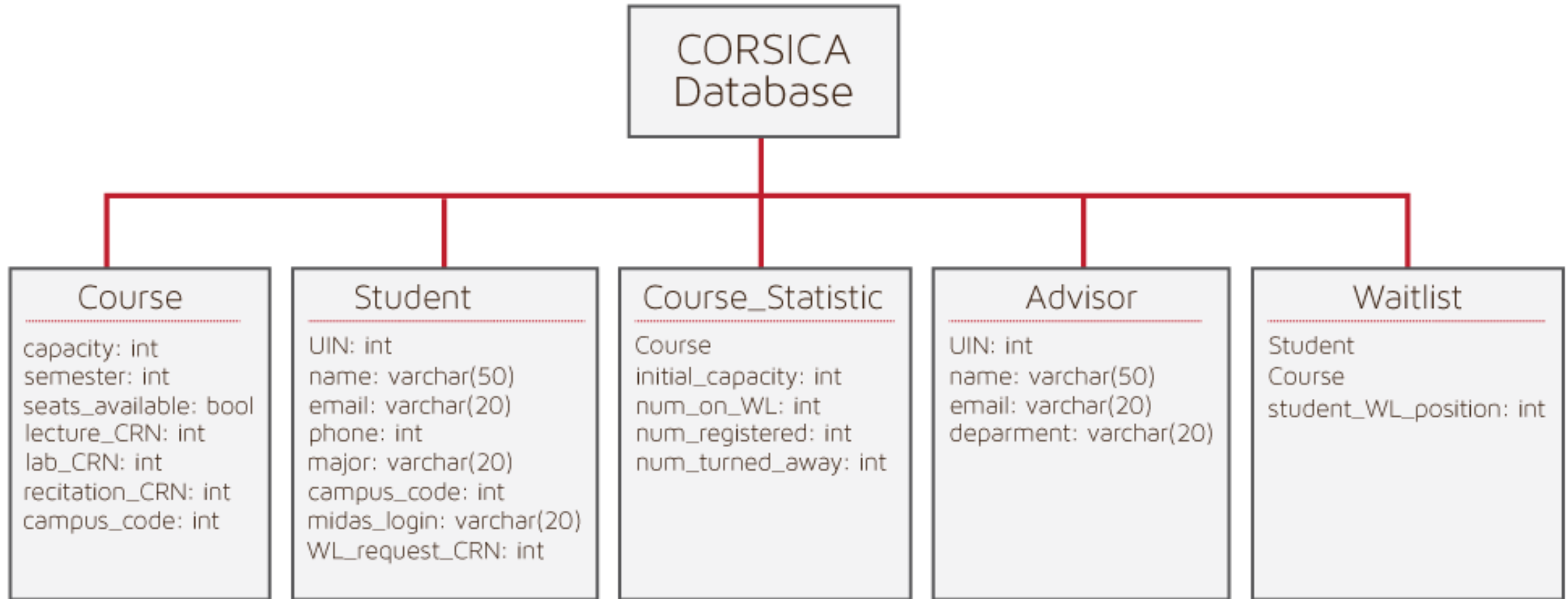
Interface

- Banner
- LeoOnline

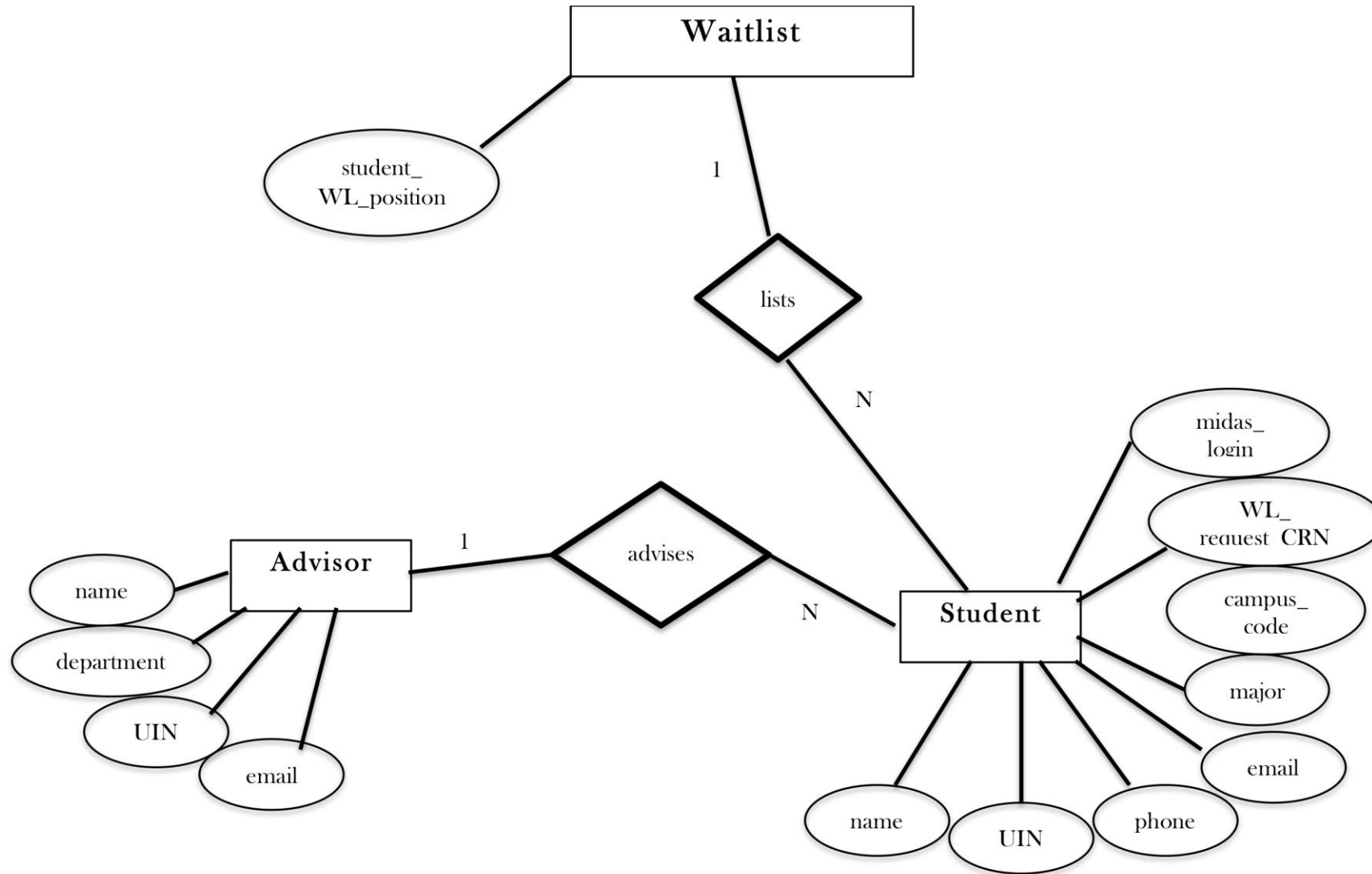
Algorithm

- Increase Course Capacity
- Close Course
- Notification
- Add Student to Waitlist
- Drop Student from Waitlist
- Check for Open Seats
- Load Enrollment Data Files

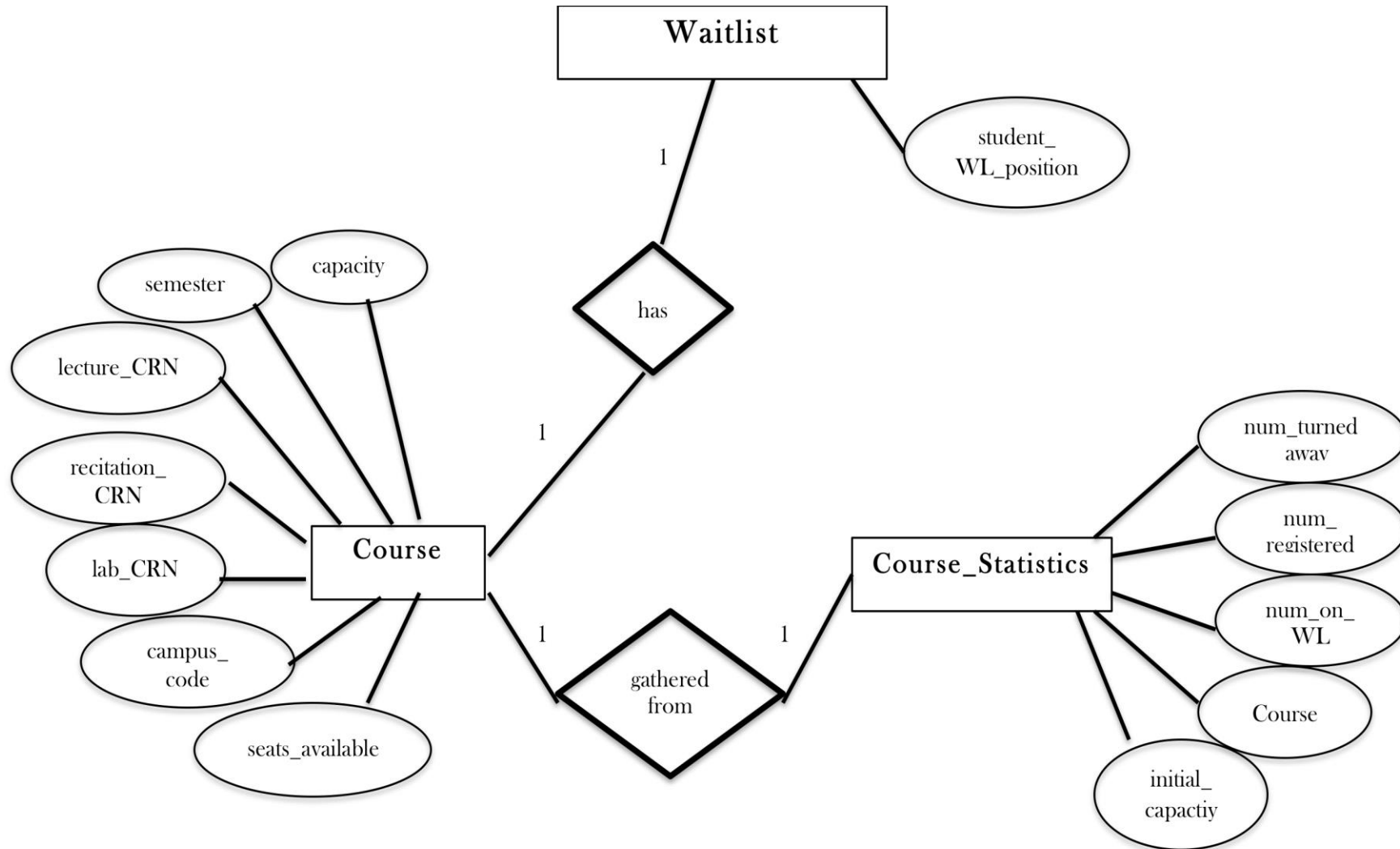
Database Schema



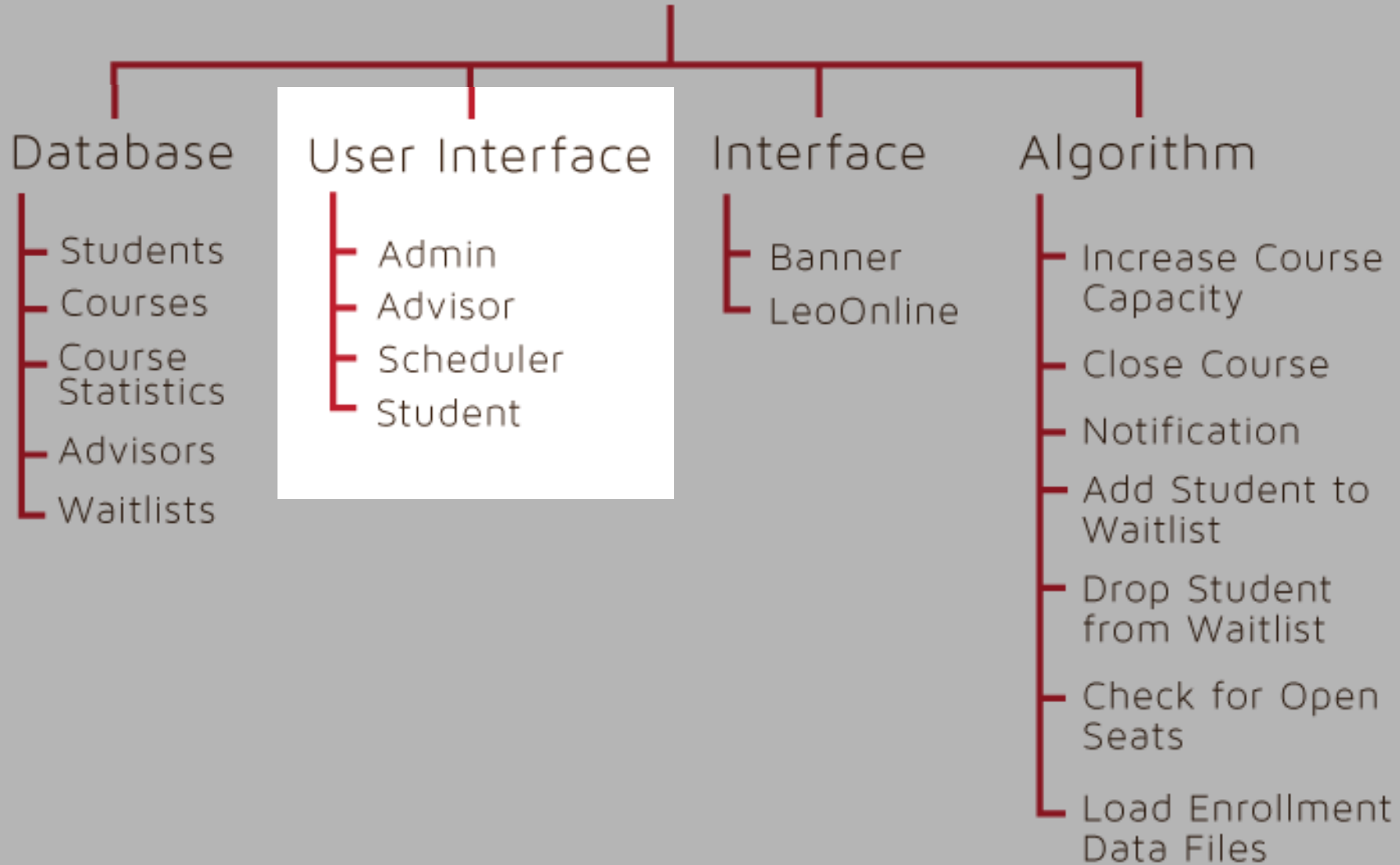
Database: Student



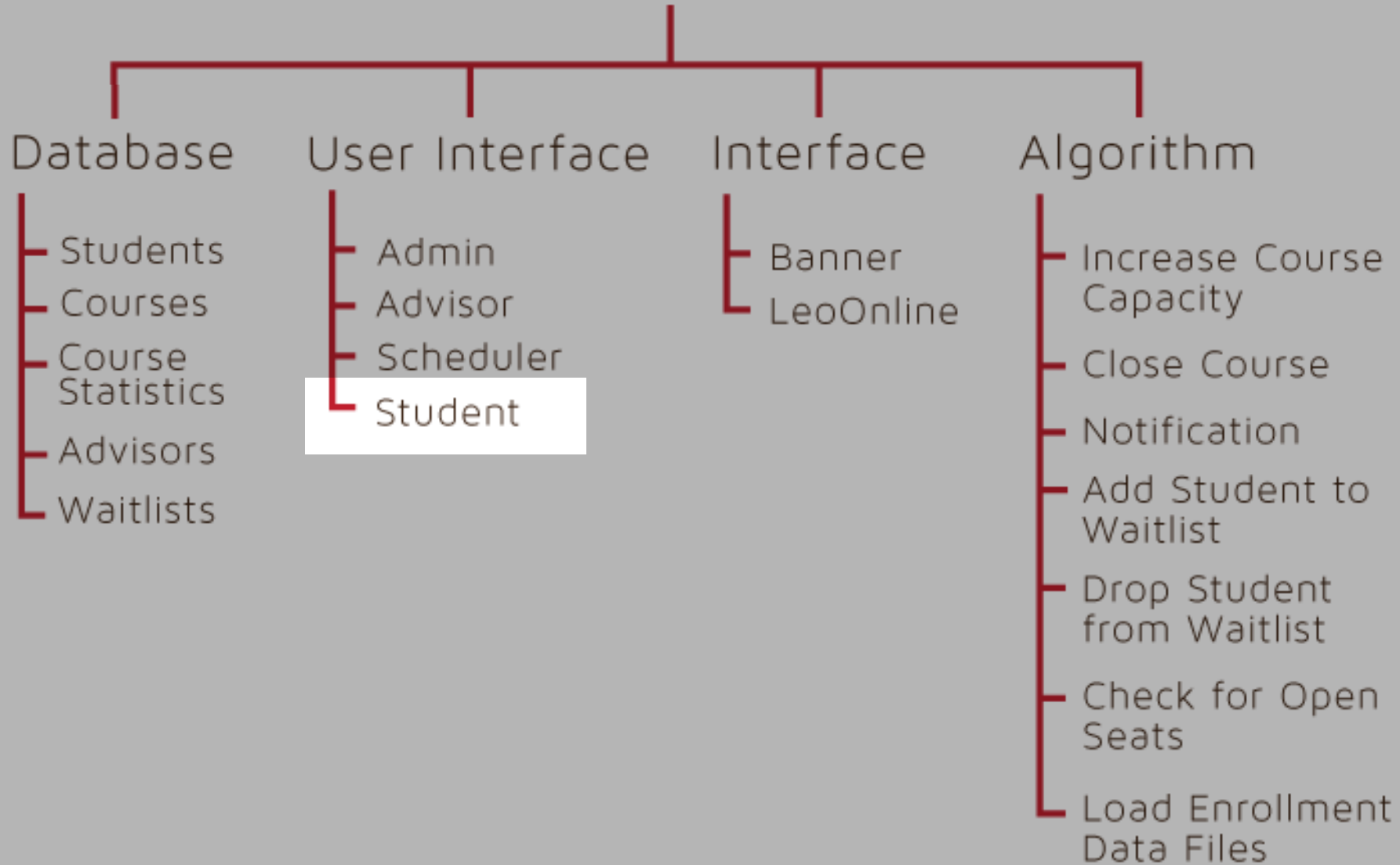
Database: Course



CORSICA



CORSICA








Welcome, Latimer Gerle

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OLD DOMINION UNIVERSITY

Your Waitlists

Course	CRN	Instructor	Status	Your #
CS381: DISCRETE STRUCTURES 	10652	ABHISHEK BISWAS	<u>NEED YOUR CONFIRMATION!</u>	1
CS450: DATABASE CONCEPTS 	15327	IRWIN B LEVINSTEIN	10/10	5
CS460: COMPUTER GRAPHICS 	10978	GENE H PRICE	9/10	8

How Corsica Works

FAQ

About Us

Results for Brunelle

Fall 2014 Waitlists

Course	CRN	Instructor	Status	Your #
CS110: INTRO TO COMPUTER SCIENCE	11448	JANET E BRUNELLE	0/10	---
CS367: COOPERATIVE EDUCATION	10636	JANET E BRUNELLE	0/10	---
CS367: COOPERATIVE EDUCATION	10637	JANET E BRUNELLE	0/10	---
CS367: COOPERATIVE EDUCATION	10638	JANET E BRUNELLE	0/10	---
CS368: COMPUTER SCIENCE INTERNSHIP	10639	JANET E BRUNELLE	0/10	---
CS368: COMPUTER SCIENCE INTERNSHIP	10640	JANET E BRUNELLE	0/10	---
CS410: PROF WORKFORCE DEV I (LECT)	13820	JANET E BRUNELLE	0/10	---
CS410: PROF WORKFOCE DEV I (REC)	13821	JANET E BRUNELLE	0/10	---
CS411W: PROF WORKFORCE DEV II CORS...	10637	JANET E BRUNELLE	0/10	---

More..

Summer 2014 Waitlists

Course	CRN	Instructor	Status	Your #
CS110: INTRO TO COMPUTER SCIENCE	11448	JANET E BRUNELLE	0/10	---
CS367: COOPERATIVE EDUCATION	10636	JANET E BRUNELLE	0/10	---



Fall 2014 – CS411W: PROF WORKFORCE DEV II CORSICA (REC)

Information:

Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in ENGL 211C or 221C or 231C and a grade of C or better in CS 330 and 410. Laboratory work required. Students write professional and non-technical documents and continue the development of the project defined in CS 410. Written work is reviewed and returned for corrective rewriting. Students will design and develop a project prototype, and demonstrate the prototype to a formal panel along with delivering the formal product specifications and a draft formal grant proposal. (qualifies as a CAP experience) (This is a writing intensive course.)

0.000 OR 3.000 Credit hours
0.000 OR 3.000 Lecture hours
0.000 OR 1.000 Other hours

Course	CRN	Instructor	Status	Your #
CS411W: PROF WORKFORCE DEV II (REC) 	10637	JANET E BRUNELLE	0/10	---

[Cancel](#)[Sign Up](#)

Fall 2014 - CS411W: PROF WORKFORCE DEV II CORSICA (REC)

Information:

Lecture 3 hours; 3 credits. Prere and 410. Laboratory work requiring project defined in CS 410. Written prototype, and demonstrate the formal grant proposal. (qualifies

0.000 OR 3.000 Credit hours
0.000 OR 3.000 Lecture hours
0.000 OR 1.000 Other hours

Course

CS411W: PROF WORKFORCE DEV I

Are you sure?

You are about to sign up for
CS411W: PROF WORKFORCE DEV II CORSIC...
for **FALL 2014**

Your number: 1

Cancel

Sign Me Up!

grade of C or better in CS 330
continue the development of the
design and develop a project
specifications and a draft

Status

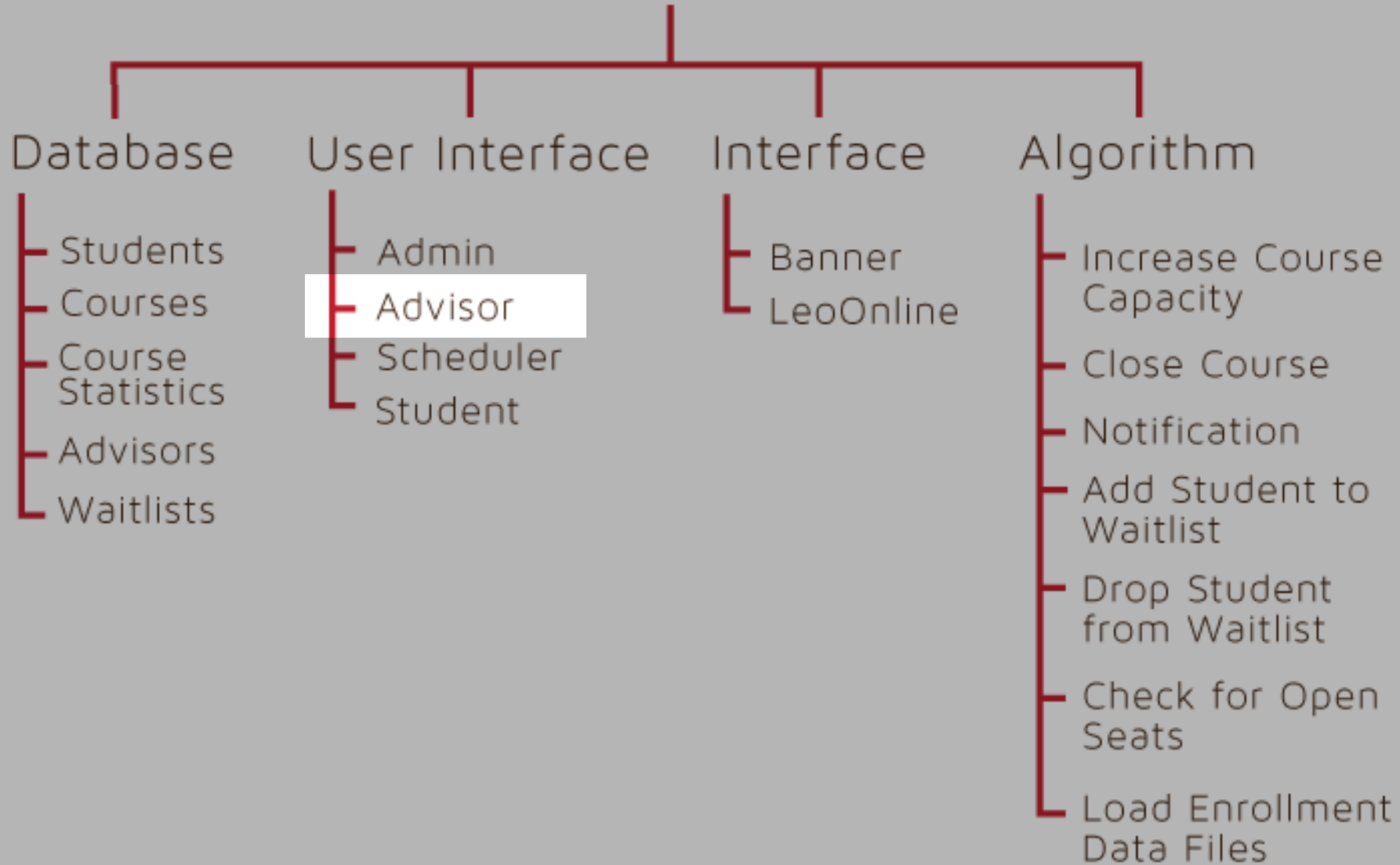
Your #

0/10

Cancel

Sign Up

CORSICA








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Computer Science: Fall 2014 Waitlists


Course ▼	CRN ▼	Instructor ▼	Status ▼
CS110: INTRO TO COMPUTER SCIENCE	11448	JANET E BRUNELLE	0/10
CS120G: INTRO INFO LITERACY & RESEARCH	13411	REKHA GUPTA	0/10
CS120G: INTRO INFOMATION LIT REC	13840	TBA	0/10
CS120G: INTRO INFO LITERACY & RESEARCH	15306	REKHA GUPTA	0/10
CS120G: INTRO INFOMATION LIT REC	15310	TBA	0/10
CS120G: INTRO INFOMATION LIT REC	15311	TBA	0/10
CS120G: INTRO INFOMATION LIT REC	15312	TBA	0/10
CS120G: INTRO INFO LITERACY & RESEARCH	18767	AJAY K GUPTA	0/10
CS120G: INTRO INFOMATION LIT REC	15311	TBA	0/10
CS120G: INTRO INFOMATION LIT REC	15312	TBA	0/10
CS121G: INTRO INFO LIT-SCI	13418	WILLIAM G SYMPSON	0/10
CS121G: INTRO INFO LIT-SCI REC	13435	TBA	0/10
CS121G: INTRO INFO LIT-SCI REC	13436	TBA	0/10
CS121G: INTRO INFO LIT-SCI REC	13437	TBA	0/10
CS121G: INTRO INFO LIT-SCI	13893	JAY D MORRIS	5/10
CS121G: INTRO INFO LIT-SCI REC	13894	TBA	0/10
CS121G: INTRO INFO LIT-SCI REC	13895	TBA	0/10
CS121G: INTRO INFO LIT-SCI	14896	AYMAN M.T. AHMED	0/10
CS121G: INTRO INFO LIT-SCI REC	14197	TBA	0/10
CS121G: IINTRO INFO LIT-SCI REC	14198	TBA	0/10

Results for Latimer Gerle

Latimer Gerle: Fall 2014 Waitlists

Course	CRN	Instructor	Status	#
CS381: DISCRETE STRUCTURES 	10652	ABHISHEK BISWAS	NEED CONFIRMATION	1
CS450: DATABASE CONCEPTS 	15327	IRWIN B LEVINSTEIN	10/10	5
CS460: COMPUTER GRAPHICS 	10978	GENE H PRICE	9/10	8

Latimer Gerle: Spring 2014 Waitlists

Course	CRN	Instructor	Status	#
CS381: DISCRETE STRUCTURES 	10652	ABHISHEK BISWAS	INACTIVE	---






Student Information

Latimer Gerle Information

Name	UIN	Email	Phone #	Active Waitlists	Past Waitlists
Latimer Gerle	00751575	LGERL003@ODU.EDU	757 456 8971	3	0

Fall 2014 Waitlists

Course	CRN	Instructor	Status	#
CS381: DISCRETE STRUCTURES 	10652	ABHISHEK BISWAS	NEED CONFIRMATION	1
CS450: DATABASE CONCEPTS 	15327	IRWIN B LEVINSTEIN	10/10	5
CS460: COMPUTER GRAPHICS 	10978	GENE H PRICE	9/10	8



Fall 2014 – CS250: PROBLEM SOLVING AND PROGRAMMING II

Information:

Lecture 3 hours; Laboratory 2.5 hours; 4 credits

Prerequisites: MATH 162M and a grade of C or better in CS 148 or 150. Corequisite: CS 252 Laboratory work required.

Design issues arising in software systems and C++ programming techniques aiding in their solution. Topics include the software life cycle, methods of functional decomposition, design documentation, abstract data types and classes, common data structures, dynamic data structures, algorithmic patterns, and testing and debugging techniques. Term project required.

0.000 OR 3.000 Credit hours

0.000 OR 3.000 Lecture hours

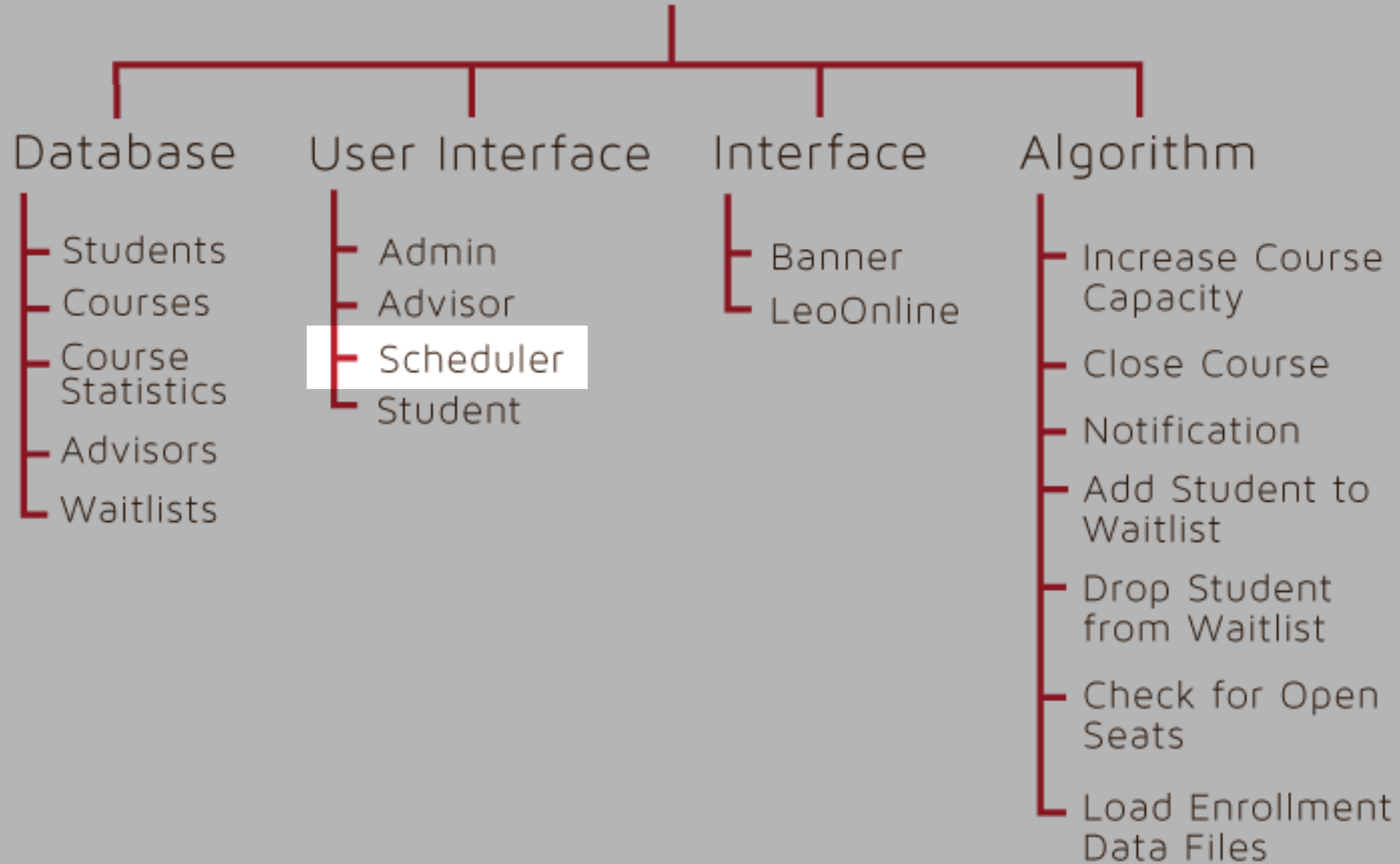
0.000 OR 1.000 Other hours

Course	CRN	Instructor	Status
CS250: PROBLEM SOLVING AND PROGRAMMING II 	19956	JAY D MORRIS	10/10

Current Waitlist

#	Name	UIN	Email	Phone #	
1	Spongebob Squarepants	00751575	SSQUA001@ODU.EDU	757 999 9999	▼ ▲ ✕
2	Patrick Star	0088888	PSTAR007@ODU.EDU	---	▼ ▲ ✕
3	Squidward Tentacles	00559871	STENT005@ODU.EDU	303 668 5789	▼ ▲ ✕
4	Eugene Harold Krabs	00555555	EKRAB001@ODU.EDU	757 555 5555	▼ ▲ ✕
5	Sandy Cheeks	00685413	SCHEE010@ODU.EDU	650 452 4562	▼ ▲ ✕
6	Sheldon J. Plankton	00856218	SPLAN004@ODU.EDU	---	▼ ▲ ✕

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Welcome, Irwin Levinstein

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INDOOR TENNIS CENTER
OLD DOMINION UNIVERSITY

Computer Science: Fall 2014 Waitlists

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CS110: INTRO TO COMPUTER SCIENCE	11448	JANET E BRUNELLE	0/10
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CS120G: INTRO INFOMATION LIT REC	13840	TBA	0/10
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CS120G: INTRO INFOMATION LIT REC	15310	TBA	0/10
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CS120G: INTRO INFOMATION LIT REC	15312	TBA	0/10
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CS110: INTRO TO COMPUTER SCIENCE	LEO	11448	JANET E BRUNELLE	0/10
CS120G: INTRO INFO LITERACY & RESEARCH	LEO	13411	REKHA GUPTA	0/10
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[Add Course](#)




Results for Latimer Gerle

Latimer Gerle: Fall 2014 Waitlists

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Latimer Gerle: Spring 2014 Waitlists

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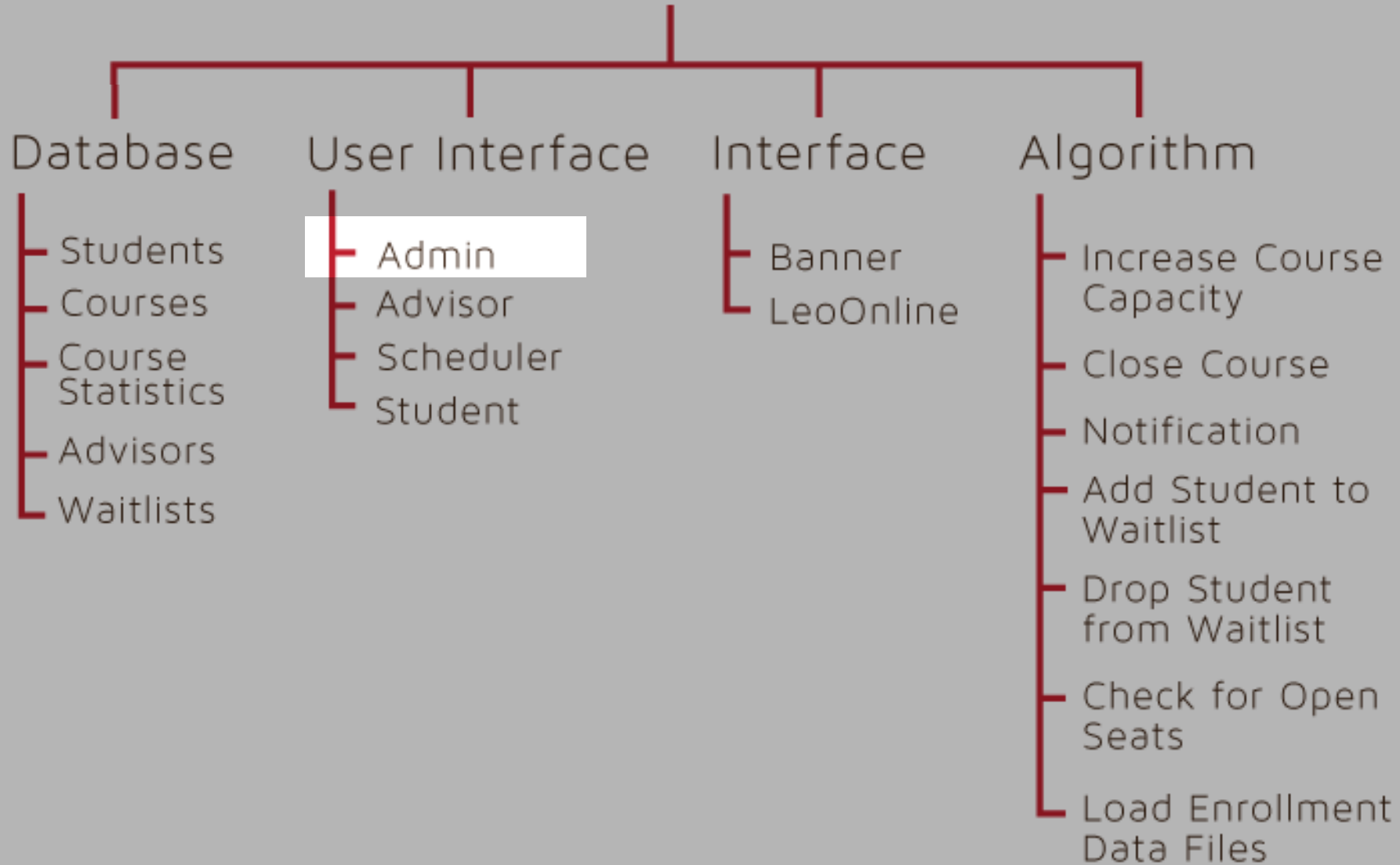
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2	Patrick Star	0088888	PSTAR007@ODU.EDU	---	▼ ▲ X
3	Squidward Tentacles	00559871	STENT005@ODU.EDU	303 668 5789	▼ ▲ X
4	Eugene Harold Krabs	00555555	EKRAB001@ODU.EDU	757 555 5555	▼ ▲ X
5	Sandy Cheeks	00685413	SCHEE010@ODU.EDU	650 452 4562	▼ ▲ X
6	Sheldon J. Plankton	00856218	SPLAN004@ODU.EDU	---	▼ ▲ X

CORSICA



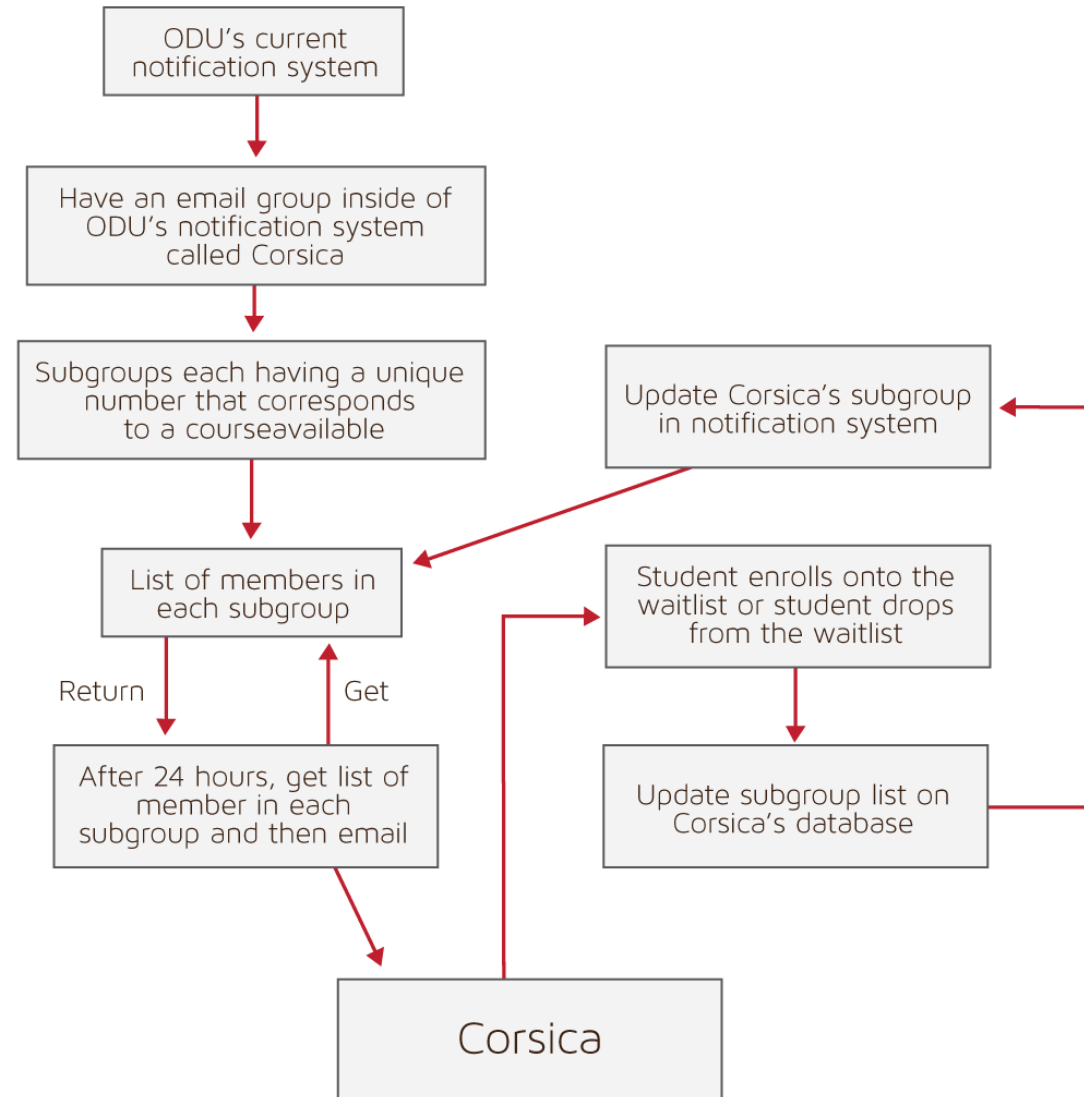
Administrator

- Administrator will have the same accessibility as the scheduler

Guest (Non Logged In) Person

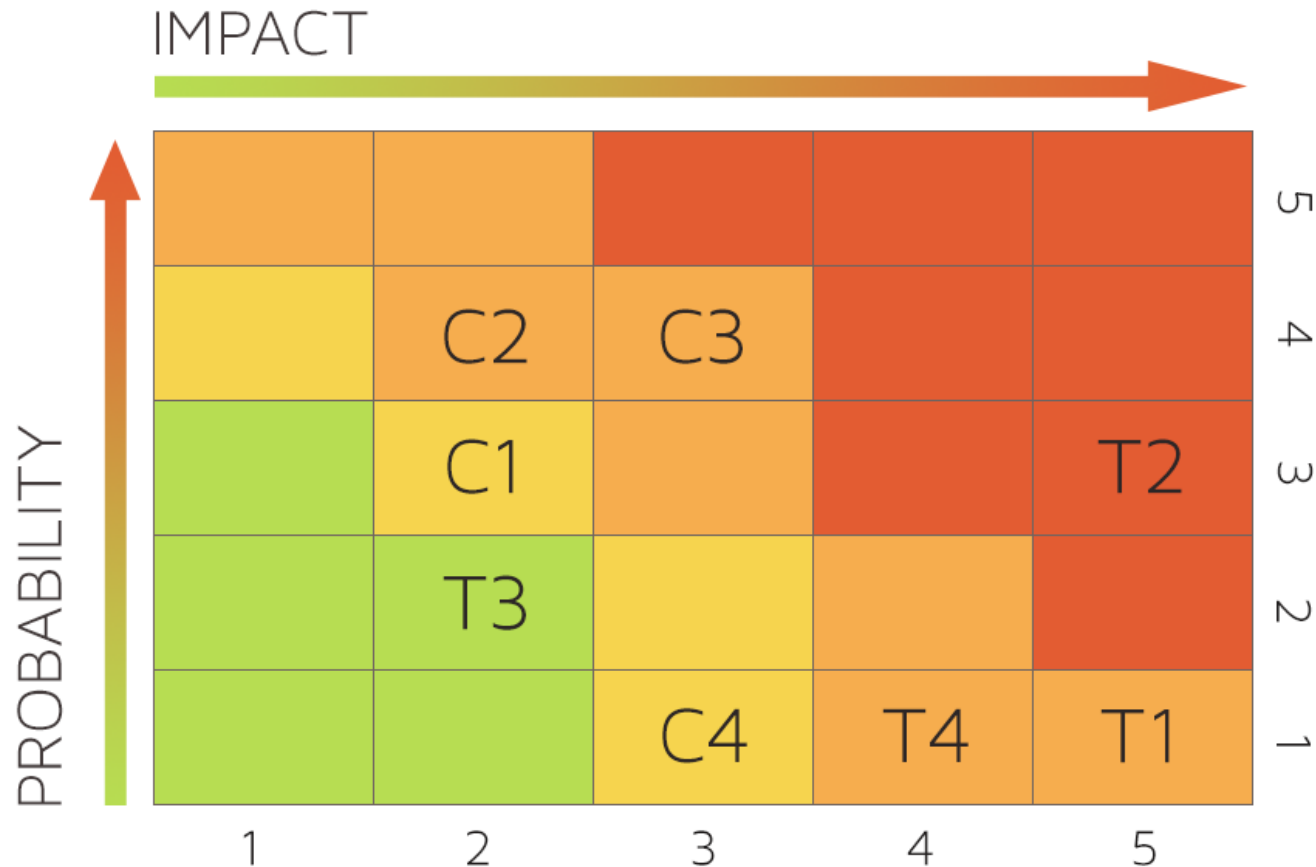
- Guest will have the ability to see static pages such as:
 - Home Page
 - How Corsica Works
 - Condensed and easy to read version of the current site's Overview and Deliverables
 - About Us
 - Contact Us
 - FAQ

Notification System



Risk Management Plan

Risk Matrix



Customer Risks	Technical Risks
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

Customer Risks

- C1: Department Use Rejection
 - *Impact: 2*
 - *Probability: 3*
 - *Mitigation: Corsica aims to solve the waitlist issues of the department at an affordable price.*
- C2: Transition to a New GUI
 - *Impact: 2*
 - *Probability: 4*
 - *Mitigation: Corsica will strive provide its users with a simple interface.*

Customer Risks

- C3: Cost of Product
 - *Impact: 3*
 - *Probability: 4*
 - *Mitigation: Corsica will take into account the past and future annual incomes in a 2 year time-span and price the product accordingly. Also we aim to use cost-effective components in our product.*
- C4: Product Interest
 - *Impact: 3*
 - *Probability: 1*
 - *Mitigation: Since there is a need for an efficient waitlist feature, Corsica will be solution to that problem.*

Technical Risks

- T1: Ability to Integrate with Banner
 - *Impact: 5*
 - *Probability: 1*
 - *Mitigation: Corsica will be designed to work with the Banner. Any incompatibilities should be insignificant to the overall operation and can be mitigated with software updates.*
- T2: Software Updates
 - *Impact: 5*
 - *Probability: 3*
 - *Mitigation: Technology is constantly evolving. This means it is up to the developers of Corsica to be aware of any updates to University Software in order to provide updates to the Corsica software to maintain compatibility with the University Software.*

Technical Risks

- T3: Availability of Server Storage
 - *Impact: 2*
 - *Probability: 2*
 - *Mitigation: Corsica creates event logs and data files that it keeps on a server. In the event that server storage space is low, there is a feature to back up all logs and files to another cloud storage or to download the file to the computer.*
- T4: Security Vulnerability
 - *Impact: 4*
 - *Probability: 1*
 - *Mitigation: Corsica runs through the secure servers of the University. This means that the data that is being transferred is encrypted, preventing anyone from hacking into the system to view files.*