CS ADVISING WEBSITE

LAST PLACE CHAMPIONS

TABLE OF CONTENTS

- The Team
- Introduction
- Our Project
- Requirements and Constraints
- Interface
- Development Tools
- Test Scenarios
- Schedule
- Conclusion and Questions

TEAM MEMBERS

- Brian Hooper – Team Lead / UI
- Nick Rohde – Databases / Systems
- Shaylynn McDonald – Design / Documentation
- Rico Adrian – Design / Testing

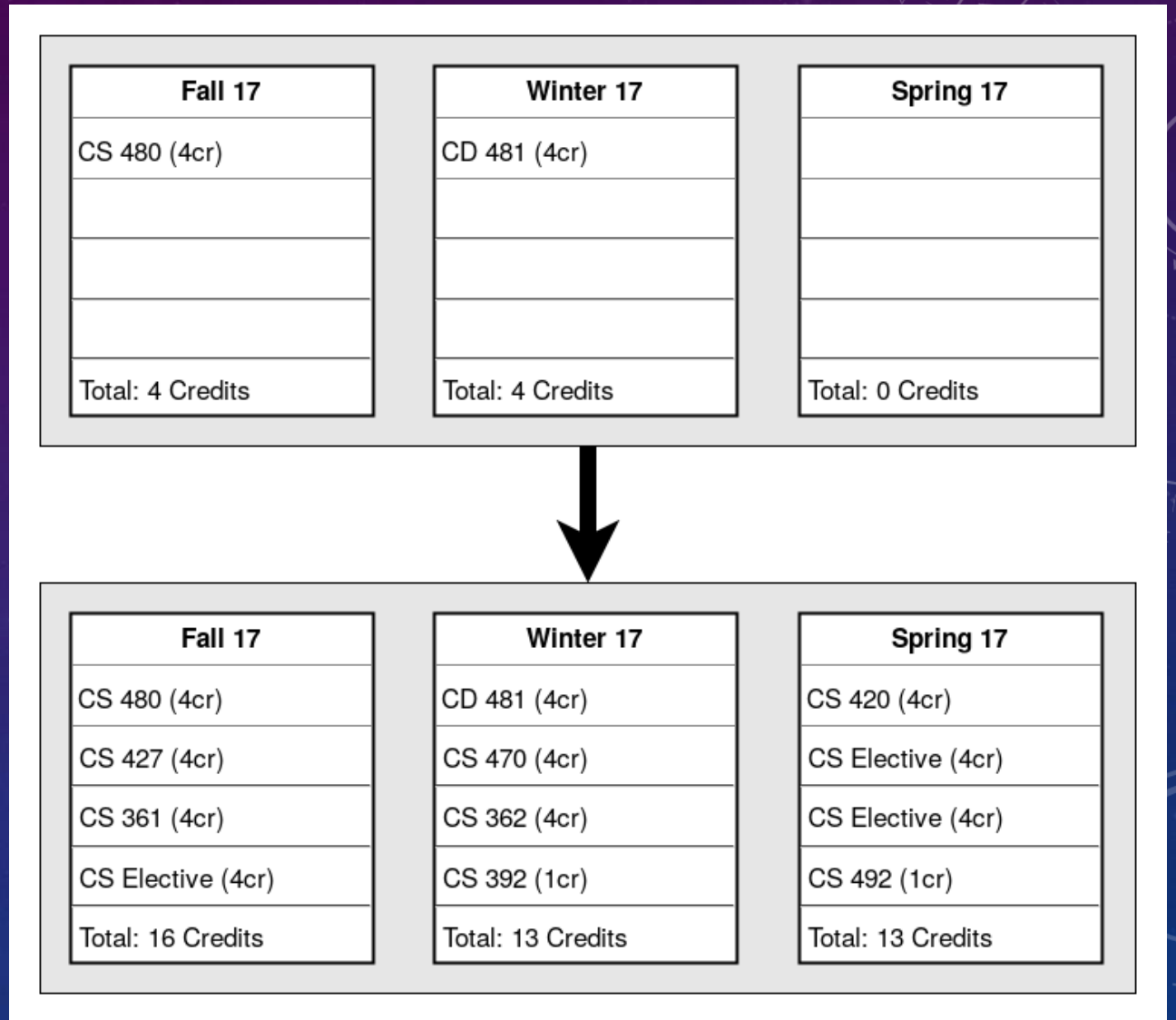# INTRODUCTION

Student Graduation Plan

Fall 17
CS 480 (4cr)
CS 427 (4cr)
CS 361 (4cr)
CS Elective (4cr)
Total: 16 Credits

Winter 17
CD 481 (4cr)
CS 470 (4cr)
CS 362 (4cr)
CS 392 (1cr)
Total: 13 Credits

Spring 17
CS 420 (4cr)
CS Elective (4cr)
CS Elective (4cr)
CS 492 (1cr)
Total: 13 Credits

OUR PROJECT

Automating the generation of graduation plans

FUNCTIONS

- Interface for generating graduation plans

- Formatted plans for printing

- Modify course offerings

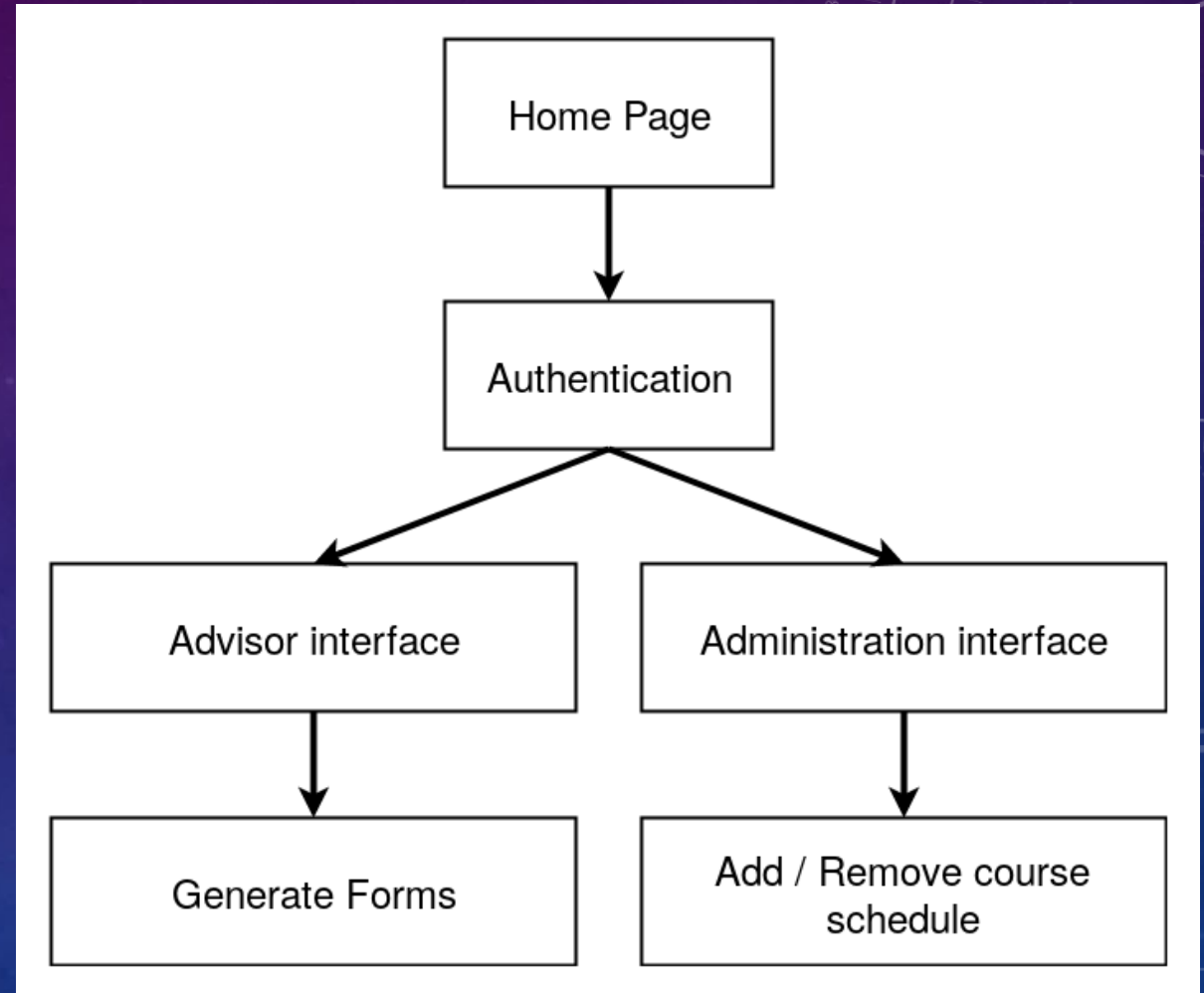# SYSTEM REQUIREMENTS

- User friendly

- Databases

- Application

DESIGN CONSTRAINTS

- Earliest Graduation

- Student Constraints

- Course Constraints

- Privacy

- Algorithm speed / Database load

WEBSITE INTERFACE

- Login page
  - Username and Password

- Graduation interface

- Course interface

ADVISOR INTERFACE

- Input class choices

- Generate Graduation Plan

- Populate forms

Computer Science Advising Tool

Logged in as: Advisor (logout)

Home | Advising | Class Schedule | Settings

Student: John Smith
Enrolled: Fall 2017
Expected Graduation: Spring 2021
Degree: BS - Computer Science

Fall 17	
CS 480 (4cr)	▼
CS 427 (4cr)	▼
CS 361 (4cr)	▼
CS Elective (4cr)	▼
Total: 16 Credits	

Winter 17	
CD 481 (4cr)	▼
CS 470 (4cr)	▼
CS 362 (4cr)	▼
CS 392 (1cr)	▼
Total: 13 Credits	

Spring 17	
CS 420 (4cr)	▼
CS Elective (4cr)	▼
CS Elective (4cr)	▼
CS 492 (1cr)	▼
Total: 13 Credits	

GENERATE PLAN

EXPORT / PRINT

ADMINISTRATOR INTERFACE

- Modify course offerings

- Modify catalog data

- Manage user accounts

Computer Science Advising Tool

Logged in as: Advisor (logout)

Home | Advising | Class Schedule | Settings

	Course	Offered	Prerequisites
X	CS 427	Fall, Winter, Spring	CS 302, CS 325, MATH 330
X	CS 111	Winter, Spring	CS 110, MATH 153
X	CS 301	Fall, Spring	CS 111, MATH 154
X	CS 480	Fall	CS 325, CS 380
X	CS 446	Spring	CS 302

Course Name: CS 470

☐ Fall   ☐ Winter

Prerequisites: | X | CS 302 ▼ | X | CS 312 ▼ |

☐ Spring   ☐ Summer

Add Additional Prerequisites | X | CS 302 ▼ |

ADD NEW CLASS

DEVELOPMENT TOOLS

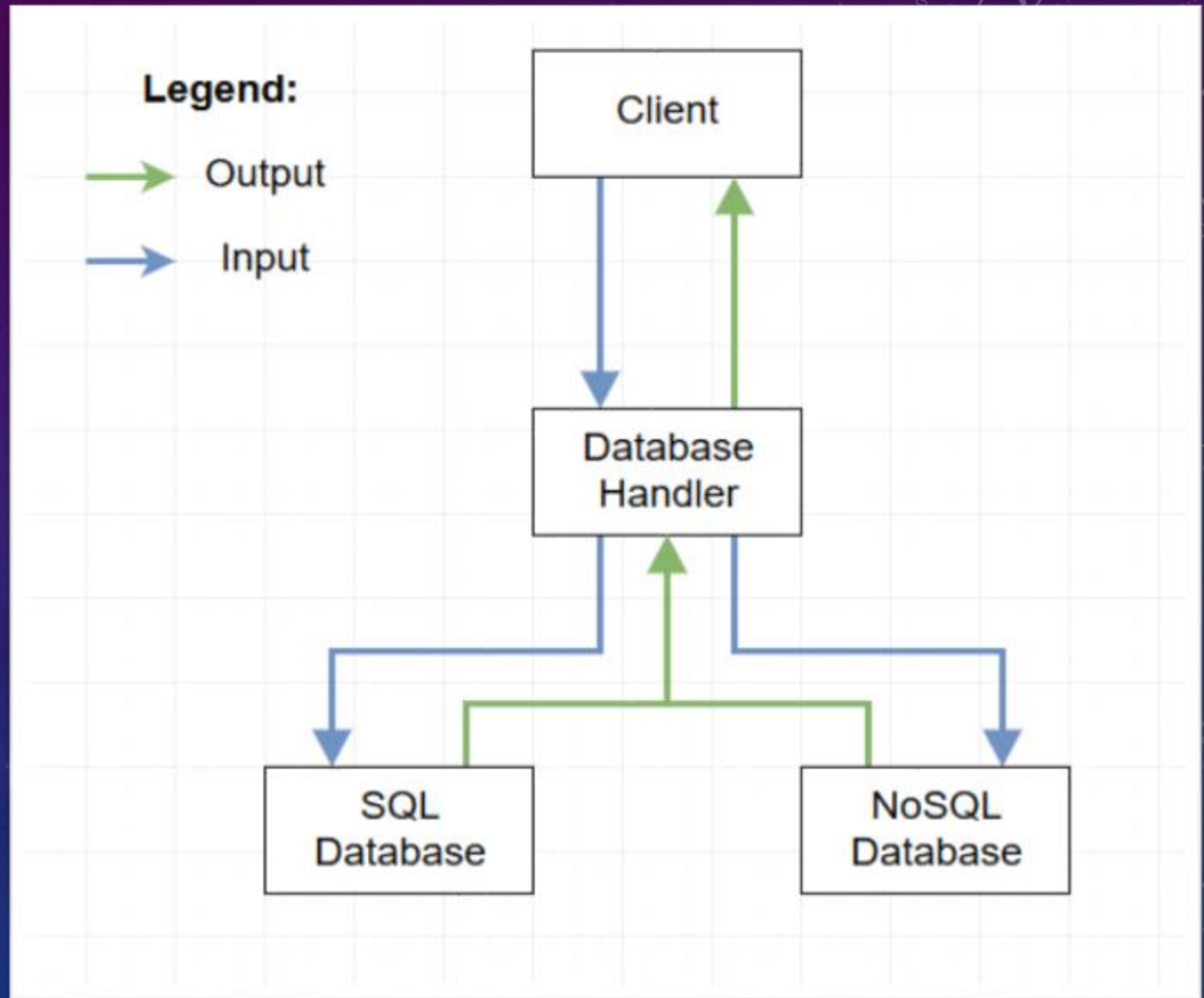# SOFTWARE INTERFACES

- C#

- .NET Core
  - ASP
  - Database Tools

- Databases
  - MySQL (SQL)
  - DB4O (NoSQL)

OPERATING ENVIRONMENT

- Virtual Linux Server
  - Modern Hardware

- Browser

DATABASE OVERVIEW
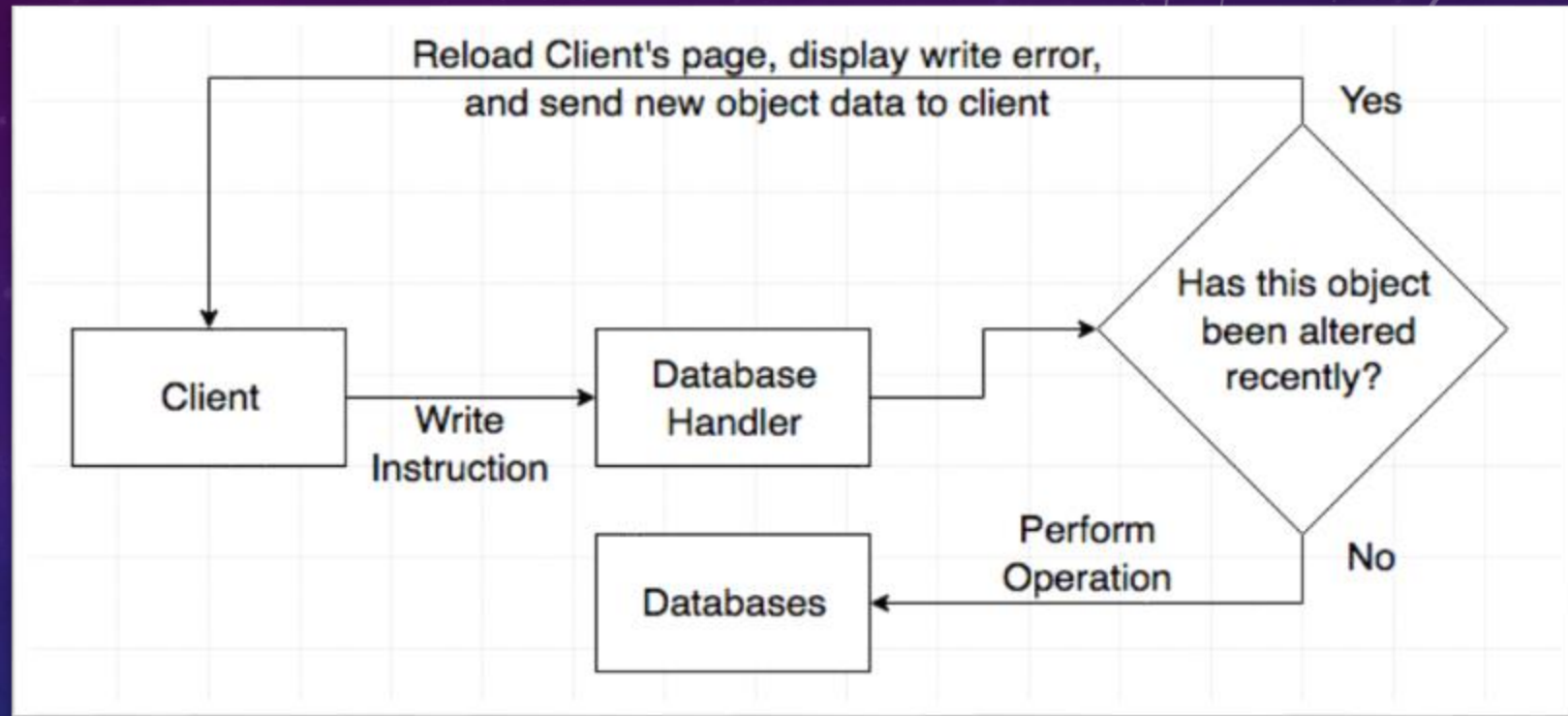
- Database Handler

- SQL Database (MySQL)

- NoSQL Database (DB4O)

Legend:

→ Output

→ Input

Client

Database Handler

SQL Database

NoSQL Database

15

HANDLER

- Prevents Multiple Writes

- No Data Corruption

- Write Protection

MYSQL

- Graduation Plan:

SID	WP	Start	Qtr 0	Qtr 1	...	Qtr 12	...	Qtr K-1	Qtr K
1	1	Fall 17	NULL		...		...		
2	7	Winter 14	CS101, CS110	CS111 GE1, GE2	...	CS470, CS481	...	CS 573	NULL
3	3	Spring 16	CS101, CS110		...	CS492, CS489	...	CS573, CS480	CS481
...	...	...	...	...	...	...	...	...	...

- Login Credentials:

Username	WP	Password	Admin
szilard.vajda	4	0xabcde4	T
MM	7	0xac1230	F
borisk	2	0x123ad2	F
...	...	...	...

17

DB4O

- C# objects

- Easy to Retrieve

- Changed Rarely

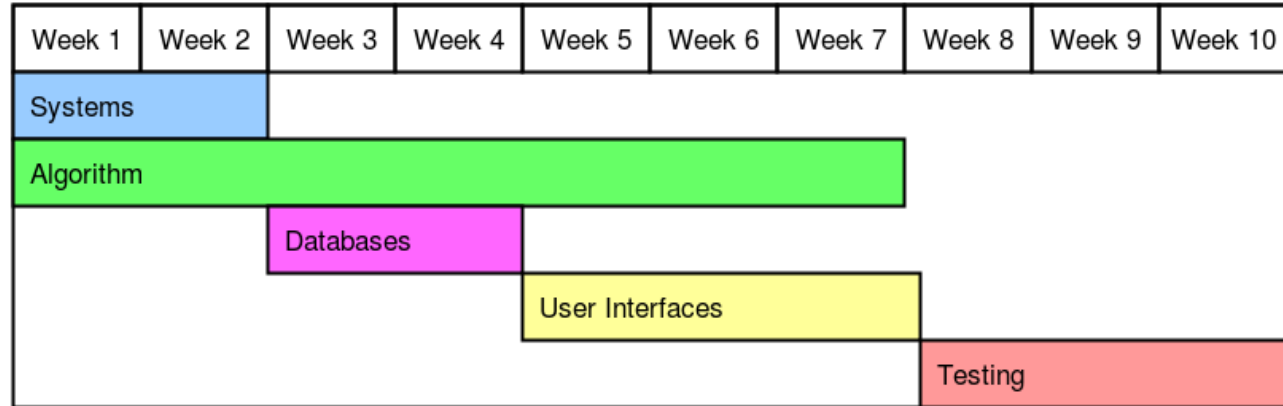| Identifier	Referenced Object	WP
12345678	Student	2
CS480	Course	1
Y2014	Catalog	1

TEST SCENARIOS

- Functional Tests

- Black/White-Box Testing

- UI Testing

- Algorithm accuracy

PROJECT SCHEDULE

- Gantt Chart

- Time approximation

- Project timeline

GANTT CHART

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Systems										
Algorithm										
			Databases							
					User Interfaces					
								Testing		

Systems design:
Set up application / database server / interfaces

Algorithm implementation:
Program scheduling application

Database set up:
Write database schema and populate with class / catalog information

UI design / implementation:
Design and implement front-end user interface

Testing:
Functionality and UI tests, verify accuracy of algorithm, fix bugs

CONCLUSION

- How our project will improve advising

QUESTIONS