

The background is a dark blue gradient with a subtle pattern of white dots. Overlaid on this are several faint, light blue circular elements. These include concentric circles, some with dashed lines, and circular arcs with tick marks and degree numbers (e.g., 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260). Some of these circles have arrows indicating a clockwise or counter-clockwise direction.

CS ADVISING WEBSITE

LAST PLACE CHAMPIONS

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INTRODUCTION

BRIAN HOOPER



TEAM MEMBERS

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



INTRODUCTION

- Student Graduation Plan

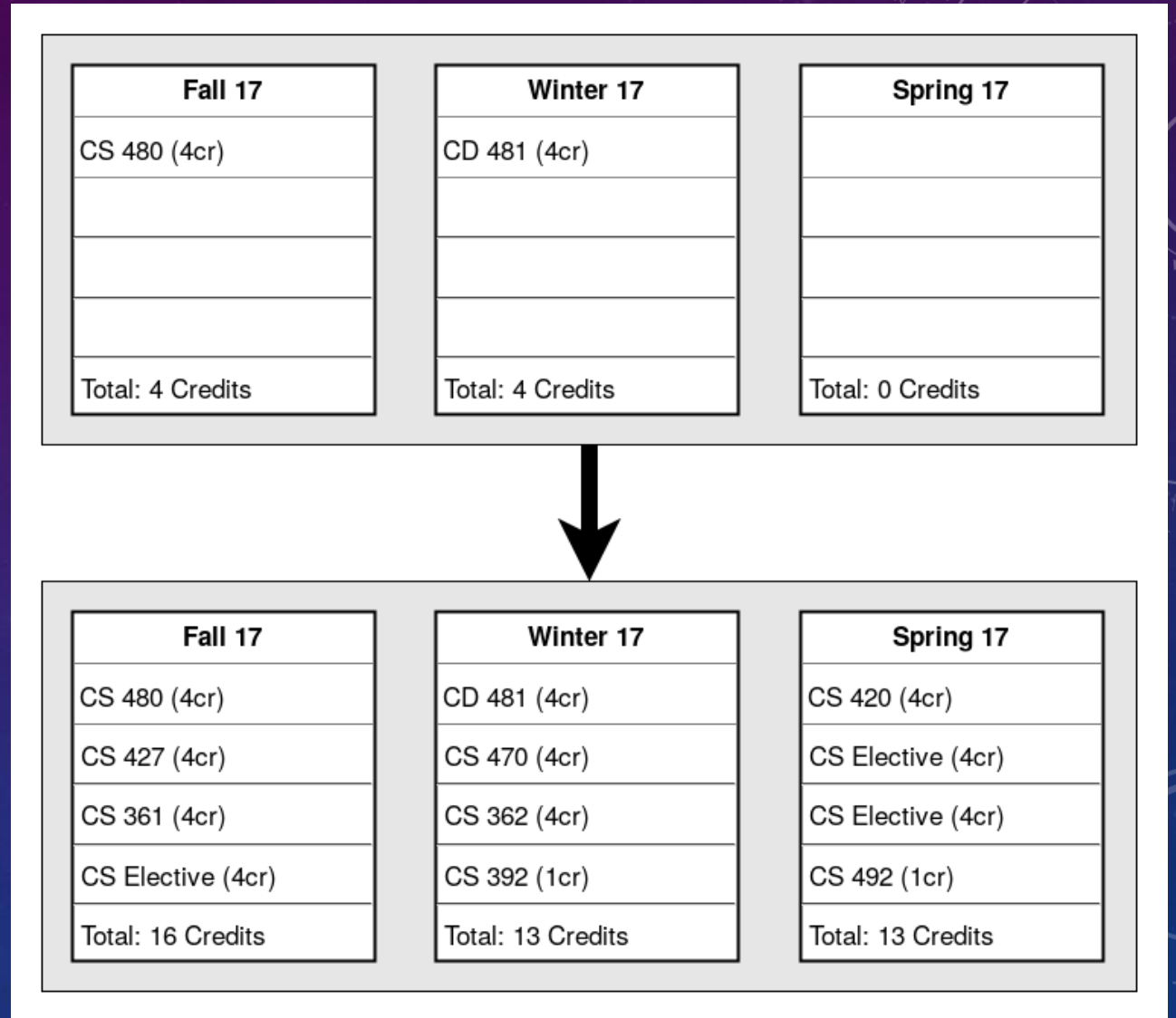
Fall 17
CS 480 (4cr)
CS 427 (4cr)
CS 361 (4cr)
CS Elective (4cr)
Total: 16 Credits

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



FUNCTIONALITY

- Interface for generating graduation plans
- Formatted plans for printing
- Modify course offerings



REQUIREMENTS

SHAYLYNN MCDONALD



SYSTEM REQUIREMENTS

- User friendly
- Databases
- Application



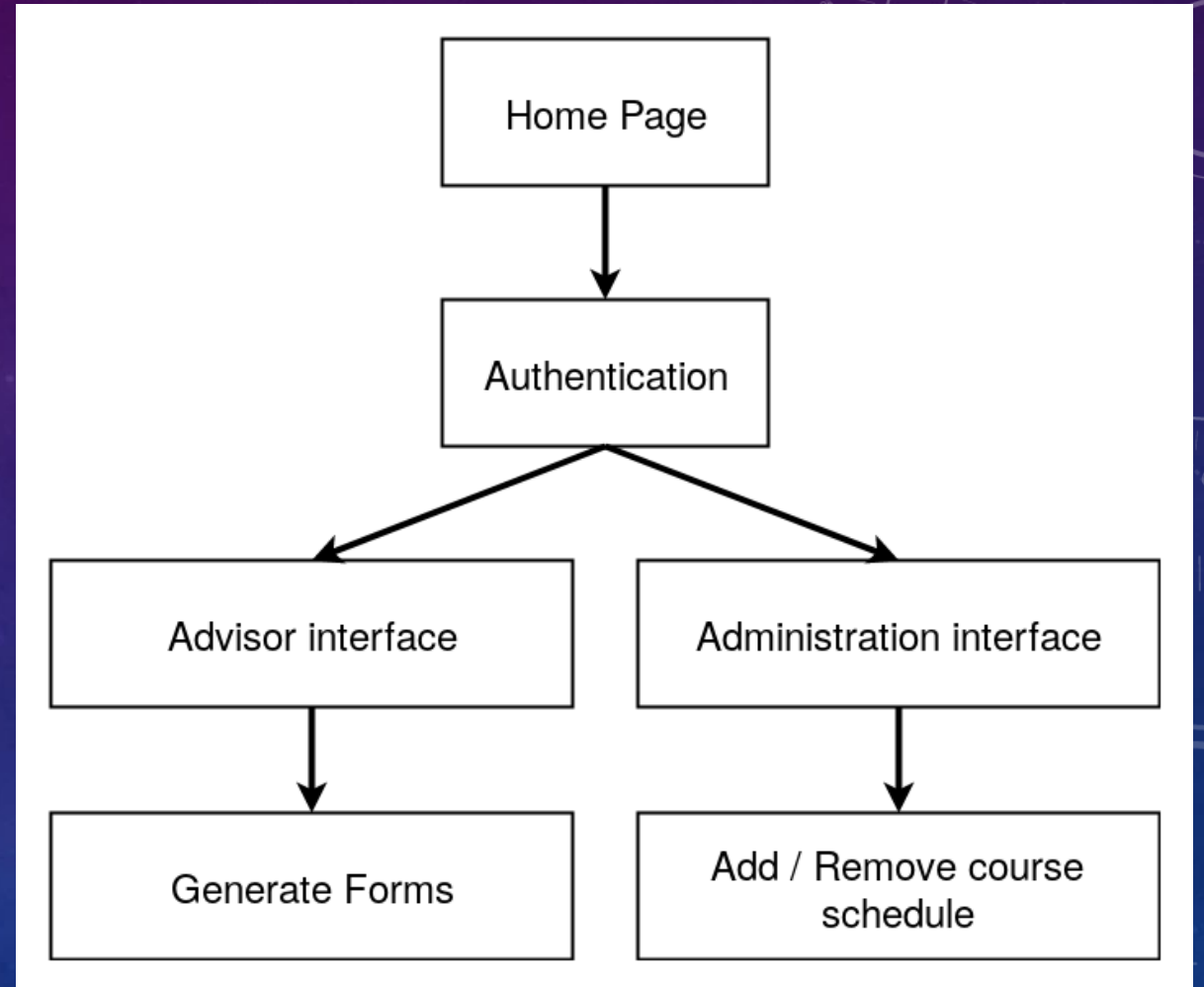
DESIGN CONSTRAINTS

- 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	Winter 17	Spring 17
CS 480 (4cr) ▼	CD 481 (4cr) ▼	CS 420 (4cr) ▼
CS 427 (4cr) ▼	CS 470 (4cr) ▼	CS Elective (4cr) ▼
CS 361 (4cr) ▼	CS 362 (4cr) ▼	CS Elective (4cr) ▼
CS Elective (4cr) ▼	CS 392 (1cr) ▼	CS 492 (1cr) ▼
Total: 16 Credits	Total: 13 Credits	Total: 13 Credits

GENERATE PLAN

EXPORT / PRINT

ADMINISTRATOR INTERFACE

- Modify course offerings
- Modify catalog data
- Manage user accounts

Computer Science Advising Tool

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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

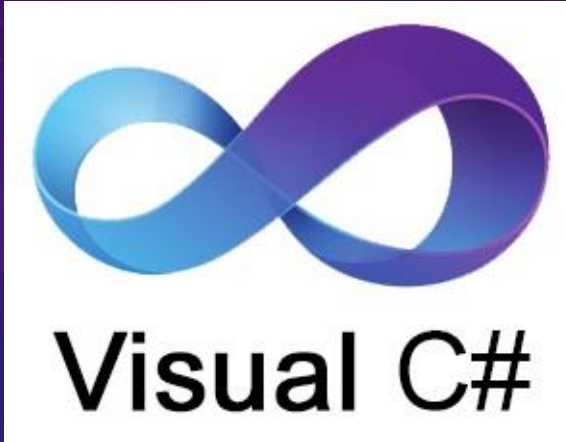
DEVELOPMENT TOOLS

NICK ROHDE



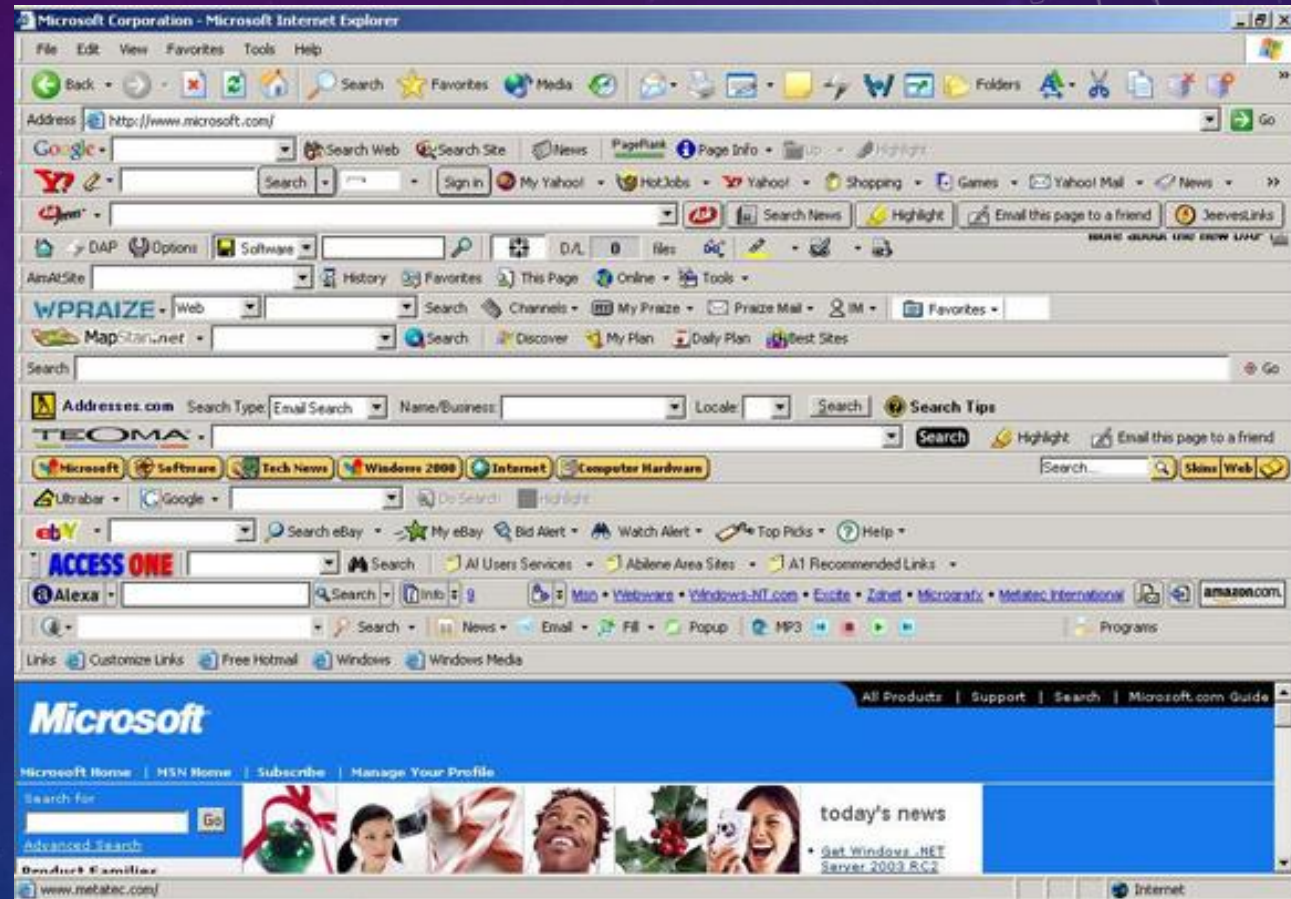
SOFTWARE INTERFACES

- C#
- .NET Core
 - ASP
- GitHub
- Databases
 - MySQL (SQL)
 - DB4O (NoSQL)



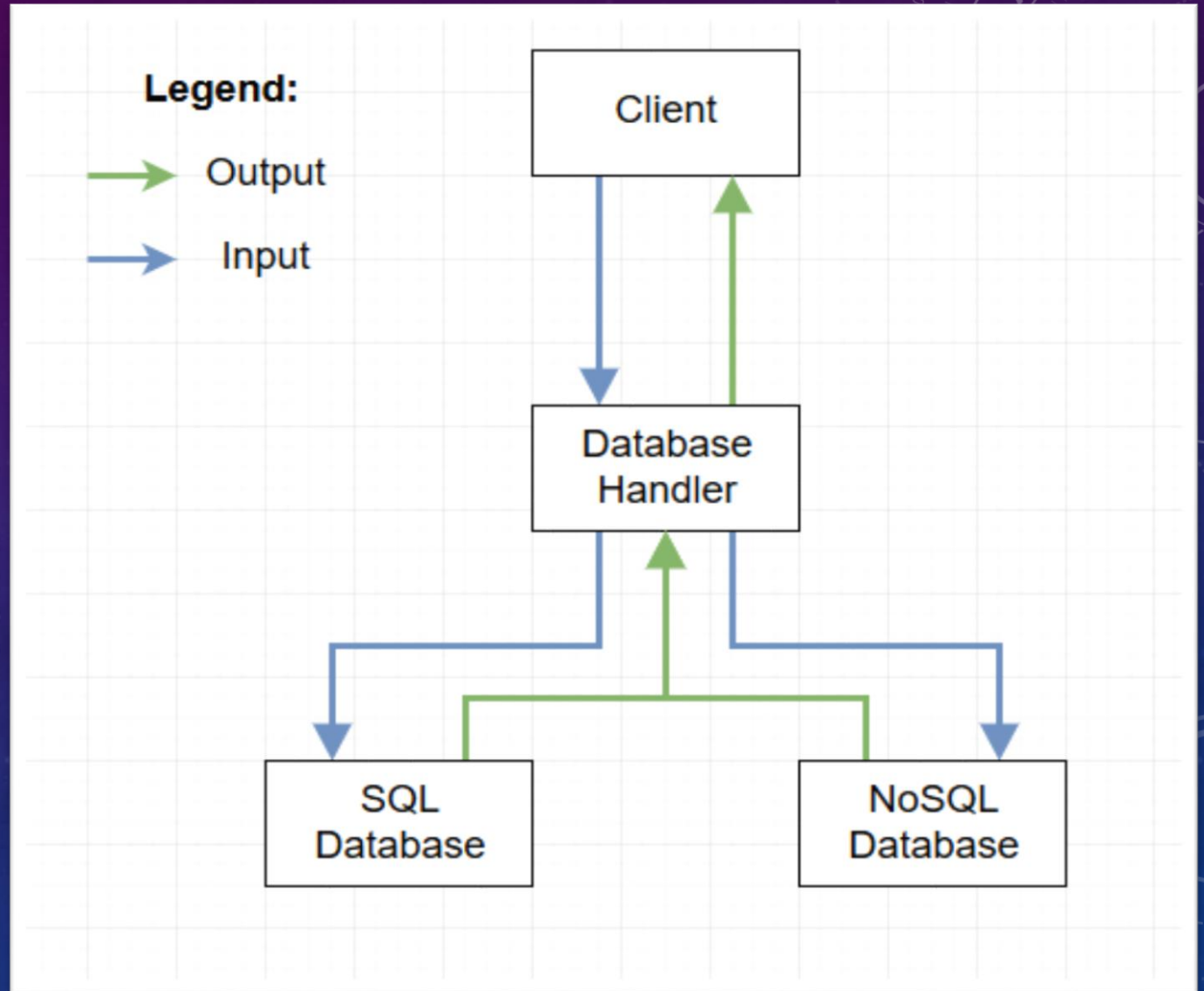
OPERATING ENVIRONMENT

- Virtual Linux Server
 - Modern Hardware
- Browser



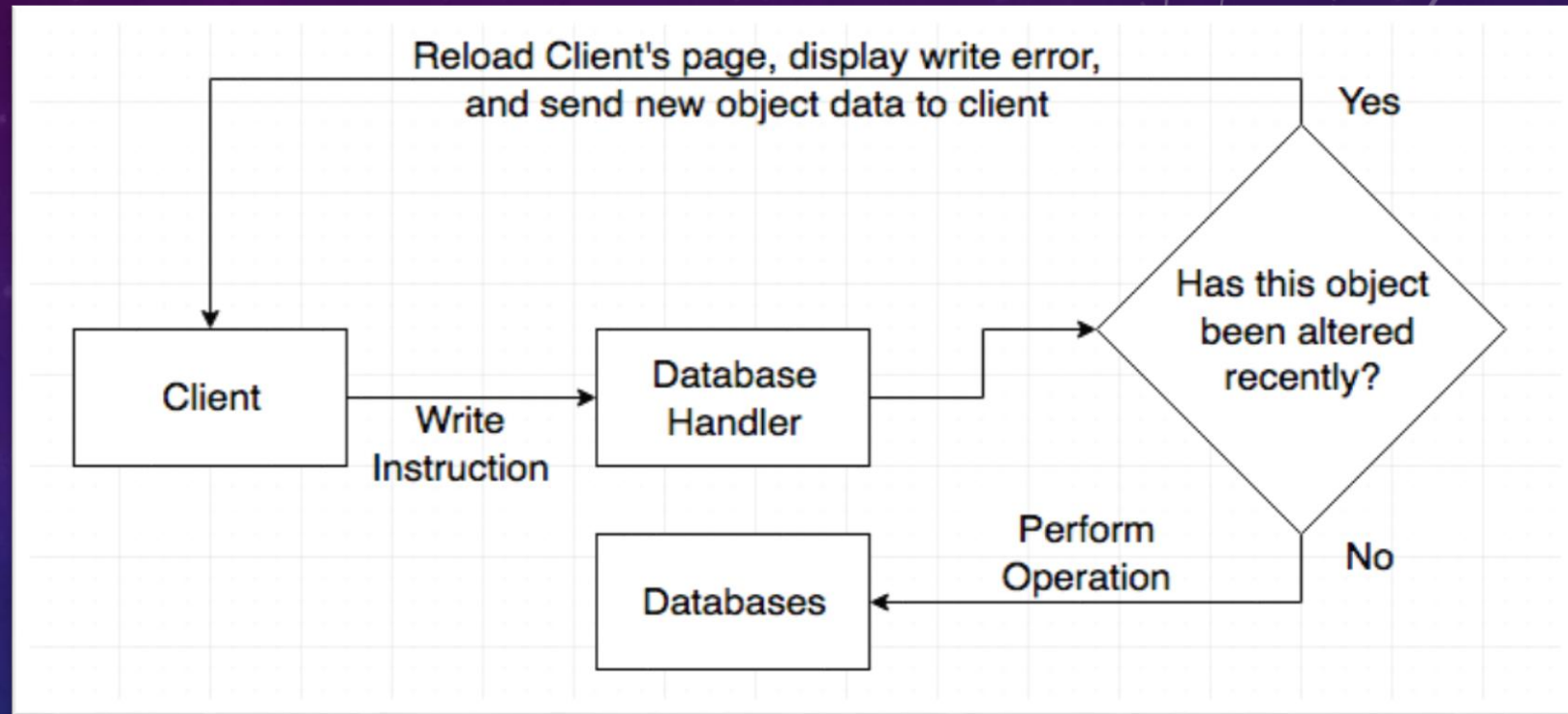
DATABASE OVERVIEW

- Database Handler
- SQL Database (MySQL)
- NoSQL Database (DB4O)



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	0xabcd4	T
MM	7	0xac1230	F
borisk	2	0x123ad2	F
...

DB4O

- C# objects
- Easy to Retrieve
- Changed Rarely

Identifier	Referenced Object	
12345678	Student	WP : 1
CS480	Course	WP : 1
Y2014	Catalog	WP : 1

TESTING AND SCHEDULE

RICO ADRIAN



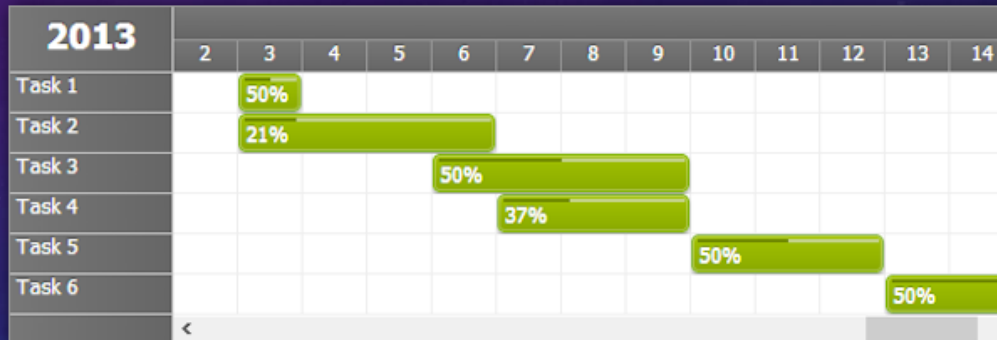
TEST SCENARIOS

- Functional Tests
- Black/White-Box Testing
- UI Testing
- Algorithm accuracy

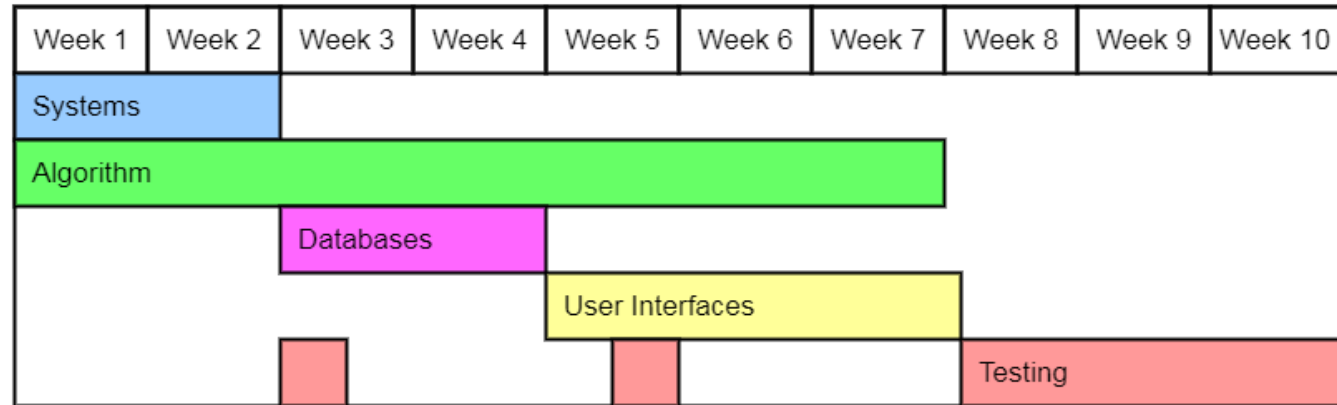


PROJECT SCHEDULE

- Gantt Chart
- Time approximation
- Project timeline



GANTT CHART



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

- Improve Current System
- Constraints
- Website
- Two types of databases
- Testing
- Scheduling



REFERENCES

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QUESTIONS

