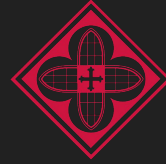




Advisory Assistant



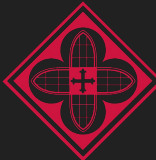
Jay Bang, Julia Cutright, John
(Jack) McCarthy, Brendan Tran

Primary Stakeholder: Dr. David Olwell
Project Client: School Faculty

Foundation of Project

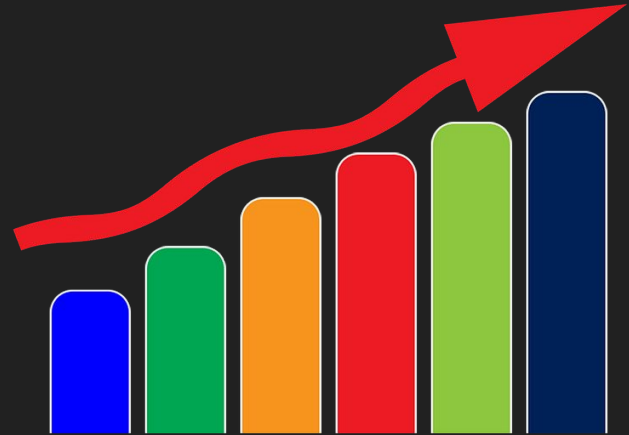


- Confusion
- Communication Issues
- Stressed Advisors
- Late Graduations



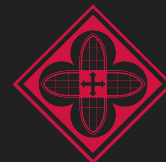
Project Goal

- Aid the schedule making process
- List needed courses
- Provide choice
- Faster graduation rates
- Higher satisfaction



Elements Considered

- Degree Requirements
 - Standard offering
 - Core Courses
- Course Placement
- Transcript
- 4+1 Courses
- Summer School



Degree Requirements

- Standard Offering
- Core Courses
- Majors



Math/English Placement



- Tests
- Outside Credits
- Less Courses
- Use to Advantage



Transcripts

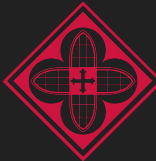
- Shows Earned Credits
- Saves Time
- Prevents Unnecessary Work



Security




- Student Data
- FERPA
- ACM Ethics
- SSL Packages



Initial Plan

- Utilize Self-Service
- Output .pdf
- Consider most degrees

 Saint Martin's
UNIVERSITY

Student Name
Student ID
Year Started
Major/Minor
Advisor Name

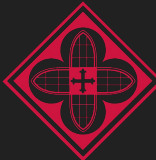
Fall	Spring	Fall	Spring
Fall	Spring	Fall	Spring



Project Challenges



- Communication
- Scope
- Semester
- Specific Courses
- Special Courses
- Manner of Implementation
- Time

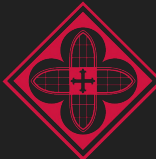


Implementation (Front End)

- HTML, CSS, JavaScript
- General Formatting
- Some Minor Functionality

Number of semesters needed:

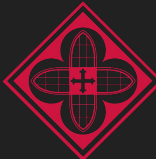
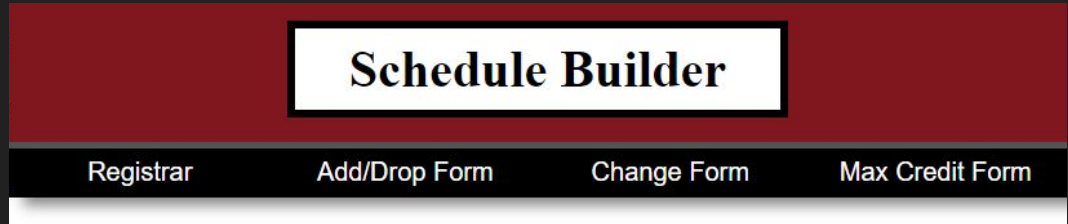
Max courses per semester:



HTML

- Uses external JavaScript File
- Extensive use of <div> tag for organization
- Tables used for formatting
- Use of form

```
<div id = "links">  
  <a id="registrar" href = "https://www.stmartin.edu/directory/office-registrar">Registrar</a>  
  <a id="AddDrop" href = "https://www.stmartin.edu/sites/default/files/smu-files/registrar/2019-  
  <a id="Change" href = "https://www.stmartin.edu/sites/default/files/smu-files/registrar/2019-c  
  <a id = "Max" href="https://www.stmartin.edu/sites/default/files/smu-files/registrar/2019-maxim  
</div>
```



CSS

- Few sections formatted for entirety of page
- Blocks horizontal scrolling
- Most elements referenced by ID selector

```
div#links /*Creates link bar to pages to assist with scheduling*/
{
    background-color:black; /*Decoration*/
    box-shadow: 10px 5px 8px #888888;
    font-family:Arial;

    margin-top:0px; /*Position*/
    margin-bottom:25px;

    height:30px; /*Sizing*/
    width:100%;
    line-height:30px;
}

div#links a /*Formats the links in link bar*/
{
    float:left;
    color: white;
    text-decoration: none; /*keeps links from being underlined*/
    font-family:Arial;
    width:25%; /*width should be 100/number of links*/
    text-align:center;
}
```



JavaScript

- Gets user input for max courses and semesters needed
- Uses a series of for loops to produce table

```
function myClass()
{
    var table = document.getElementById("schedule");

    var semesters = document.getElementById("numSemesters").value;

    //var semNum = r+1;
    //rowTitle.innerHTML = "Semester " + semNum ;

    var x = document.getElementById('schedule').insertRow();

    for(var c=0; c<semesters;c++)
    {
        var semNum = c+1;
        //var first = x.insertCell();
        var y = x.insertCell();
        y.innerHTML = "Semester " + semNum;
    }

    var table2 = document.getElementById("schedule2");
    var courses = document.getElementById("numCourses").value;

    for(var r = 0;r<courses; r++)
    {
        var tableClasses = document.getElementById('schedule2')
        var rowTitle = table.insertRow();

        //var semNum = r+1;
        //rowTitle.innerHTML = "Semester " + semNum ;

        var x = document.getElementById('schedule2').insertRow(r);
```



JavaScript

- PHP pushes Transcript input on to a line by line array
- Reduce and move the array to JS and then cross compare required courses with transcript
- Compare remaining courses with user input into table

```
<script type="text/javascript">
  <?php
    $sumArr = file("Sections//Summer.txt");
    $fallArr = file("Sections//Fall.txt");
    $sprArr = file("Sections//Spring.txt");
    $js_sumArr = json_encode($sumArr);
    $js_fallArr = json_encode($fallArr);
    $js_sprArr = json_encode($sprArr);
    $js_array = json_encode($carr);
    echo "var js_array = ".$js_array."; \n";
    echo "var js_sumArr = ".$js_sumArr."; \n";
    echo "var js_fallArr = ".$js_fallArr."; \n";
    echo "var js_sprArr = ".$js_sprArr."; \n";
  ?>
  js_sumArr = arrTrim(js_sumArr);
  js_fallArr = arrTrim(js_fallArr);
  js_sprArr = arrTrim(js_sprArr);
  js_array = arrTrim(js_array);
```



Implementation (Back End)

- PHP
 - Pushing of transcript
- File Stream
 - Pulls requirements for Major and course scheduling
- For Loops and If, Else If
 - Used to check for major requirements, electives, and cores (Stored as PHL_Core)

```
function transcriptEdit($tarr, $carr)
{
    for($i = 0; $i < count($tarr); $i++)
    {
        for($j = 0; $j < count($carr); $j++)
        {
            $eTest = substr($tarr[$i], 0, 3)."_Elective";
            $eTest2 = substr($tarr[$i], 0, 2)."_Elective";
            $cTest = substr($tarr[$i], 0, 3)."_Core";
            $cTest2 = substr($tarr[$i], 0, 2)."_Core";
            if(str_contains($carr[$j], $tarr[$i]))
            {
                unset($carr[$j]);
                $carr = array_values($carr);
            }
            elseif(str_contains($carr[$j], $eTest))
            {
                unset($carr[$j]);
                $carr = array_values($carr);
            }
            elseif(str_contains($carr[$j], $eTest2))
            {
                unset($carr[$j]);
                $carr = array_values($carr);
            }
            elseif(str_contains($carr[$j], $cTest))
            {
                unset($carr[$j]);
                $carr = array_values($carr);
            }
            elseif(str_contains($carr[$j], $cTest2))
            {
                unset($carr[$j]);
                $carr = array_values($carr);
            }
        }
    }
}
```



Model



Student Information

[Registrar](#)

[Add/Drop Form](#)

[Change Form](#)

[Max Credit Form](#)

[Self-Service](#)

Full Name:

Student ID:

Major:

Copy and Paste your Unofficial Transcript:



Model

Registrar

Add/Drop Form

Change Form

Max Credit Form

Self-Service

Number of Semesters needed:

Max courses per semester:

My Schedule

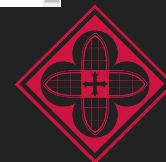
Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
Choose a Section ▼	Choose a Section ▼	Choose a Section ▼	Choose a Section ▼	Choose a Section ▼	Choose a Section ▼	Choose a Section ▼	Choose a Section ▼

Required Courses

- CSC141
- CSC200
- CSC395
- CSC495
- PHL_Core
- SOC_Core_1
- SOC_Core_2

Missing Courses

Total: 7



Project Successes

- Transcripts
- Core Courses
- Student Preference
- Better Scope Understanding



Project Successes

- Cheaper
- Easier to make changes
- Easy Navigability



Potential Costs

- Recurring
 - Web domain: \$9 to \$15
 - SSL Certificate: \$10 - \$800
 - Website Hosting: \$10-\$1000
 - Maintenance: \$35-\$4000
- Estimated Annual Cost: \$2500



Potential Savings

- EMS Software: \$20,000 Base Price
- ofCourse Scheduling: \$8,500 to \$12,000 annually
- PathwayU: \$2,500 to \$15,000 annually



Next Years Work



- Self-Service
- Prerequisites
- Transfer students
- Seasonal Classes
- Summer Courses
- 4 + 1 Options



Final Conclusions

- Scheduling is Complex
- Savings Potential



Thank You

