Increase Student Success with a Transformed Class Schedule

Robert Bramucci, Ph.D., Vice-Chancellor, Technology and Learning Services
Jim Gaston, Director, IT – Academic Systems
Agenda

• About Us
• Project Goals
• SmartSchedule Background
• Demonstration
• Next Steps – How You Can Get Involved
About Us

• About the SOCCCD
  – Two-college district in southern California
  – Approximately 43,000 students/term (23,000 FTES)

• Two Colleges, Three Campuses
  – Saddleback College in Mission Viejo
  – Irvine Valley College in Irvine
  – Advanced Technology and Education Park (ATEP) in Tustin
SmartSchedule Goal
SmartSchedule Background
Class schedule was the first web application we built in 1995. IDML program ran on a VAX and generated a set of HTML files each night.

### DR 100 FUNDAMENTALS OF MECHANICAL DRAFTING
Introduces the design process, the proper use of drafting instruments, lettering, geometric construction, multiview projection, pictorial drawings, ANSI and ISO dimensioning. 

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Weeks</th>
<th>From</th>
<th>To</th>
<th>Time</th>
<th>Days</th>
<th>Instructor</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>60995A</td>
<td>16.6</td>
<td>24-Aug-98</td>
<td>19-Dec-98</td>
<td>04:00PM-07:00</td>
<td>M W</td>
<td>Collins, D</td>
<td>B 362</td>
</tr>
</tbody>
</table>

### DR 101 MECHANICAL DRAFTING
Develops the basic skills required to produce industrial quality assembly and detail drawings. Includes basic design processes used for machine drawings, castings, cans, weldments, and power transmissions, with integrated problems and solutions. 

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Weeks</th>
<th>From</th>
<th>To</th>
<th>Time</th>
<th>Days</th>
<th>Instructor</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>60995D</td>
<td>16.6</td>
<td>24-Aug-98</td>
<td>19-Dec-98</td>
<td>04:00PM-07:00</td>
<td>M W</td>
<td>Collins, D</td>
<td>B 362</td>
</tr>
</tbody>
</table>

### DR 102 MECHANICAL DRAFTING AND DESIGN
Develops the basic skills needed for industrial-level mechanical drawing and conceptual design. 

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Weeks</th>
<th>From</th>
<th>To</th>
<th>Time</th>
<th>Days</th>
<th>Instructor</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>90070</td>
<td>16.6</td>
<td>24-Aug-98</td>
<td>19-Dec-98</td>
<td>TBA</td>
<td>TBA</td>
<td>Collins, D</td>
<td>TBA</td>
</tr>
</tbody>
</table>

### DR 150 INTRODUCTION TO COMPUTER-AIDED DRAFTING
An introductory computer-aided drafting (CAD) course for all applications. Students use the CAD system to create and analyze 2-D and pictorial drawings conforming to ANSI standards. 

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Weeks</th>
<th>From</th>
<th>To</th>
<th>Time</th>
<th>Days</th>
<th>Instructor</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>61000A</td>
<td>16.6</td>
<td>24-Aug-98</td>
<td>19-Dec-98</td>
<td>12:30PM-03:30</td>
<td>T Th</td>
<td>Collins, D</td>
<td>B 362</td>
</tr>
<tr>
<td>61005</td>
<td>16.6</td>
<td>24-Aug-98</td>
<td>19-Dec-98</td>
<td>07:00PM-10:00</td>
<td>M W</td>
<td>Collins, D</td>
<td>B 362</td>
</tr>
</tbody>
</table>
**AUTO105**

**AUTOMOTIVE POWER TRAIN**

3 Units - 2 hours lecture 2 hours lab

**Prerequisite**: None  
**Limitation**: None  
**Corequisite**: None  
**Recommended Preparation**: AUTO 100

**Course Description**: Operating principles and overhaul and repair procedures of automotive power trains including clutches, three- and four-speed synchromesh transmissions, overdrives, drive line, differentials, and rear axles. Demonstrated lectures and practical experience in the laboratory on power train components. Outside assignments are required. (R-E)

**Other Information**

- Typical Assignments
- Topics Covered
- Learning Objectives
- Methods of Evaluation
Upgraded to SmartSchedule in July 2002

### HIST 4 - WORLD HISTORY TO 1500
A survey of major themes and events in world history from the earliest civilizations to 1500. Emphasis will be placed on the rise of ancient Egypt, Greece, and Rome; the early Indian, Chinese, Latin American, and African empires, and European expansionism and global encounters.

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Day</th>
<th>Time</th>
<th>Instructor</th>
<th>Location</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>20910</td>
<td>M W</td>
<td>9:30AM - 10:45</td>
<td>M. ROMERO</td>
<td>LRC 104</td>
<td>Open</td>
</tr>
<tr>
<td>19010</td>
<td>M W</td>
<td>11:00AM - 12:15</td>
<td>M. ROMERO</td>
<td>BGS 134</td>
<td>Open</td>
</tr>
<tr>
<td>19030</td>
<td>M W</td>
<td>3:30PM - 4:45</td>
<td>M. ROMERO</td>
<td>BGS 134</td>
<td>Open</td>
</tr>
<tr>
<td>19005</td>
<td>T Th</td>
<td>8:00AM - 9:15</td>
<td>C. GHANBARPOUR</td>
<td>BGS 134</td>
<td>Open</td>
</tr>
</tbody>
</table>

### The following classes meet from 9/12/2016 to 12/18/2016:
- Is an online class right for you? Please take this quiz: [http://www.saddleback.edu/de/DQuiz.html](http://www.saddleback.edu/de/DQuiz.html). See class tips for online education at [http://www.saddleback.edu/de/online-class-tips](http://www.saddleback.edu/de/online-class-tips), and course access instructions at [http://www.saddleback.edu/de/student-technical-support](http://www.saddleback.edu/de/student-technical-support).

### HIST 5 - WORLD HISTORY SINCE 1500
Survey of major themes and events in world history from 1500 to the present

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Day</th>
<th>Time</th>
<th>Instructor</th>
<th>Location</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>19205</td>
<td>TBA</td>
<td>INTERNET (Off Campus)</td>
<td>J. SEAMAN</td>
<td>Open</td>
<td></td>
</tr>
<tr>
<td>19210</td>
<td>TBA</td>
<td>INTERNET (Off Campus)</td>
<td>C. GHANBARPOUR</td>
<td>Open</td>
<td></td>
</tr>
<tr>
<td>19215</td>
<td>TBA</td>
<td>INTERNET (Off Campus)</td>
<td>C. GHANBARPOUR</td>
<td>Open</td>
<td></td>
</tr>
<tr>
<td>19220</td>
<td>TBA</td>
<td>INTERNET (Off Campus)</td>
<td>J. SEAMAN</td>
<td>Open</td>
<td></td>
</tr>
</tbody>
</table>
In Spring 2016 students created **30,791** shopping carts
Received the State Chancellor’s Office Technology Focus Award in 2005
SOCCCD Student Success Systems

- MAP
- Sherpa
- Predictive Analytics
- Student Success Dashboard
- Progress Report (Early Alert)
- SmartSchedule
Design Considerations
Traffic Overview

All Users: 100.00% Sessions

Overview

Sessions: 20,000

Sessions: 1,372,380

Users: 480,429

Pageviews: 9,366,857

Pages / Session: 6.83

Avg. Session Duration: 00:07:26

Bounce Rate: 24.85%

% New Sessions: 32.77%

Returning Visitor: 57.1%

New Visitor: 32.9%
Performance

Site Name: SmartSchedule Page
Customer: South Orange County CC District
Locations: Los Angeles

100% Available

Transaction Load Analysis

<table>
<thead>
<tr>
<th></th>
<th>Response</th>
<th>DNS</th>
<th>Connect</th>
<th>Redirect</th>
<th>FirstByte</th>
<th>Content</th>
<th>DOM Load</th>
<th>Page Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg</td>
<td>0.1379</td>
<td>0.0105</td>
<td>0.0175</td>
<td>0.0000</td>
<td>0.1060</td>
<td>0.0037</td>
<td>0.3414</td>
<td>0.3486</td>
</tr>
<tr>
<td>Min</td>
<td>0.0580</td>
<td>0.0000</td>
<td>0.0105</td>
<td>0.0000</td>
<td>0.0461</td>
<td>0.0000</td>
<td>0.1368</td>
<td>0.1408</td>
</tr>
<tr>
<td>Max</td>
<td>15.1753</td>
<td>0.4424</td>
<td>15.0423</td>
<td>0.0000</td>
<td>13.4641</td>
<td>1.0046</td>
<td>21.7174</td>
<td>21.7254</td>
</tr>
<tr>
<td>STD</td>
<td>0.3919</td>
<td>0.0220</td>
<td>0.2525</td>
<td>0.0000</td>
<td>0.2719</td>
<td>0.0422</td>
<td>0.6057</td>
<td>0.6062</td>
</tr>
</tbody>
</table>
### Mobile

<table>
<thead>
<tr>
<th>Platform</th>
<th>Count</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>626,934</td>
<td>45.68%</td>
</tr>
<tr>
<td>Macintosh</td>
<td>337,715</td>
<td>24.61%</td>
</tr>
<tr>
<td>iOS</td>
<td>313,624</td>
<td>22.85%</td>
</tr>
<tr>
<td>Android</td>
<td>79,837</td>
<td>5.82%</td>
</tr>
<tr>
<td>Chrome OS</td>
<td>9,894</td>
<td>0.72%</td>
</tr>
<tr>
<td>Linux</td>
<td>2,896</td>
<td>0.21%</td>
</tr>
<tr>
<td>Windows Phone</td>
<td>1,153</td>
<td>0.08%</td>
</tr>
<tr>
<td>BlackBerry</td>
<td>221</td>
<td>0.02%</td>
</tr>
<tr>
<td>(not set)</td>
<td>58</td>
<td>0.00%</td>
</tr>
<tr>
<td>Xbox</td>
<td>23</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

![Pie chart showing percentage distribution of mobile platforms](image-url)
Search

In the last year there were 271,610 searches in SmartSchedule, averaging 744/day.

<table>
<thead>
<tr>
<th>Type</th>
<th>Success</th>
<th>Fail</th>
<th>Fail %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple</td>
<td>58,884</td>
<td>24,195</td>
<td>29%</td>
</tr>
<tr>
<td>Advanced</td>
<td>139,126</td>
<td>49,405</td>
<td>26%</td>
</tr>
<tr>
<td>Total</td>
<td>198,010</td>
<td>73,600</td>
<td>27%</td>
</tr>
</tbody>
</table>
Unsuccessful Searches
Choice Architecture

- Index vs. Search
- Summary vs. Detail
- Generic vs. Customized
- Aggregation
- Terminology
- Sorting
- The Power of the Default
Why is this important?
Design Process

1. Ideate
2. Prototype
3. Iterate
Faculty/Staff Brainstorming Sessions
Development Process

1. Product Backlog
2. Sprint Backlog
3. Sprint Planning
4. Daily Scrum
5. 1-4 Week Sprints
6. Sprint Review
7. Sprint Retrospective
8. Potentially Shippable Product Increment
What do the students need?
# Student Review of Class Schedules

<table>
<thead>
<tr>
<th>Date Started</th>
<th>Evaluator</th>
<th>College</th>
<th>Schedule</th>
<th>Functional Rating</th>
<th>Functionality Comments</th>
<th>UI Rate</th>
<th>UI Comments</th>
<th>Total Score</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/15/2015</td>
<td>Sarah J. Santamaria</td>
<td>Monterey Peninsula College</td>
<td>[webreg.mpc.edu/SRL_ScheduleOf Classes](<a href="http://webreg.mpc.edu/SRL_ScheduleOf">http://webreg.mpc.edu/SRL_ScheduleOf</a> Classes)</td>
<td>10</td>
<td>It was very clear how to register for courses. Course information included transferability and recommended preparation. There is a book link beside each course.</td>
<td>10</td>
<td>This one surprised me the most. I really enjoyed exploring the different methods for searching/viewing courses. My favorite was probably the Tree View. Students can select a term, then the first letter of the discipline, and then see courses listed under that discipline.</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3/27/2015</td>
<td>Melissa Boomer</td>
<td>City College of San Francisco</td>
<td><a href="http://www.ccccf.edu">www.ccccf.edu</a></td>
<td>10</td>
<td>The class schedule was on the home page. Once you clicked on that there were sub categories in/ evening, late, online, sat classes for each semester. It was easy to find an open class and understand.</td>
<td>10</td>
<td>The class schedule is interactive with book info, and a (american disabilities act) tells you that the class can access a wheelchair. I liked how the info is broken down in different colors as well.</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3/27/2015</td>
<td>Melissa Boomer</td>
<td>American River College</td>
<td><a href="http://www.arc.losrios.edu">www.arc.losrios.edu</a></td>
<td>9</td>
<td>Link to class schedule on home page. Very easy to find. Once you click on class schedule, there is a content page, you can click on which semester you are interested in as well as final exam dates/times and archived schedules. Very functional and easy to use.</td>
<td>10</td>
<td>Easy to use, find classes and navigate. Included in description was a book link. Long class description with prereq info.</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>6/4/2015</td>
<td>Ryan Mathis</td>
<td>Antelope Valley College</td>
<td><a href="http://www.avc.edu/information/schedule/">http://www.avc.edu/information/schedule/</a></td>
<td>9</td>
<td>The class schedule ran smoothly and there were no problems finding classes.</td>
<td>10</td>
<td>AVC has a great class schedule system that is straightforward and easy to use.</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>6/8/2015</td>
<td>Ryan Mathis</td>
<td>Contra Costa College</td>
<td><a href="https://passport2.peralta.edu/psp/BPAPROD/Em">https://passport2.peralta.edu/psp/BPAPROD/Em</a></td>
<td>9</td>
<td>This is the most fluid system I have seen yet. It operates smoothly, was easy to find, and provides me with classes every time I search.</td>
<td>10</td>
<td>Extremely easy to use. Very helpful legend that a untrained person can easily understand. If I just wanted to see all the classes for the fall, that was possible by filling out only one field. Two different search buttons: one for 'all classes' and the other for 'open' classes, allowing for a quick and informative way to view classes. Very intuitive. The only reason I gave it a 9 was because the URL given above was semi-difficult to find.</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>6/11/2015</td>
<td>Ryan Mathis</td>
<td>Contra Costa College</td>
<td><a href="https://webschedule.smccd.edu/default.php">https:// webschedule.smccd.edu/default.php</a></td>
<td>10</td>
<td>I had zero problems with the functionality, I think it is the best class schedule search system I have seen so far. The search engine was really fast. An 'expands class listing length' button was also helpful. Also an advanced search tab has been implemented for more narrow searching.</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Student Design Team Retreat
Breakout Sessions
Rough Sketches
Persona Based Design

• Olivia the Overachiever
• Uri the Undecided
• Abby the Adult Learner
• Ed the Emeritus Student
• Ivan the International Student
• Harry the High School Student
SmartSchedule Phases

• **Phase 1**  Complete
  – UX upgrade
  – College branding
  – Mobile responsive
  – Architectural Foundation for Phase 2

• **Phase 2**  Complete
  – Entirely new infrastructure
  – User Interface Enhancements
  – Allow colleges to easily change aggregation using index groups
  – Improved shopping cart
  – Global search with auto-suggest
  – Faceted search results with immediate refresh

• **Phase 3**  Going Live February 2019
  – New Landing Page
  – Schedule Builder with proactive recommendations from MAP
Phases 1 and 2 Demo
Infrastructure

AWS Global Infrastructure

GovCloud (US ITAR Region)  US West (Northern California)  US West (Oregon)  US East (Northern Virginia)  South America (Sao Paulo)  EU (Ireland)  Asia Pacific (Singapore)  Asia Pacific (Tokyo)

- AWS Regions
- AWS Edge Locations
Phase 3 Demo
Guided Pathways
What’s Next?

• Complete Phase 3 (February 2019)
• Scale Up for Other Colleges
Questions?

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Jim Gaston:        jgaston@soccccd.edu