



Central  
Washington  
University

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ELLENSBURG, WASHINGTON

**TITLE:**

Central's Academic Planning System Plus 2.0



**CATEGORY:**

Information Communications Technology Initiatives

**STATE:**

Washington

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**PROJECT INITIATION DATE:**

June 2016

**PROJECT COMPLETION DATE:**

September 2018

A decorative border at the bottom of the page consists of a series of overlapping, three-dimensional red geometric shapes, resembling a stylized mountain range or a series of peaks.

# EXECUTIVE SUMMARY

Central Washington University, located two hours east of Seattle, sits in the agricultural heart of rural Kittitas County, Washington. Surrounded by rolling hills and snowcapped mountains, the main campus is located in Ellensburg. Students can also attend one of six University Centers, two instructional sites, or take classes online.

An analysis found the average CWU student took 4.25 years to degree completion. It was found that some students were impacted by the following circumstances:

- They did not realize a required course was only offered once per year
- They tried to register for a required course but it was full
- Critical course schedule conflicts

For more than 125 years, CWU has used a manual degree planning process and just in time course scheduling. It was apparent that an automated degree planning process was needed to optimize each quarter of instruction and the degree program decision-making process.

Additionally, it was evident that millennial and digital native generations, who comprise the majority of traditional CWU students, would welcome an automated degree planning process. Before embarking on this endeavor, CWU searched for an academic planning tool that would collaborate with CWU's current data architecture. In April 2017, CWU upgraded its data system to the latest Oracle PeopleSoft platform (version 8.55) with mobile-friendly technology. At the time, few institutions had completed such a comprehensive upgrade. As a result, no appropriate academic planning tools were

available. It was decided to develop an online, mobile first, academic planning tool in-house.

The objectives of the project team included:

- Facilitate student/adviser degree planning sessions
- Improve the degree program selection process
- Increase student satisfaction by streamlining the path to graduation
- Eliminate redundancy (the need for the student to create his/her own course tracker)
- Capture student interests so as to support university planning
- Support course and enrollment forecasting

The technical team pioneered the process of including academic, advising, faculty, and student stakeholders in the application development, testing, and promotion process. As a result, many of those stakeholders endorsed CAPS+ when it was launched and promoted it to incoming freshmen.

CAPS+ version 2.0 was released in fall 2018, to an expanded audience that included Graduate and Post-Baccalaureate students, as well as students who attend classes at one of CWU's six University Centers or two Instructional Sites.

Each quarter, the number of unique users has increased steadily. In May 2018, there were approximately 800 students who had generated at least one degree program plan. Now, that number has swelled to approximately 2,000 student users - an increase of 60 percent.

# CONCEPT

## THE ISSUE:

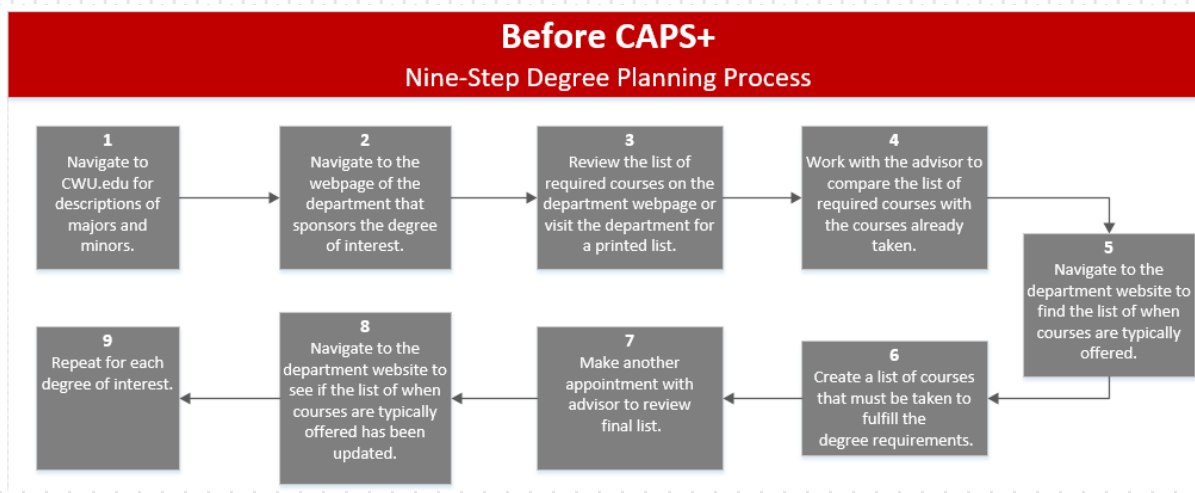
The purpose of Central's Academic Planning System Plus (CAPS+) is to support CWU's efforts to attract, engage, retain, and graduate students. From Amazon to Zillow, Facebook to Wikipedia, today's students are accustomed to user-friendly graphical interfaces that make communicating, shopping, and researching convenient.

Asking students to use a printed course list or hunt for course information on a department webpage was likened to asking them to use a telegraph machine instead of a smart phone. For example, a student wishing to major in computer science would visit the department's website to find the Tentative 2015-2019 Quarterly Undergraduate Offerings.

The student would subsequently work with an advisor to confirm which transfer courses would satisfy some of the required courses, and which courses would still be needed.

Finally, the student would write out (or create a spreadsheet of) the courses still needed to satisfy the degree requirements. The student would then repeat this nine-step process for each degree program of interest.

Computer Science																	
TENTATIVE 2015-2019 QUARTERLY UNDERGRADUATE OFFERINGS																	
KEY: x = Ellensburg In-Class; o = Online Course; DE = Distance Education/TV Course																	
L = Lynnwood Center; DM = Des Moines Center; E = Everett Campus; P = Pierce Campus; M = Moses Lake Center; W = Wenatchee Center; Y = Yakima Center																	
x2 = 2 Ellensburg In-Class sections; o3 = 3 Online sections; xl = 1 In-Class section at Lynnwood Center; DE, LDM, E = 1 DE section in Lynnwood, Des Moines, and Everett																	
Due to fluctuations in enrollment numbers, this sheet is a guide (not a guarantee) for course/section number offerings.																	
Class	Credits	Fall 2015	Winter 2016	Spring 2016	Summer 2016	Fall 2016	Winter 2017	Spring 2017	Summer 2017	Fall 2017	Winter 2018	Spring 2018	Summer 2018	Fall 2018	Winter 2019	Spring 2019	Summer 2019
CS 101 Computer Basics	4	X3	X3	X2	X1	X3	X3	X2	X1	X3	X3	X2	X1	X3	X3	X2	X1
CS 105 Logical Basis of Computing	4	X2	X2	X2	X1	X2	X2	X2	X1	X2	X2	X2	X1	X2	X2	X2	X1
CS 110 Programming Fundamentals	4	X2	X1	X1	X1	X2	X1	X1	X1	X2	X1	X1	X1	X2	X1	X1	X1
CS 111 Programming Fundamentals II	4		X2	X1	X1		X2	X1	X1		X2	X1	X1		X2	X1	X1
CS 112 Foundations of CS	4	X1		X1		X1		X1		X1		X1		X1		X1	
CS 250 Web Development	4	X1				X1				X1				X1			
CS 298 Special Topics	1-6				X1				X1				X1				X1
CS 301 Data Structures	4	X2		X2		X2				X2		X2		X2			
CS 302 Advanced Data Structures	4		X2		X1		X2		X1		X2		X1		X2		X1
CS 311 Computer Architecture	4	X2		X2		X2		X2		X2		X2		X2		X2	
CS 312 Computer Architecture II	4	X1	X2			X2		X2		X1	X2		X1	X2		X1	
CS 325 Tech Writing in CS	3		X1	X1		X1		X1			X1	X1		X1		X1	
CS 351 Web Development II	4		X1				X1				X1			X1			
CS 352 Web Development III	4			X1				X1				X1				X1	
CS 361 Principles of Language Design	4	X2				X2				X2				X2			
CS 362 Principles of Language Design II	4		X2				X2				X2				X2		
CS 367 Advanced Visual Basic Programming	4			X1				X1				X1				X1	



# CONCEPT

## THE SOLUTION:

CWU tasked an internal project team to develop a mobile-first application with the following attributes:

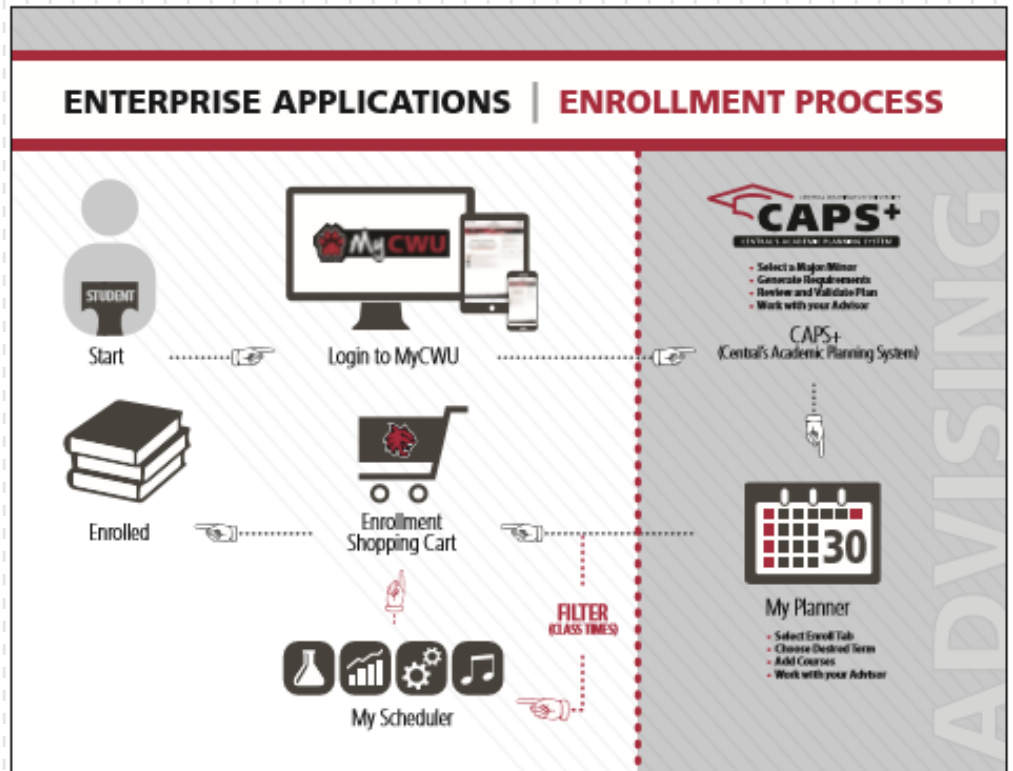
- User-friendly graphical interface that displays required courses
- Ability for students to visualize their academic progress
- Course, section, and faculty planning support
  - User alerts when time to degree completion may be impacted by erroneous course selection

CWU's Information Services Department utilized data from the Oracle PeopleSoft Campus Solutions module. This robust application is the foundation of the university's student management system. The project team did not seek to alter this efficient methodology, only to make the data more accessible and meaningful to stakeholders.

In April 2017, CWU's Information Services Department upgraded the following Oracle PeopleSoft modules to the latest available technology:

- PeopleTools
- Campus Solutions
- Human Capital Management
- Financial Management System
- Integration Hub

The upgrade provided access to new technology, including fluid graphical user interfaces that



automatically adjust to display on a given device. This allows students to use tablets or smart phones to access course information and more.

By utilizing the existing Oracle PeopleSoft database, the new CAPS+ application would be synchronized with the official university catalog without requiring duplicate work.

Finally, since CAPS+ was designed to optimize the current enrollment process, end-user training showed how CAPS+ bridged the gap between existing CWU technology.

In summary, CAPS+ turned CWU's antiquated degree planning process into a modern, mobile friendly, convenient, streamlined planning method for students and faculty. It is just one example of CWU's commitment to student success.

# SIGNIFICANCE

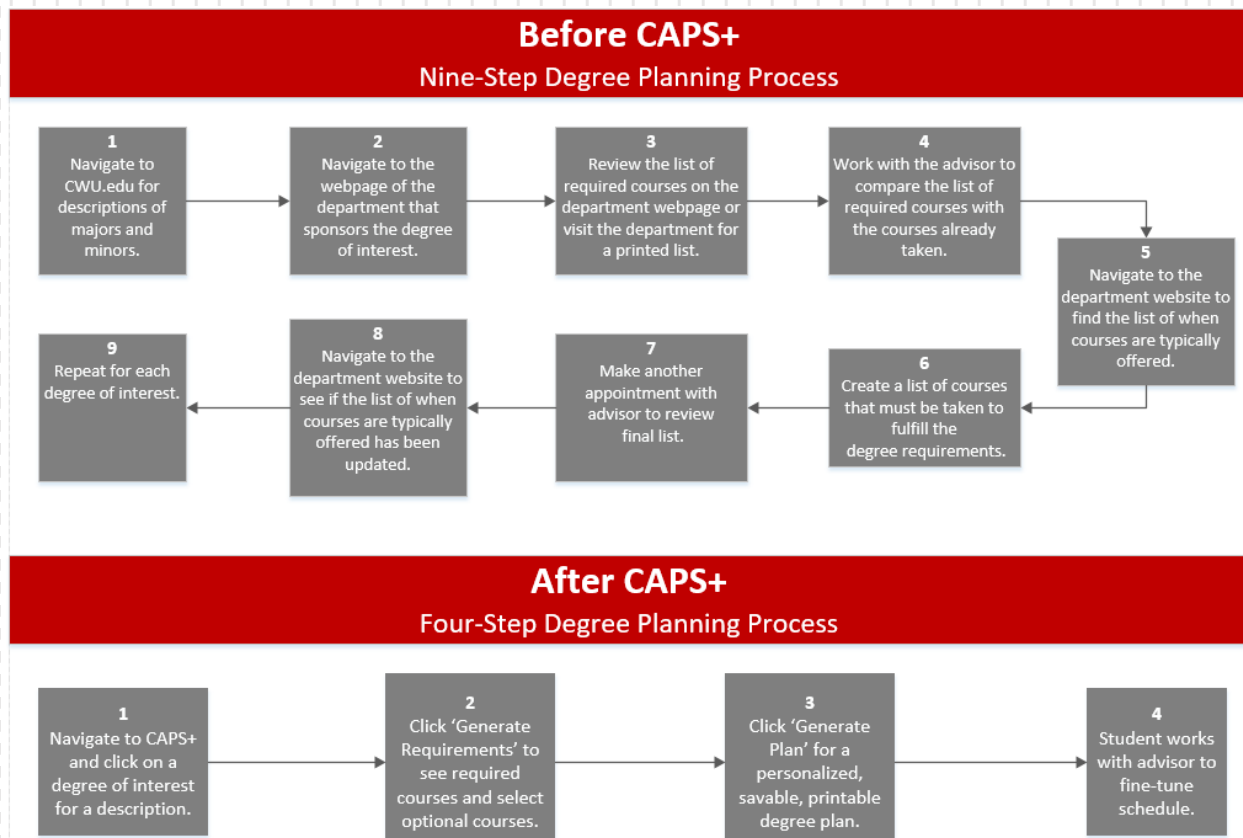
CAPS+ was developed by CWU employees who are also alumni. The lead developer remembered the challenges associated with the manual degree planning method and had a sincere desire to make the process easier for today's students.

Instead of working through nine manual degree planning steps, students using CAPS+ need only take four mobile-friendly, online actions, thus reducing the degree planning process by fifty-six percent.

CAPS+ not only streamlined the degree planning process for students, but also helped make academic advising appointments more productive. Instead of writing out a course list, the advising appointment

can now be used to focus on the goals of the student. CAPS+ is touted as being developed by Wildcats, for Wildcats (CWU's mascot). The technical team collaborated with a variety of Wildcats from around campus to design an appealing tool that functions well for students, faculty, advisors, and staff. This information was used to develop a user-friendly graphical user interface as noted below.

Each quarter, the number of unique users has increased steadily. In May 2018, there were approximately 800 students who had generated at least one degree program plan. Now, that number has risen to approximately 2,000 student users - an increase of 60 percent.





# IMPACT

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The initial launch of CAPS+ was met with enthusiasm by many CWU students, staff, and faculty. Students realized it supports their decision-making process; advisors saw how it streamlines the degree planning process; and administrators noticed the opportunity for more accurate course forecasting.

## **IMPACT ON STUDENTS:**

Prior to CAPS+, students had to use the manual, nine-step degree planning process in a world where printed lists and manual processes are becoming antiquated. CAPS+ has freed CWU students from the manual degree-planning process and made the exploration of various degree programs convenient and uncomplicated.

## **IMPACT ON ADVISORS:**

Since many advisors assist hundreds of students, each minute of an advising session must be carefully utilized to guide a student toward degree completion. The CAPS+ application all but eliminates the tedious advisor-student course planning sessions. CAPS+ has allowed advisors to elevate the conversation with students from courses and schedules to dreams and aspirations.

## **IMPACT ON ADMINISTRATORS:**

University administrators must plan what courses to offer, when to offer them, and how many sections to offer. If administrators were able to predict how many students would be interested in taking a particular course next quarter, next year, or in two years, then students would benefit from course availability.

CAPS+ provides the mechanism for CWU administrators to query the degree plans produced by CWU students. CAPS+ captures the data in the Oracle PeopleSoft database. Customized queries were developed to provide the data needed by administrators for planning and decision-making. This technology supports student success by helping administrators offer the right number of courses to support demand.

Administrators from Washington State University have also recognized the value of CAPS+. As a result, potential collaboration discussions have ensued.

# IMPACT

“CAPS+ is an invaluable tool for students to work collaboratively with their advisors. It actively involves the student in selecting, developing, and planning their four-year plan. Before, we had to manually create a spreadsheet for each student...Personally, I believe placing the focus and energy back on the student to help them succeed is the biggest success with CAPS+.”

—LESLIE WOODRIS, ACADEMIC ADVISOR

<p><b>Welcome Page</b></p>																												
<p><b>Degree Program Options</b></p>																												
<p><b>Academic Progress Chart</b></p>																												
<p><b>Printable Academic Roadmap</b></p>	<p><b>Name:</b> Joe Wildcat  <b>ID:</b> 24790660  <b>Declared Major:</b>      No Declared Major  <b>Current Plan:</b>      Accounting, BS</p> <p><b>2018-2019 Academic Year</b></p> <p>Fall 2018</p> <table border="1"> <thead> <tr> <th>Course</th> <th>Course Description</th> <th>Credits</th> </tr> </thead> <tbody> <tr> <td>ENG 101</td> <td>Comp I: Critical Read/Respond</td> <td>4.00</td> </tr> <tr> <td>GEOG 101</td> <td>World Regional Geography</td> <td>5.00</td> </tr> <tr> <td>MATH 101</td> <td>Math in Mod World</td> <td>5.00</td> </tr> <tr> <td>UNIV 101</td> <td>Academic Advising Sem</td> <td>1.00</td> </tr> </tbody> </table> <p>Winter 2019</p> <table border="1"> <thead> <tr> <th>Course</th> <th>Course Description</th> <th>Credits</th> </tr> </thead> <tbody> <tr> <td>ENG 102</td> <td>Composition II: Reason/Res</td> <td>4.00</td> </tr> <tr> <td>MATH 102</td> <td>Mathematical Decision Making</td> <td>5.00</td> </tr> <tr> <td>BUS 102</td> <td>Business Computer Skills</td> <td>4.00</td> </tr> </tbody> </table>	Course	Course Description	Credits	ENG 101	Comp I: Critical Read/Respond	4.00	GEOG 101	World Regional Geography	5.00	MATH 101	Math in Mod World	5.00	UNIV 101	Academic Advising Sem	1.00	Course	Course Description	Credits	ENG 102	Composition II: Reason/Res	4.00	MATH 102	Mathematical Decision Making	5.00	BUS 102	Business Computer Skills	4.00
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