

CENTRAL TEXAS COLLEGE

Information Technology Division

CTC of the Future: An IT Perspective

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FORWARD

As the Belton-Lampasas monorail shuttle glides silently along its track, CTC Shuttle Car #3 automatically detaches from the end of the shuttle and enters the Bell Tower Road access rail. While some of the occupants on board Car #3 chitchat with each other, some scan their Personal Digital Assistants (PDAs) attempting to study for an upcoming class or preview the day's events before they arrive at work. As the monorail shuttle continues its trek westward, Car #3 enters the campus and stops at the CTC Western Terminal Building in what was formerly the parking lot in front of Building 108. After a brief stop to allow passengers to disembark and others to board, Car #3 automatically proceeds to the eastern terminal of the CTC campus to pick up more passengers and then joins the eastbound shuttle of the Belton-Lampasas line.

Due to the speed, efficiency, and low maintenance cost of the electromagnetic shuttle system that translates into very low user fees, passengers prefer to use the shuttle system than drive their own vehicles to campus. The reduction in privately owned vehicles on campus caused the administration to remove most of the parking lots on campus and construct new buildings to support new academic programs.

CENTRAL CAMPUS: 2015

As the passengers exit the terminal building, they step onto the bi-directional Campus People Mover (CPM). A system based on electromagnetic propulsion similar to the monorail shuttle, the Campus People Mover is an interconnected system of electromagnetic platforms that transport pedestrians under covered causeways around campus. The causeways have solar panels to provide power for lighting and to power the platforms. Able to adjust to the weight of one rider or two, the platforms silently glide on a series of electromagnetic rails from building to building in a safe and efficient manner. The CPM parallels the campus sidewalk system for those who prefer to walk rather than ride.

As two students step onto a CPM platform, they discuss their upcoming presentation for their Professional Speaking class. As the CPM platform approaches Building 104, they decide to join their classmates at a picnic table near the Fine Arts Building and enjoy the fresh, spring air rather than sit in the classroom.

Meanwhile, other passengers of Car #3 continue to ride the CPM to the Campus Collegium. Housed in the former Student Center, the Campus Collegium is a mixture of study and relaxation lounges, a mini-mall, and library. It is a place to relax, study or enjoy some downtime. It is also a home-away-from-home for the students who attend the College and the faculty and staff as well. It provides lounges for students to study collaboratively with other Central Campus students or worldwide through real-time video connections. Each lounge is linked to the library's database via a high-speed connection allowing students to browse the library's electronic collections to do research for their classes or read periodicals for relaxation. The Collegium also provides food and retail services.

The College refurbished the Engineering Arts Technology and Vocational Skills Center and combined them into the Central Texas General Academic Studies and Skills Center. The building now provides adult education services and basic vocational skills courses to students seeking a new beginning. Located in what was formerly the parking lot near Building 150, the new Engineering Technology Center

provides students the opportunity to study mechanical, electrical, and electromagnetic propulsion systems in a state-of-the-art building. A new Computer Technology and Telecommunications Studies Center now stands behind the Planetarium where a large parking lot once existed. This building is home to the computer science, computer technology, and telecommunication studies programs and houses the Information Technology Division.

The two students who decided to attend class outside join some classmates at a picnic table near the Fine Arts Building. The small group casually converses about the day's happenings and other events in their lives as they enjoy the shade provided by the trees overhead. A student places his PDA, about the size of a present-day cell phone, in the middle of the table.

A chime sounds and a young woman quickly reaches into her backpack and pulls out a PDA similar to the one sitting on the table. She opens it and quickly enters her password after pressing the icon for the CTC portal on the PDA's screen.

She has received a video instant message from a representative in the Financial Aid Office. The representative explains that after receiving her video message about a hold on her summer registration, she reviewed her electronic application for financial aid for the summer semester and discovered an error. Using the current information provided by the student in the College's student database, she corrected the form. She is happy to inform the young woman that the College approved her request for financial aid and she will be able to take her summer classes. She will receive the remaining balance at the beginning of the summer semester after the College deducts the costs of registration, network user fees, and class data disks from her loan. As the Financial Aid representative speaks, the young woman receives another video instant message from a representative in the Registrar's Office. This representative explains that she received confirmation of the young woman's financial aid and that the Registrar's Office lifted the hold on her summer schedule and she will be able to graduate at the end of the summer as she planned. The young woman looks into the small camera in her PDA and gratefully thanks both representatives. In

two separate offices on campus, two representatives smile as the video of a relieved young woman disappears from their screens.

Meanwhile, another student scans a 3D image of a hybrid electric engine he has been working on in his electric motor mechanics class. He has a test tomorrow and he wants to make sure he knows the engine inside and out. He presses a series of buttons on his PDA to rotate the image of the engine and examines it closely. Satisfied, he presses a different button to reveal the results of a simulated endurance test he ran on his engine that he conducted two weeks prior using an Internet testing facility provided by a college in Colorado.

A minute later, a chime sounds and a full-length 3D image, about 12 inches high, of the students' Public Speaking instructor emerges from the PDA sitting on the picnic table. A series of small holographic emitters surround the PDA's screen and emit 3D images when the PDA is laid flat. Each student presses a button on his/her individual PDA to confirm class attendance. Standing behind a podium in a classroom in Building 104, the instructor receives confirmation of the students' attendance on the display in her podium. She notices that six of her students are not in the classroom, but their PDAs are receiving a live transmission of the class. She remembers seeing them sitting at the picnic table as she rode the CPM from the Collegium to Building 104 and wished she had given the lecture outside today. Another glance at her podium tells her that her students in North Carolina, Virginia, and Washington have also registered their attendance. She notes that an individual in Kansas has not signaled his presence and she makes a note to contact him after class to make sure he is all right since this is the second class he has missed. Before she begins her lecture on interpersonal communications, she presses a record button on the podium so her students overseas can watch the lecture at a time convenient for them.

A WORLD OF POSSIBILITIES

Advances in transportation, computer technology, and telecommunications will change the way Central Texas College looks, feels and operates. Public transportation will become safer and more efficient, economical and environmentally friendly, reducing the need for individuals to drive to campus and thus eliminating large parking lots. The physical appearance of CTC will blend architecture and nature including the expansion of the duck pond into a large park that will make the campus a more inviting and pleasant place, and attract more people to not only attend the College, but visit as well. In addition, a reduction in the size of the administration and demand for administrative space will open large areas of the Central Campus to new development and the use of one or two buildings for new academic programs to attract more students.

Building on the premise that some students prefer the physical aspect of the college experience while others thrive through individual online study, the new CTC will create an educational environment where students can still come to campus for class, or attend class virtually but feel they are part of the classroom environment. Advances in technology and telecommunications will allow for the creation of a homogenous mixture of the traditional and virtual. Professors can teach lower level classes that traditionally have large class sizes to a few students who are physically present in the classroom while lecturing to many students through a virtual 3D network. Students will be able to attend class in person, or see and hear the class in real time, or save the 3D video of the class. With the ability to attend classes in a 3D environment, students in the virtual world will still feel they are a part of the class through active rather than passive participation.

Telecommunication advances will give Central Texas College great latitude in how it provides services. Not only will classrooms be a mix of the traditional and virtual but so will staff services. Imagine a system where students do not have to wait in line for hours to see a counselor or pay registration fees. Instead, most transactions between students and staff will be conducted virtually,

reducing the bureaucracy that currently exists. A virtual staff system will provide fast and easy access to counselors, registrars, financial aid, and other support staff. Though the ability to have face-to-face interaction between staff and students will still exist for those who prefer it, a video messaging system will make student services more efficient and make education an enjoyable, rather than tedious, experience. A student can leave a video message explaining his or her problem and a staff member can research the problem, contact the student, and solve the problem in a real-time virtual environment with the student. This virtual staff system will reduce the need for a large staff, reduce costs, and still provide the individual attention that many students seek.

Advances in technology, telecommunications, and transportation, and awareness by an educated society, will alter the way colleges and universities look, feel, and operate. These advances will demand a change in the appearance and function of the traditional brick and mortar colleges and force them to create a homogeneous blend of the physical and virtual worlds. Such a mixture will not only be beneficial to students but to faculty and staff as well. In order to be competitive in the future, Central Texas College will need to move beyond many of the traditional brick and mortar systems that currently exist and adopt a more technology based system of administration. Physically, the Central Campus will remain intact, although with many changes in its outward appearance. The administration will need to make dramatic internal changes if the College is to be successful in the coming decade.