

Team E: Final Project
Multimedia Café

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Introduction

In the beginning of the quarter, our team was asked to design the Learning Commons in the library that would promote individual study and student collaboration. Taking into consideration the area's proposed functionality and the surrounding environment, we found that it was appropriate to design a multimedia café.

The concept of our multimedia café is centered around the students. Students often occupy the University Union as a place for individual study, group work, and enjoying food and drinks. Unfortunately, there is no similar place in the lower half of campus. We saw the Learning Commons as an opportunity to design our multimedia café to have similar functionality as the University Union. We concluded that students need areas to study on their own as well as with two or more people. Both these aspects often leave students in need of nourishment and relaxation. From this, we decided that the multimedia café will focus on these three ideas of group collaboration, individual study, and leisure and nourishment.

With the users in mind, which in this case are the students of California Polytechnic, we set off to define the features of the multimedia café. This paper will describe the initial concept of our café, along with the design and proposed implementation. Also, our proposed implementation of the café will take into consideration the feedback that we collected from the student body.

Concept and Design

To incorporate the ideas of group work and individual study, we decided to design the café so that these ideas are emphasized. For starters, we designed a set of round tables with four individual computer terminals to facilitate group work. The terminals themselves are able to communicate with each other so that groups are allowed to work either synchronously or asynchronously. To aid group work even further, we added additional academic programs, such as AutoCAD and MiniTab, to the terminals. Because of the library's strict policy of "no food/drinks near school electronics", we designed the group tables in such a way that students could eat and drink while working on the terminals without infringing on the library's rules.

The second aspect of our café addressed the issue of individual study. To facilitate this, we created an individual work section in the café. This section consists of an internet bar and common work tables. Taking into consideration that a large amount of students on campus have laptops, we created common work tables that features electrical outlets and additional lamps; however, if a student does not have a laptop, he/she can still rent one out at the first floor from library services or can utilize the café's internet bar. Because of the same constraints as the group tables, the computer terminals at the internet bar are designed in such a way that students could still work on them while eating/drinking and not infringe on the library's rule. The LCD screens of the internet bar terminals are built into the walls of the café so they can not be directly damaged by a student. Also, the actual terminal is located below the bar area, out of harm's way but can still be accessed by a student to insert a floppy or compact disk.

The third aspect of our café addressed the issue of food and drinks. Because the library itself does not provide a wide variety of provisions and beverages and the fact that hunger does indeed affect the ability of the mind¹, we decided to incorporate a food and drink bar into our multimedia center, which immediately turned into a multimedia café. In terms of food and drink diversity, we decided to incorporate a static menu that includes healthy snacks and drinks, such

¹ <http://www.citycare.com/lvfoodbank/hunger/activity2.htm>

as nuts and milk², as well as a dynamic one, which we were able to create by surveying the student body.

The fourth and final aspect of our café is the emphasis on leisure. Because students do get the occasional urge to just sit down and relax with a good book or magazine, we took the liberty of adding comfortable couches and coffee tables to aid students in their relaxation endeavors. Also, we think that atmosphere that our café already possesses helps with fulfilling the leisure aspect of the room. With the completion of this café, we think that the overall student body would have less stress and difficulty with school related activities, since exposure to additional leisure time does help a student in his/her academics³.

Usability Evaluation

To assess how well our multimedia café met its requirements, we decided to write a usability evaluation. The evaluation would help us define the flaws of our café and the requirements that were not met. To evaluate the functionality of our multimedia café, we first identified the café's core aspects and requirements. We found that our cafe has several core requirements that need to be fulfilled. These requirements are as follows: allow students to 1) purchase coffee and snacks, 2) study and eat/drink concurrently, 3) study individually, 4) study in a group, and 5) relax. To evaluate each of these requirements, we created scenarios that students performed. From this, we assessed their thoughts and opinions on whether the café successfully fulfilled these functionalities. These results can be used to better the design and development of the multimedia café.

Prototype Development

To best portray the user-centered aspects of the multimedia café, we decided to build a physical model. This model encompasses all aspects of our café design in a 1/100 scale. The model can visually display how students can utilize the café performing the functionalities that we proposed. The aspect that developed the most due to user evaluation of user-centered design was the group tables. Because of its complexity, we built a second, larger scale model of a group table to better exhibit its design and functionality.

Assessment

The idea of our multimedia café was born from the proposal of the Learning Commons. Our initial design consisted of a storyboard which displayed the functionality and layout. From this idea, we collected user data to see if our idea was feasible and favorable in student opinion. From the user data, we were also able to gather student feedback on the functionalities of the café. After finding the project both feasible and favorable by the student body, we then performed a user ability evaluation of a similar existing system. This allowed us to further develop our design of the café. From all the information that we gathered, we were able to finalize our design. Using this design, we developed a prototype to portray the user-centered aspects of the multimedia café.

² <http://www.pioneerthinking.com/brainpower.html>

³ <http://www.personal.psu.edu/users/d/p/dpj111/debsite.html>