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CREATING ARCHITECTURAL PROGRAMMING FOR A STUDENT UNION PROJECT

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Abstract

The purpose of this study is to establish architectural programming and typology of buildings by analyzing the concrete and abstract values connecting students with the Student Union and the campus community. Understanding the needs of the users and activities is crucial for spatial organizations and architectural programming. This research uses both main and secondary data collection through; literature review, case studies, student survey, and interview methods. The scope of programming is defined to cover student union building design and its programming. Architectural programming is an advanced design tool supporting architectural design. Buildings are often, mostly knowingly, constructed to fulfill particular needs. Architecture and architectural programming describe the starting point and end point of the project, which evolved together, to satisfy the demands and needs of users and clients. In this report, the Student Union project's architectural programming, which serves as a community center in universities, is created. The students' diverse needs are understood, and the technologies and inventions of today are incorporated into the design program in the case of the student union building project. Comprehensive analysis and thorough understanding produce the program. This research plan, as part of the report, is assessed and altered.

Keywords: Architectural Programming, Educational Architecture, Student Union Building

ÖĞRENCİ BİRLİĞİ PROJESİ İÇİN MİMARİ PROGRAMLAMA OLUŞTURMA

Öz

Bu çalışmanın amacı, öğrencileri Öğrenci Birliği ve kampüs topluluğu ile ilişkilendiren somut ve soyut değerleri analiz ederek binaların mimari programlamasını ve tipolojisini oluşturmaktır. Kullanıcıların ve faaliyetlerin ihtiyaçlarını anlamak, mekansal organizasyonlar ve mimari programlama için çok önemlidir. Bu araştırma hem ana hem de ikincil veri toplamayı kullanır; literatür taraması, vaka çalışmaları, öğrenci anketi ve görüşme yöntemleri. Programlamanın kapsamı, öğrenci birliği bina tasarımını ve programlamasını kapsayacak şekilde tanımlanmıştır. Mimari programlama, mimari tasarımı destekleyen gelişmiş bir tasarım aracıdır. Binalar genellikle, çoğunlukla bilerek, belirli ihtiyaçları karşılamak için inşa edilir. Mimari ve mimari programlama, kullanıcıların ve müşterilerin talep ve ihtiyaçlarını karşılamak için birlikte gelişen projenin başlangıç ve bitiş noktalarını tanımlar. Bu raporda, üniversitelerde bir toplum merkezi olarak hizmet veren Öğrenci Birliği projesinin mimari programlaması oluşturulmuştur. Öğrencilerin farklı ihtiyaçları anlaşılır ve öğrenci birliği inşa etme projesinde günümüzün teknolojileri ve icatları tasarım programına dahil edilir. Kapsamlı analiz ve eksiksiz anlayış, programı oluşturur. Bu araştırma planı, raporun bir parçası olarak değerlendirilir ve değiştirilebilir.

Anahtar Kelimeler: Mimari Programlama, Eğitim Mimarisi, Öğrenci Birliği Binası

1. Introduction

Every spatial organization should be designed to provide the best response to the needs and desires of the user, regardless of its size and scope. One of the basic elements of architectural programming is to acquire a problem approach that needs to be solved and a question that needs to be answered. It is important that the spaces designed are livable and responsive to the needs of humans and created for them regarding responsibility toward nature.

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The evolving human needs according to the time in which they live should be taken into consideration and continued to be redefined during the design and programming of the spaces. Hence, livability expresses a dynamic existence and the components of this existence are the needs of spatial organizations and users (Dinç, 2002). In this study, the architectural programming and design of the Student Union building, which acts as a community center in universities will be examined. The dynamic needs of the students should be realized and today's technology and innovations should be integrated into the design program. Doing research and making decisions to determine the program for the project to be designed according to function and needs is the definition of architectural programming. (Cherry & Petronis, 2016)

Architectural programming is evolving according to the needs of the stakeholders. Studying how architectural programming responds to the needs will improve the design quality significantly since architecture itself is serving people. Well-programmed and planned student unions would create a micro-society and act as a community center of the university, which would help students' socialization and interaction. The learning environment is not limited to the classrooms or laboratories but also happens in hallways, social areas, or the gym. Healthy interactions with the students, scholars and administrative staff outside of the class can be achieved by the design of these centers. In this way educating young citizens about how to form a society, while they are studying at universities would help to create better societies for the future. Student union buildings would attract a lot of scholars and students to the site and facilities around. This attraction also helps the economic development of the area.

1.1 Aim

This study aims to create architectural programming that will be the basis of a Student Union building by examining the concrete and abstract values that connect students to the Student Union and the campus community. It aimed that the physical environment, adjacent facilities, and experiences associated with the Student Union are believed to support the development of students in university life and the way to become social individuals.

1.2 Scope

The scope of this designed-based report is an analysis of architectural programming, its development as well as student union projects. Understanding the needs of the users and activities is crucial for spatial organizations and architectural programming. In this report, the scope of programming is defined to cover student union building design and its programming.

Daniel M. Maxwell mentioned in his Ph.D. study that there are only 23 studies about student union projects and only 6 of them focused on the facility planning of the student unions. (Maxwell, 2016) The lack of studies focusing on student union projects is one of the motivations in this paper to investigate this type of program further. According to ACUI, student unions are the living rooms or the community centers of the universities. The effects of the designed space on the structure of society should be studied and evidence should be presented to the academy. (ACUI, Association of College Unions International, 2005)

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The architectural programs of student union projects that affect students' lives and support their social and academic development and needs should be carefully researched. The spaces to be found in this type of program, which includes abstract values depending on the physical space, should be designed with a meticulous, systematic, and interdisciplinary approach to serving the students, professionals, and society. These experiences should be carefully integrated into the project in dormitories and recreational centers, research and education centers, and social and recreational areas.

1.3 Method

In this study, both primary and secondary data collection are used. Primary data collection is done by survey method to recognize and address the needs of the university students, academics, and administrative staff. The importance of the user experience and expectations was taken into consideration while conducting the survey. Another way of collecting primary data is expert interviews who work in fields and who work as scholars. Secondary data is collected by a literature review of the related books and articles and it is done to understand architectural programming and its principles to prepare and comprehend the significance of an architectural program for the 21st century student unions. Case studies are also examined as secondary data for a better understanding of similar projects.

1.4 Limitations

This study is limited to available sources such as published articles, journals, books, and theses. Unavailability or inaccessibility of data is one of the limitations in this study, time constraints are another reason that makes this study limited. More participation in the survey can change the result slightly and give more reliable data. Therefore, it is a limitation to have 240 people as a participant.

2. Findings

2.1 Definition of Architectural Programming

Pena defines programming as a process: “A process leading to the statement of an architectural problem and the requirements to be met in offering a solution.” (Pena, Parshall, & Kelly, 1977) Architectural programming, a statement of the problem and answering it, needs to be done before the design phase. It represents the activity that initiates the planning process in direct proportion to the correct and detailed communication between the designer and the customer/user.

Recognizing and elaborating the important characteristics of the project by identifying the design problem and increasing the quality of the expected problem solution. The program should emerge as a result of the joint work of the designer, user, and customer who determine the scale, content, and details of the project. In light of this explanation, we can say that architectural programming is the problem definition state for architects. This definition of the problem is expected to lead the architects to find the best possible solution for the design or the planning phase.

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Programming organizes data in terms of functional relationships and systematic editing to provide the spatial organization for the concretization of the design phenomenon. It also provides solutions to problems and thus satisfies the common denominator of the designer, user, and client (Aydın, 2017).

2.2 Historical Overview of Architectural Programming

The generally outlined architectural programming transformation took place in three main steps. In the first step, the programming steps that are considered as a pre-design service but separated from the design, research steps, and techniques proposed to be used are handled in a manner close to scientific with the ways of classifying and expressing the findings. The second step refers to the dissolution resulting from the reflection of the first step into practice, the diversification in content, and the transition to integration with the design. In the last step, the programming discipline aims to fully adapt to the multi-component structure of the field of design and architecture (Perkin&Will, 2010). In other words, it is no longer a discrete area that looks at design or architecture from its separate frame and provides input and has become a natural and harmonious part of the process. This has been on the agenda since the beginning of building programming. It has become a main theme/discipline for the discipline, not being an implicit side theme with the quantitative increase in practices and diversification in quality.

As it is known, the holistic process, also called the delivery building delivery cycle, includes planning, programming, design, production, usage, and evaluation sub-processes. Each sub-process has a field of effectiveness that is equivalent to other sub-processes in determining the course of an entire process through feedback (Dinç, 2002).

The works that determine these steps are discussed below (Table 1) in terms of their views on discipline and the strategies they have developed. Criteria for defining a different field from the previous discourse and adding a new dimension to the development line of the discipline were considered in the selection of the works. Of course, the samples can be duplicated and the examination deepened.

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Table 1. Literature Review Table of Historical Overview of Architectural Programming

Literature Review: Historical Overview of Architectural Programming		
Time Frame	**Publications & Authors**	**Focus Points of Architectural Programming**
1970's	Problem Seeking, An Architectural Programming Primer (Pena, Parshall, & Kelly, 1977)	1. Setting goals, 2. Collection and analysis of cases, 3. Exposing and testing the concepts, 4. Determining needs and 5. Expressing the problem.
	Methods of Architectural Programming (Sanoff, 1977)	1. To see the existence of a problem and to be aware of the necessity of doing something to solve it, 2. Deciding on the nature of the problem, turning it into a problem statement that the designer can use, 3. Gathering all the information about the solution to the problem, defining the variables for the solution, 4. Testing the definitions on a sample, testing the validity of the data, 5. Selection and evaluation of a solution, 6. Presentation of the solution to actors and various participants, their interpretation and 7. Use of the information obtained on user satisfaction in future design problems.
1980's	"Introduction" Programming the Built Environment (Preiser, 1985)	1. Programming is a process that provides information about the mission and goals of an organization, group, or individual 2. Programming is systematically translates them into integrated action-human-goods relations, thereby achieving an effective, functional building or facility 3. Programming is an area of action that closely follows the life and satisfaction of living in an environment, 4. Programming is a discipline to be closely related to the Environmental-Behavioral Studies and Evaluation Approach in Use Process.
	"Values: A Theoretical Foundation for Architectural Programming" Programming the Built Environment (Hershberger R. , 1985)	1. Programming and design in a form of infrastructure/values that are vital, not intellectual. 2. Values are basic information that must be captured before establishing the goals of the employer, the needs of the user and the spatial requirements. 3. Programming is a process in which values and objectives are articulated and point to a high-quality architecture. 4. The programmer is not a different personality than the designer, but the designer himself.

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Today, programming has become an intensive communication environment. In this communication, tactics such as revealing values and reaching a consensus among people and groups that host different values are required. Therefore, programming is now a common place, an arena where all participants meet. Systemness has been maintained as a feature that makes its presence and power felt from the time of programming.

Today, the system and categorization are much richer and deeper than in the initial stages. Now, in every possible case, programming topics and research methods, which have become a catalog from which the necessary ones can be selected, are a rich source of data for new programs.

The program is no longer a frozen, static definition that has been completed before design, has never changed again, has been renewed over time, and has become an area that can interact with design at every stage and area that the design itself needs.

Programming is no longer a preliminary and additional service for design offices, but a process that must be carried out within each organization and is a natural part of corporatism. The transformation of life, needs and space is a condition that needs to be closely monitored and necessarily resulted in positive adaptations for the institutions to evolve.

With all these changes, programming has become the most important part of an understanding that is a standard process for all types of structures, but whose aim is to define the unique character of each structure. As a result, space becomes an entity capable of functioning like hands and feet, imagining with the mind, and enriching the existential adventure of man.

In short, the basic values that determine the current position of Architectural Programming are not science but life, not system but human; and the basic action can be summarized as not to analyze but to conceive.

2.3 Main Rules of Architectural Programming

Programming can take place for different purposes and can affect the level of detail of investigations and outputs. For example, the architectural scheduling of a project at the master planning level will provide fewer details, provide information for the client/owner to make decisions about the current situation and the area that needs to be designed, and provide an estimated budget package for the design to be implemented. In the architectural programming of individual projects, the level of information provided and the architectural programming created to give a detailed direction to the design of the building is much higher.

The best time to make changes in the project to be designed is during architectural programming because it is the most cost-effective phase for changes to be done. The programming phase of a project is the best time for stakeholders to express their opinions clearly, express their needs and wishes, and influence the outcome of the project to be designed. To begin the programming phase, the programmer and the owner/client should establish the stakeholders for the project. From these stakeholders project programming committee should be established and all the program decisions fundamentals should be decided in the meetings.

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The Whole Building Design Association established a six-step process for architectural programming (Cherry & Petronis, 2016);

- Research the project type
- Establish goals and objectives
- Gather relevant information
- Identify strategies
- Determine quantitative requirements
- Summarize the program

Studying the literature about the building and the program type, analyzing the existing project plans, and interviewing the experts in this field should be done to obtain the relevant information.

Site requirements for the specific project type, typical cost calculations, Typical ratio between the net and gross area, the relationship between the spaces for different functions, and types of the spaces in the specific project type should be understood and the information should be used to start to program the building.

The Project Programming Committee should involve in this phase mainly. Establishing the goals and objectives of the project is essential to the programming phase. While determining the goals and objectives, meeting with the project programming committee -representation of the stakeholders- should be clear and recorded.

The goals of the owners/clients and how they see the architectural project as a part of their goals should be answered and according to the answer organizational goals should be formed. Several questions should be asked to realize the form and image goals of the client. If the committee has some wishes for the building's form or form relation to its surroundings it should be considered. Function types of the project, occupant numbers, and projected interactions should be decided to define functional goals. Talking about the budget and limitations, the level of aesthetics and level of quality, and sustainability should be established as economic goals. Deciding the deadline of the project and what kind of changes are expected next year should be talked about to establish time goals (Cherry & Petronis, 2016).

Based on established goals and objectives, a programmer should gather relevant information, such as using schedules and needs and wishes of users of the building, space and design criteria and guidelines, standards about policies, energy-using requirements, and very detailed site analysis.

Diagrams are essential to decide strategies for the architectural program. Centralization or decentralization, flow diagrams and connections, flexibility and use of the space, levels of access as public or private, and priorities should be focused on and defined. According to the budget of the project-specific quantities as a percentage and square meters for each function, area and building should be established.

After the program is complete, it should be approved by the client/owner and it has to be integrated into the design process.

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2.4 Definition of Student Union

Student Union, defined by McKinney as the community center of the college, serves students, faculty, staff, alumni, and guests. By whatever name; college union, student or university center, student union, or student activities center, to name a few; a College Union on a higher education campus is an organization offering a variety of programs, activities, services, and facilities that, when taken together, represent a well-considered plan for the community life of the college (Mckinney, 2010)

Student Union size and scale can vary largely. It can only have a couple of offices that support student activities within the university building or it can be built to occupy 500,000 m2. Of course, the size and scale define the union's role and function in the facility. The main role of the Student Union since it is a student-centered facility from its nature is very important to promote learning both inside and outside of the classroom (Tierno, 2013). Creating a facility that involves as many students as possible in an interactive way.

As the College Union gives space for individuals to feel associated with each other through their environmental experience, the space is more than a structure. It has automatic attributes that likewise sway understudy fulfillment and maintenance. The various parts that impact fulfillment, and add to the ground's biology, are understudy inclusion openings, work encounters, spots to unwind and home base, and the general plan of these particular program types.

Through the case studies and interview analysis in this qualitative research design, it is crucial to understand how the projects, their spatial organizations, and the architectural programming of each of them affect the overall project. In each case study architectural and functional programming, design strategies, themes and concepts, and creating a sense of place will be examined and reviewed.

2.4.1 Case Study - Astana University of Sports, Nur-Sultan Kazakhstan, Tabanlıoğlu Architects

Tabanlıoğlu Architects (TA) describes their task with these sentences: "The task is to unify the campus into "one" including the envelope design of existing buildings. "unifying grid" approach is introduced at this point, as the whole complex, landscape, rooftops, and interior modules, atriums derive from this grid, referencing and reaching out the very different functions of the buildings, correspondingly defining easy access and clear directions.

Closed sports venues, open tracks and fields, training areas for each sport, research facilities, classrooms, and an auditorium for theoretical education and events, plus the social facilities come together around a massive "backbone" gallery, connecting and unifying and every need of a user inside." Wooden deck steps and seating areas connect the main gallery with the atriums and generates even more space to meet and share.

The whole idea revolves around "freshness" and "activity" as a sports university, besides the pertinent functions, to gain a further visual impression for this concept of dynamism.

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Figure 1. Aerial View of Astana University of Sports

Campus facilities should be designed in such a way that they can meet every request of the student. The vision of this project is to create a new sports university campus and to ensure that multiple functions are gathered together under one roof. In the design and programming phase of the project, it is aimed to respond to every need and request of the user which is “the students”.

The Project Manager of Tabanlıoğlu Architects, Seyhan Deniz was interviewed to reach the necessary preliminary assessments and to reach deeper information about creating the architectural programming of the Astana University of Sports.

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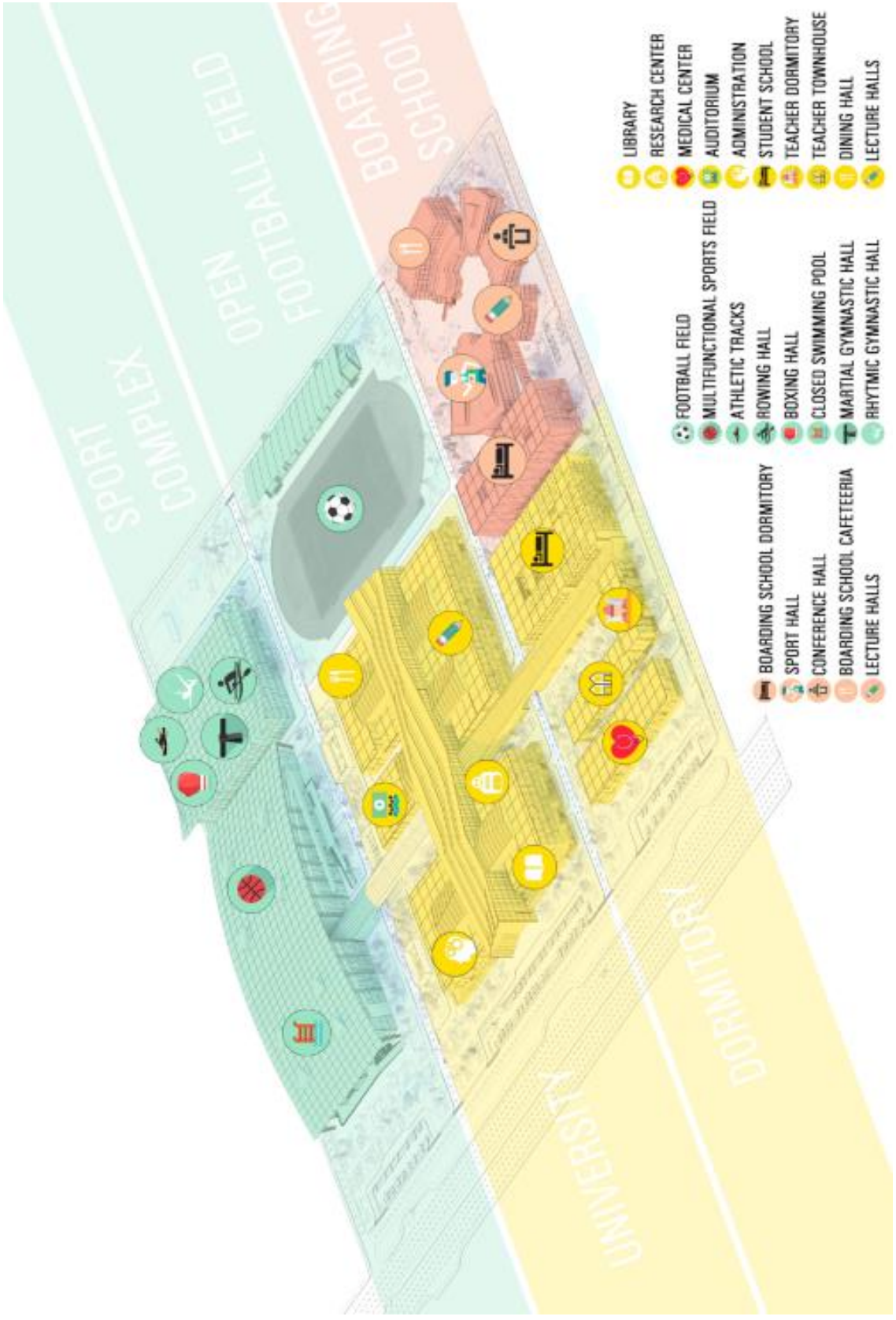

Figure 1. Spatial Organization of Astana University of Sports

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2.4.2. Case Study - Lory Student Center, Colorado State University, Perkins + Will Architecture, LEED Gold Certification

The Lory Student Center is the campus activity center; offers activities and services for students, food and beverage areas, shops, meeting rooms, art exhibitions, and theater. The design aims to create a space that is flexible, energy-efficient, and interacts with people to external landscapes such as a lagoon, open amphitheater, recreational areas, gardens, and mountains.

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Figure 2. Lory Student Center

LSC honors the University community members and users and is proud of them and students for creating an environment of respect, faculty, staff, alumni, and guests for an intimate, inviting created place. It is a meeting place of the campus community, promoting social life, academic life, recreational activities, and cultural activities that give countenance to interactions and debate. It promotes mutual life where people need to respect and that is through positive, cooperative relationships between individuals (Lory Student Center, 1962). The most important values center around learning and celebrating the rich diversity of people and ideas in the community.

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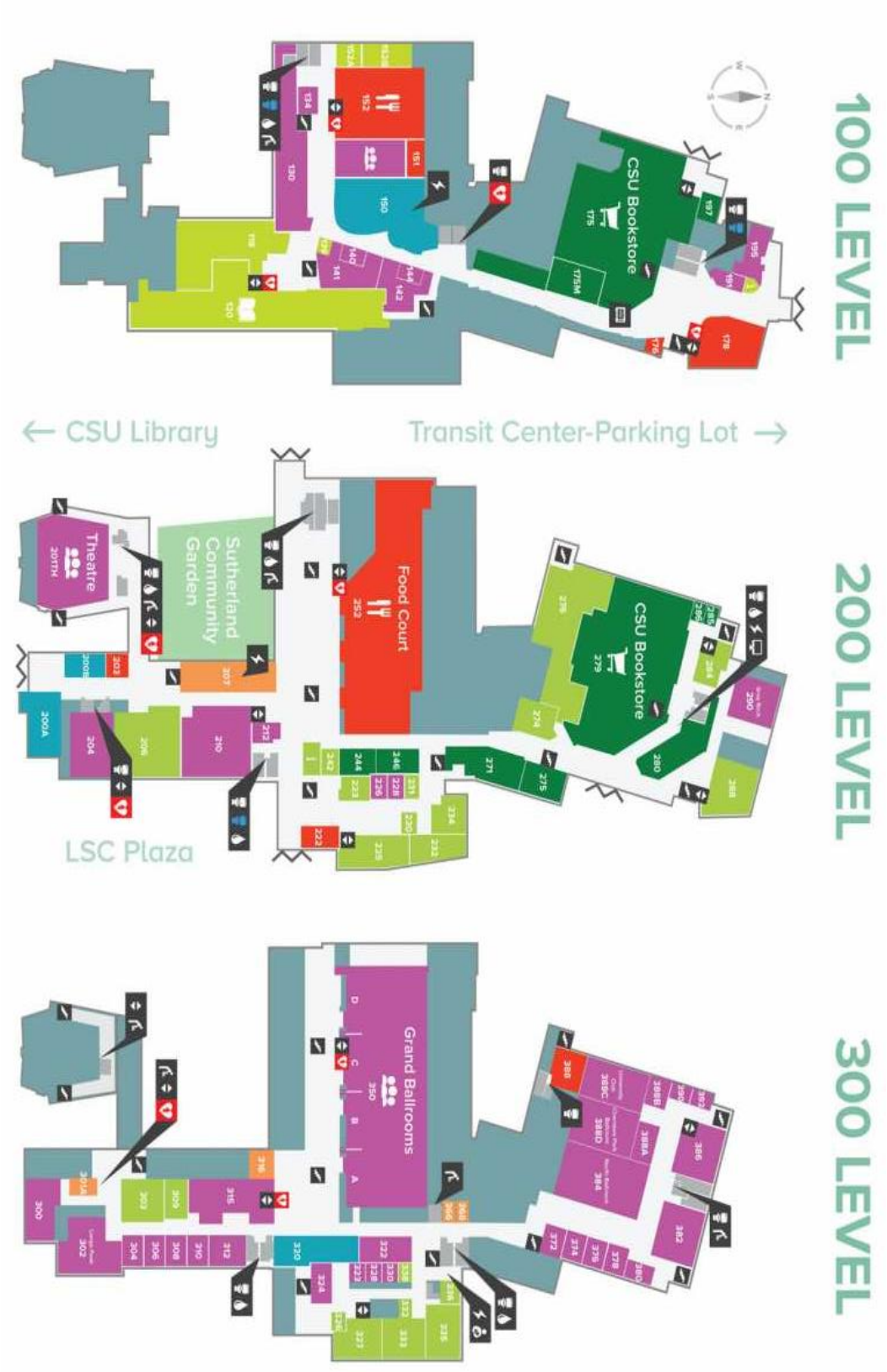

Figure 3. Spatial Organization of Lory Student Center

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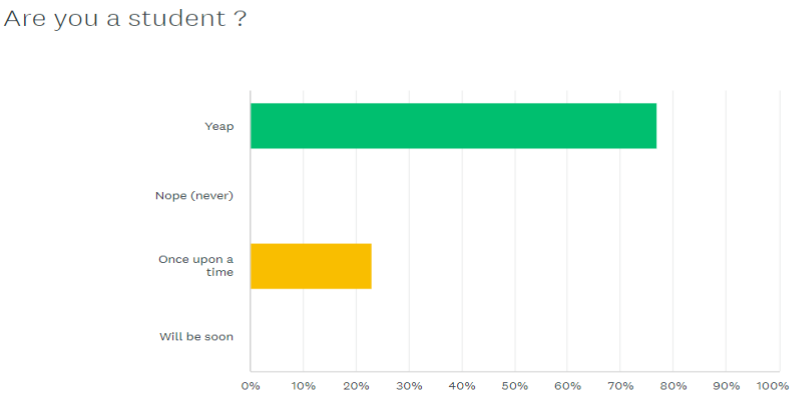
2.5 Survey

A questionnaire has been conducted with young people who are still university students and young people who have been university students before, to create the needs and program of the project. The main user profile of the Student Union project was taken as the basis for the selection of the participants in the survey.

First value of the reliability is to focus on people who are related with the topic. Second reliability value is to reach diverse participants from different type of faculties and universities, to not focus on a specific group of students. The main lines of the project program were formed in the light of the questions asked, and the priorities and preferences of the building users and the effects of the program content on the users were examined. These values increase the degree to which questions used in the survey tool consistently produce similar results when asked repeated occasions in the same situation.

The survey consisted of 10 questions and 240 people participated. Since the precision used by the website (surveymonkey.com) on which the survey is applied is 0,00%, there is rounding in numerical data.

While 71.19% of the survey participants stated that they are still students, 28.81% stated that they were students in the recent past. (Figure 5) In the second question asking the age of the participants; 8.33% stated that they were between the ages of 18-20, 38.33% between the ages of 21-24, and 53.33% stated that they were between the ages of 24 and over (Figure 6). In the third question where the gender of the survey participants was asked, it was determined that 70% of the participants were women and 30% were men (Figure 7).



ANSWER CHOICES	RESPONSES
Yeap	76.92%
Nope (never)	0.00%
Once upon a time	23.08%
Will be soon	0.00%

Figure 4. Graphic of Answers to Question 1

Figure 5. Graphic of Answers to Question 2

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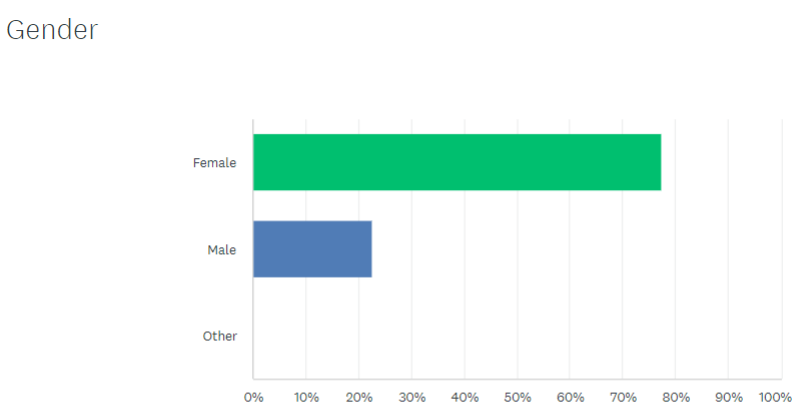

ANSWER CHOICES	RESPONSES
Female	77.50%
Male	22.50%
Other	0.00%

Responses

Figure 6. Graphic of Answers to Question 3

Following these screening questions, which determine the general profile of the survey participants and ensure the filtering of those who continue the survey, questions that are the main factor in the programming of the Student Union project were asked.

In the 4th question of the questionnaire, participants were asked where and with whom they lived during their education, and it was aimed to have general information about the ways students prefer to live in university life. The participants were presented with 4 main options, and the question was also left open to comments. 53.70% of the participants stated that they live with their families, and in the comments made, it was observed that there were students who were married and living with their spouses. While 12.96% of the respondents said they lived with their friends, 29.63% stated that they lived alone. Only 3.70% of the participants stated that they live in student dormitories and commented that the opportunities in dormitory life are limited (Figure 8).

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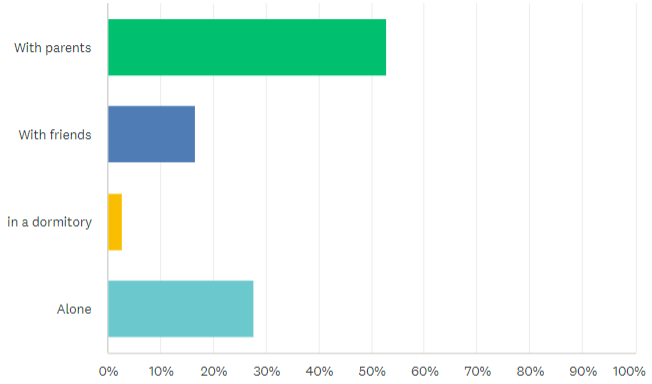

ANSWER CHOICES	RESPONSES
With parents	52.78%
With friends	16.67%
in a dormitory	2.78%
Alone	27.78%

Figure 7. Graphic of Answers to Question 4

In the 5th question of the questionnaire, the participants were asked about the usage percentage of certain fields in their education life. In this question where more than one field can be marked, 11 different space options were presented and the question was left open for comments. The options offered are prepared in a way that includes both academic and social activities in university education life. 65% of the participants used libraries in university life, 68.33% cafeteria and canteen, 31.67% restaurants, 46.67% coffee shops, 11.67% sports areas, 8.33% art workshops, 50% They stated that they use study areas, 1.67% game rooms, 50% open areas, 13% student dormitories and lastly 13% book stores in their education life (Figure 9).

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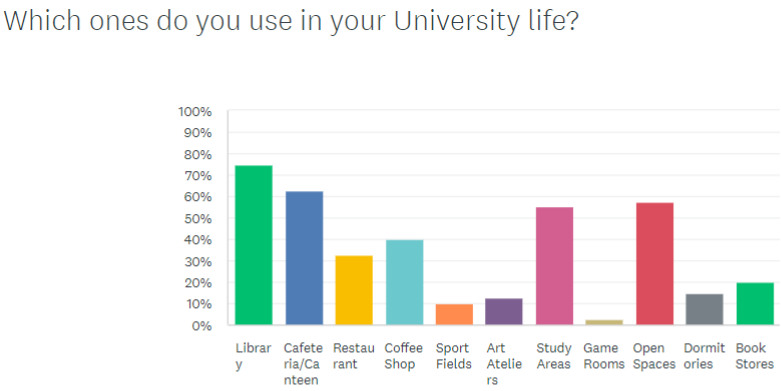
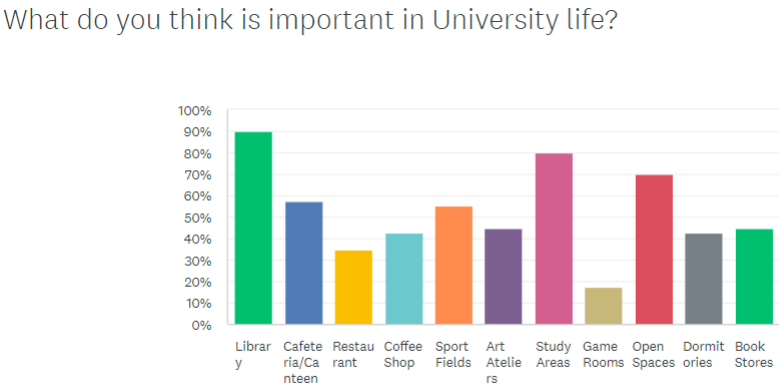


ANSWER CHOICES	RESPONSES
Library	75.00%
Cafeteria/Canteen	62.50%
Restaurant	32.50%
Coffee Shop	40.00%
Sport Fields	10.00%
Art Ateliers	12.50%
Study Areas	55.00%
Game Rooms	2.50%
Open Spaces	57.50%
Dormitories	15.00%
Book Stores	20.00%

Figure 8. Graphic of Answers to Question 5

In the 6th question of the questionnaire, the 11 space options presented in the 5th question were presented again in the same way and order, and this time the importance percentages of these fields were asked. The difference between the current and ideal usage percentages between these spaces presented in the same order is striking. It was aimed to raise awareness not only among the designer and the researcher but also among the survey participants by asking these two questions one after another. When we examine the usage importance percentages stated by the users for the specified areas, the results are as follows; Library 81.67%, Cafeteria /Canteen 56.67%, Restaurant 43.33%, Coffee Shop 45%, sports fields 53.33%, Art Ateliers 46.67%, Study Areas 78.33%, Game Rooms 21%, open spaces 68.33%, dormitories 41.67%, And the book stores 45% (Figure 10).



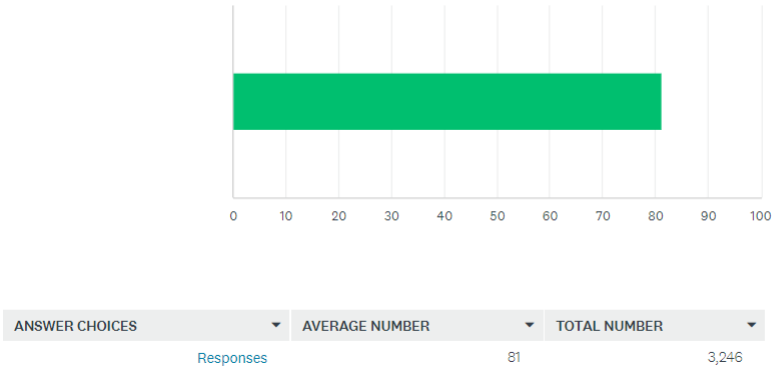
ANSWER CHOICES	RESPONSES
Library	90.00%
Cafeteria/Canteen	57.50%
Restaurant	35.00%
Coffee Shop	42.50%
Sport Fields	55.00%
Art Ateliers	45.00%
Study Areas	80.00%
Game Rooms	17.50%
Open Spaces	70.00%
Dormitories	42.50%
Book Stores	45.00%

Figure 9. Graphic of Answers to Question 6

When these two questions and their answers are compared, the percentage difference between the use and importance of these 11 different academic and socially related spaces, which are presented as options, is striking. The reasons for the low usage rates of these areas, which students consider important and want to use, in current life should be examined and the design programs should be revised to meet the needs. The reasons why the needs of the main users are not met sufficiently; maybe the mentioned areas are not in sufficient number and size, the design quality has not reached a sufficient level, or these areas are not accessible in students' daily life.

80% of the survey respondents think that sports activities help students have a better university life (Figure 11) and 70% think that arts and crafts will help students have a better university life (Figure 12). 89% of the participants think that the design of the spaces has a positive effect on the quality of the social life of the students (Figure 13) and again 82% of the participants think that the quality of student's social life has a positive effect on the academic success and skills of the students (Figure 14).

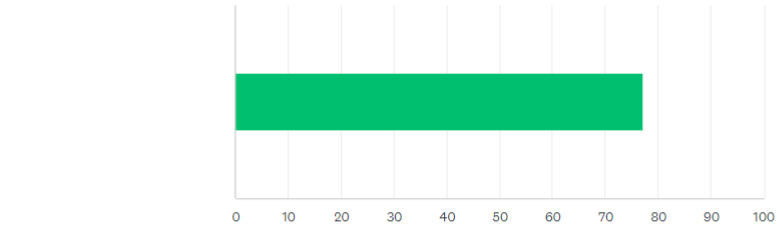
Do you think that sport activities help students to live a better university life?



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER
Responses	81	3,246

Figure 10. Graphic of Answers to Question 7

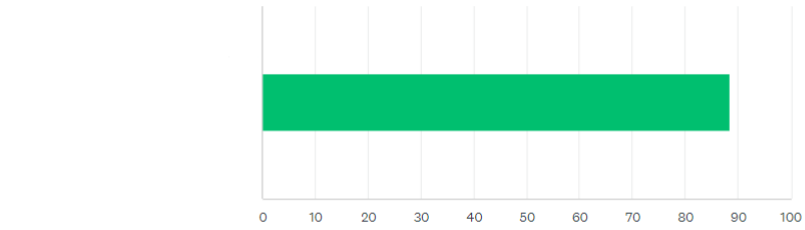
Do you think that arts and crafts help students to live a better university life?



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER
Responses	77	3,087

Figure 11. Graphic of Answers to Question 8

How does the design of the spaces affect the quality of your social life?



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER
Responses	88	3,539

Figure 12. Graphic of Answers to Question 9

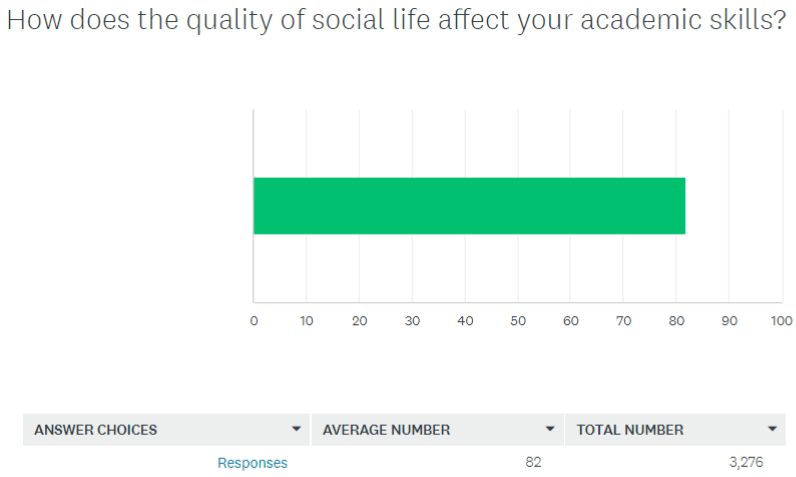


Figure 13. Graphic of Answers to Question 10

The responses and needs of the survey participants have been one of the main focal points of the Student Union project design and architectural programming of the project. The efficiency of the project can be optimized only by designing areas in a user-oriented manner, and only in this way can a successful architectural programming example be presented.

With this survey, the user-oriented part of architectural programming is discussed. This focus is not sufficient alone. As mentioned earlier in this paper, architectural programming should be prepared with the designer, investor, and user of the project working in harmony and stating their needs and desires.

2.6 Interview

Interview Review: with Seyhan Deniz, MA. Architect, Project Manager at Tabanlıoğlu Architects.

Q-1	1: As a project manager and an architect, how do you place Architectural Programming (AP) in process of the design?
A-1	1: As architects, we know that Architectural Programming is an essential part and the starting point of the design process. Without having an AP in mind, none can start to design and without having well prepared and conclusive AP, both the designer and the investor would face constant problems.
Q-2	Who is responsible for the preparation of the Architectural Program?

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A-2 This may vary from case to case. In some cases, the client/investor gives us the architectural program that he/she has previously prepared for consultants/architects and we deliver our proposal accordingly. In this scenario, after the project is accepted, the design directors examine the architectural program, the project area, and the target user, and decide whether the prepared program is sufficient or not. A decision meeting is held with the customer/investor about the necessary changes in the program before starting the design. In another scenario, the client/employer has the architectural program of the project prepared by us and receives consultancy and programming support from us. The common and constant part of each scenario is with the parties involved in the preparation of the architectural program. These parties must have a common understanding and decision to prepare the architectural program and start the design phase.

Q- 3 You mentioned the sufficiency of the AP, how do you decide if an architectural program is sufficient and well prepared or not?

A- 3 There are several questions to be asked to understand whether the architectural program is adequate and well prepared. These questions can differ from case to case but we can list some of them as follows:

-What will be the main use of the project?

-Will the project have a secondary use if any?

-How would you define the proportions of the open and closed areas of the project?

-What is the number of floors of the building you want to be designed?

-What are the most important functions of the project?

-What kind of behavioral and aesthetic goals or impacts should the project to be designed have for its users?

-How do you imagine the space and its relationship with the outside?

-How many people will be accommodated?

-Do you expect a change in project usage in the coming years?

-Which spaces should be grouped and run together, and which areas should be separated, do you have a choice?

-Do you expect multiple uses for one or more functions? Do you want the venues to change function periodically, seasonally, within a few days or hours?

-At what security level should the access levels of users, visitors and employees be separated for the project to be designed?

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Q-4	So, the client/investor answers these questions, and the architectural programming is prepared in light of these answers. But what happens when these answers/requests of the investor change over time?
A-4	Subsequent changes, additions, or reductions in the program of the designed project cause extra time and effort at different levels in the operation of the whole project and slow down the design process. The slowing down of the design process always means more costs. And the increase in cost would be to the detriment of the party that wants to make the change, as it will affect the party that changes the program. In other words, preparing the architectural program for projects in the first place is the most cost-effective option.

3. EVALUATION

3.1 Architectural Program of Student Union Project

In this part of the paper, architectural programming and architectural design, input material, and final product, which we can define as the two ends of the circle, will be examined under the same heading and the results of this research will be presented.

In light of this program, the design process started and the program was detailed. The most effective combination of the designed complexes has been achieved and it is aimed to work as a single building. The closed area built can be examined in 4 parts, that is Library Complex, Entrance and Food & Beverage Block, Dormitory Block, and Open Spaces. Types of floor spaces are examined in 3 parts, private, semi-public and public. Private areas are only for the staff of the specific spaces. Semi-public areas are spaces for the users of the center and public areas are for the users and visitors of the center.

The rooms defined in the library complex are created according to the needs of contemporary universities and a library building for the needs of students. (Table 2)

Table 2. Library Complex - Definition of Areas

1	Library Complex	Type of Floor Space
	Slow Stack Area	Private
	Operational Area	Private
	Rare Items Stack	Private
	Fast Stack	Private
	Communication Room	Private
	Energy Room	Private
	Maintenance & Mechanical Room	Private
	Storage	Private
	Vertical Communication Blok	Private
	Atrium	Public
	Info Desk	Public
	Casual Reading Zone 1	Semi-Public
	Wc	Public
	Secretary & Office Lobby	Public

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Offices	Private
Library Manager Room	Private
Meeting Room	Private
Presentation Room	Semi-Public
Vertical Communication Blok	Public
Storage	Private
Lecture Room	Semi-Public
Multipurpose Room	Semi-Public
Special Collections Reading Room	Semi-Public
Research Room	Semi-Public
Group Study Room	Semi-Public
Brain Storming Area	Semi-Public
E-Library	Semi-Public
Social Corridor	Semi-Public
Main Reading Area Zone 1	Semi-Public
Main Reading Area Zone 2	Semi-Public
Individual Reading Area	Semi-Public
Reading Area Info Desk	Semi-Public
Book Preperation Area	Private
Book Coding Area	Private

The entrance and food & beverage block program are created as a public area and an area that will facilitate social interaction with the outside of the campus and inside of the campus. (Table 3) It also acts as a bridge between the library and the dormitory blocks and allows users to switch between places.

Table 3. Entrance and Food & Beverage Block - Definition of Areas

2	Entrance and Food & Beverage Block	Type of Floor Space
	Open Exhibition & Lobby	Public
	Wc	Public
	Security	Public
	Info Desk	Public
	Camera Room	Public
	Lift Lobby	Public
	Book Store	Public
	Vertical Communication Blok	Public
	Food & Beverage Area	Public
	Kitchen	Public

While creating the dormitory block program, it should be designed in such a way that public areas pass into private areas from the lower floors upwards. (Table 4) To provide ventilation, circulation, daylight, and social areas the courtyard is included in the program. Social areas, recreational areas, and study areas are included in the program, and students are provided with adequate facilities.

Table 4. Dormitory Block - Definition of Areas

3	Dormitory Block	Type of Floor Space
	Maintenance & Mechanical Room	Private
	Energy Room	Private
	Communication Room	Private
	Storages	Private
	Staff Room	Private
	Main Lobby	Public
	Lobby	Public
	Computer Lab	Semi-Public
	Video Game Room	Semi-Public
	VR Experience Room	Semi-Public
	Social Area	Semi-Public
	Bakery	Public
	Gym Lobby	Semi-Public
	Male Changing Room & Wc	Semi-Public
	Female Changing Room & Wc	Semi-Public
	Gym	Semi-Public
	Yoga & Pilates Studio	Semi-Public
	Social Area	Semi-Public
	Administration	Private
	Supervisor Room	Semi-Public
	Caffeteria	Public
	Courtyard	Public
	Wc	Public
	Social Interaction Areas	Public
	Social Bridges	Public
	Study Areas	Public
	Lobby	Public
	Laundry Rooms	Semi-Public
	Rooms	Private

The last section of the program is open spaces. The integrity and functionality of the project should be completed with the green areas located in landscape design, open-air performing areas, afforestation works, sports fields, bicycle parking areas, and car parks.

4. Conclusıon

As a conclusion, in order to better serve students, professionals, and society, the spaces found in this sort of program - which comprise abstract values dependent on the physical space – should be developed with carefulness, systematization, and interdisciplinary approach. In research and educational facilities, as well as social and recreational areas, these experiences should be thoughtfully incorporated into the project. The physical setting, nearby amenities, and experiences connected to the Student Union should intend to enhance students' growth in

university life and their development as social beings. It is important to conduct thorough research into the architectural plans for student union projects that have an impact on students' lives and respond to their needs in terms of social and academic development. By exploring the tangible and intangible values that connect students to the Student Union and the campus community, this study developed architectural programming that serves as the foundation of a Student Union building.

According to literature reviews that are conducted, an understanding about architectural programming in-depth developed. Therefore, stating the problems, establishing goals and determining needs are well understood and defined. Through the case studies, chosen projects are examined and studied. The definition and scope of the student union building type were examined and a more detailed understanding of this building typology was achieved. The structure of the project to be designed was created as a result of the evaluations made by examining the plans of the selected projects. According to the interview, questions are asked about, how the responsible stakeholders should act, and what are the responsibilities of the project manager while preparing the architectural program are understood well. Therefore, the Student Union project's architectural program can answer those questions and it is both a user & client-focused facility program. In light of the student survey, users' needs and wishes are understood and the design of the project was affected very much by that. Quality and diversity of the design and its effects on the student's social and academic life are the driving points of creating an architectural program for the student union building. Based on established goals and objectives, relevant information gathered, such as using schedules and needs and wishes of users of the building, space and design criteria and guidelines. Knowledge of the literature review, diagrams and plans of the case studies, outcome of the surveys is essential to decide strategies for the architectural program. Levels of access as public or private, and priorities are focused on and defined.

Architectural programming and architectural design, input material, and final product is examined under the same heading and the results of this research is presented with the programming of a Student Union Project. The architectural program has emerged as the product of this paper. All studies conducted for this research, have been the focus of the Student Union project's architectural program.

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