Journal of
Design Studio
v:4 n:2 December 2022

An Online Basic Design Studio Experience: From Point to Space

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Received: July 28th 2022, Revised: August 31st 2022, Accepted: September 6th 2022
Refer: Tuncok Sariberberoglu, M., (2022), An Online Basic Design Studio Experience: From Point to Space, Journal of Design Studio, V.4, N.2, pp 227-235,
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DOI: 10.46474/jds.1150261 https://doi.org/10.46474/jds.1150261

Abstract: This article tries to set an example and explore the potential and limitations of the online learning environment for the first-year Basic Design Studio course based on abstract architectural design thinking. The course is constructed on a connected yet independent series of practices on basic design principles starting from the point to the void space. The course was divided into parts to achieve continuity in design thinking, and instructions and critics were given via distant online theoretic implications. The final course focused on improving students' design skills on a small-scale project. Within each practice, students could experience the abstract way of thinking of design to achieve complex parameters of design problems. Overall evaluation for each study depended on the necessities of the work and participation of the students. The paper sets an example of an online architectural studio format and discusses the advantages and shortcomings of online courses for first-year architectural education.

Keywords: Basic Design, Architectural Design Studio, Online Course

1. Introduction

Design education, which is intertwined with abstract concepts, has a complex and contradictory structure that is comprehensive by being difficult to define, classify and understand without being too obvious (Yürekli & Yürekli, 2004). In addition, design education based mostly on traditional teaching methods focuses on skill-based actions to increase students' creativity (Hodgkin, 1985; Onur & Zorlu, 2017). According to Schön (1985), architectural education is special and privileged because focusing on learning by doing. The studio is an environment that has a culture of experience in design thinking. Lawson (2005) takes design thinking as a practice of real-life problem solving, a skill that should be practiced and learned, not a knowledge that can be taught theoretically.

It is possible to express the constantly dynamic structure of architectural studios, which is fed by the culture of criticism, towards questioning, researching, discovering, and understanding or developing intuition as a common acceptance for studies on architectural education rather than pure design action (Kazaz & Demircan, 2022).

Design learning transforms the learner. In the first year, students develop an awareness of the context of knowledge and enable critical reflections on the validity of their assumptions (Temple, 2020). The design studios in architectural education, which exist with the experiences brought by the contact, are the spaces considered the essential experiences of the architecture students throughout their

education (Kılınç et al., 2021). From the first year to graduation, students encounter the design studio in different scale design problems to improve their creative and intellectual capacities. First-year is the most critical and complicated period for most architectural students, and they encounter a basic design course for building a foundation for design thinking. Basic Design is a discipline based on 19th-century studies with completely abstract and non-targeted studies (Sözen & Tanyeli, 1992). As a course, it includes adapting methods while attempting to reveal the students' creative thinking on design. Students improve a design language while solving form-space relationships with two and 3-dimensional compositions (Ertok Atmaca, 2014).

In basic design courses, similar methods have been used, which were implemented in The Ecole des Beaux-Art Architecture School first time (Uluoğlu, 1990), and continued with the Bauhaus Ecole, where the importance of the student-lecturer or master-apprentice relation started (Danacı, 2015). Teaching-learning methodology in basic design courses is primarily based on a discussion process that contains creativity, production of the ideas, and criticism on implementing designs (Maier, 1981). Abstraction, perception, and thought are the main requirements in this educational method for developing creative, innovative, participatory skills throughout architectural education and other professional practice.

The studio environment provides a social setting where students interact and learn from each other while architectural production happens. This social environment transforms the studio into a place where different interactions and encounters happen between the students and the instructors. Unlike the traditional classroom environment, architectural studio environments are physical learning settings that stand out where knowledge is produced, not transferred. Since the learning process in the studio is supported by active working in the environment, students need to adopt the studio and use it outside of class. In addition, the studio is a learning environment without an instructor, unlike the traditional learning environment where students and teachers come together for learning-teaching purposes simultaneously, outside the determined 'class time' (Lueth, 2008).

With the outbreak of the COVID-19 pandemic, all aspects of life were significantly affected worldwide. As a result, educational institutions switched to distance learning while leaving the physical environment behind. Therefore, architectural studio culture has shifted to an online platform of interaction.

Buldan (2021) states that with the extension of distance education, crisis management in education has transformed into new methods of interaction to attract students' attention from the screen. This new unknown environment has required the re-construction of face-to-face studio knowledge in different contexts of learning and practicing. This transition affected the architectural students' motivation who had already met with the studio environment. However, on the other side, first-year architectural students had to meet the "concept of design thinking" for the first time in a virtual environment rather than in an actual studio environment. This situation has caused several outcomes in the adaptation of the creative processes. This article attempts to reveal the process of a first-year online experience and tries to set an example.

2. Basic Design Studio / Content, Method, and Program

According to Çınar and Çınar (2018), there are ten elements in basic design which are point, line, shape, direction, dimension, space, texture, movement, light-shadow, and color. They also state that point is accepted as one of the basic elements of visual expression and the simplest design element, which draws attention as a starting element. It emphasizes a location in space with no conceptual depth or thickness (Demir, 1993). The primary and essential element creates the form by being decentred, directionless, and static. When there is more than one point, the concept of direction appears, and its static state turns into dynamism, rhythm, or even chaos in different ways. The tense of togetherness each other reveals a necessary

relationship that is perceived as a whole (Işıngör & Aslıer, 1980).

When the point reaches linearity, the points are perceived as a whole. The line is entirely perceptual, which is explained as the movement of the point or the convergence of the points side by side with expressing the intersecting surfaces of objects, their cross-sections, and their boundaries (Seylan, 2004). According to Klee, a line is formed from the movement of the point. From a line, a surface is formed, and from a surface, a volume is formed (Gürer, 1992).

Points and lines turn into planes and surfaces. The shape is determined by the contour of these 2-dimensional subjects by their size and simplicity or complexity. Shapes' existence has regular or irregular boundaries. The form is the quality of an object or an entity in terms of its external shape. With a geometric expression, form is a combination shaped by the elements such as points and lines (Çınar & Çınar, 2018). Whether the design element is a line, shape, or figure, concrete ways that determine elements' selection, location, and arrangement according to a specific function and their relations are called design principles. In other words, quality in a design is realized by the interpretation of the form, which contains basic principles in design such as contrast, repetition, hierarchy, proximity, balance, and symmetry.

In basic design education, students are forced to improve their capacity for design thinking by using different design elements with different design principles to achieve originality and uniqueness. The main idea behind the basic design studio is the process of search, research, trial, and failure that takes place in the only possible way of learning architectural design. The experience of the design process leads them to produce alternative solutions and improve the design through criticism.

3. Methodology of the Online Course

On behalf of these theories, the course is structured around six main sections to build up an understanding of design studio culture even though it is held online. Before the pandemic, the course was held in 8 hours of studio time which contained one-to-one critiques to group discussions around theoric background in the design process. Implementing studio education through an online course is divided into two different days, Monday and Thursday, in four hours. On the first day of the week, students were informed about concepts, inquiries, and explanations about the exercise they were expected to do. On the other day, evaluations and critics were made on the online platform. Approximately two days were given to students to create and exercise independently without observation and feedback from the lecturers.

The focus of this course was to build architectural design thinking on an online platform for fourteen weeks semester. The studio was held in the fall semester of 2020-21, starting from the point to the void space. The studies within the studio's scope were divided into short-term studies required in a limited/specific period and long-term studies that span several weeks and contain the project subject (Figure 1).

In the first part of the course, within the short-term studies, the students were introduced to points and lines in infinite space and shapes, which represent the main tools of design thinking via online meetings. Later, students were assigned to examine the design principles first on 2-dimensional black-white compositions and 3d bas-relief models of previous studies. And then, 3d structural compositions were expected from students to question the design parameters of basic principles. In the final long-term project, every student designed a fictional character and an environment based on the character's qualities to investigate the space void in proper scale and necessities.

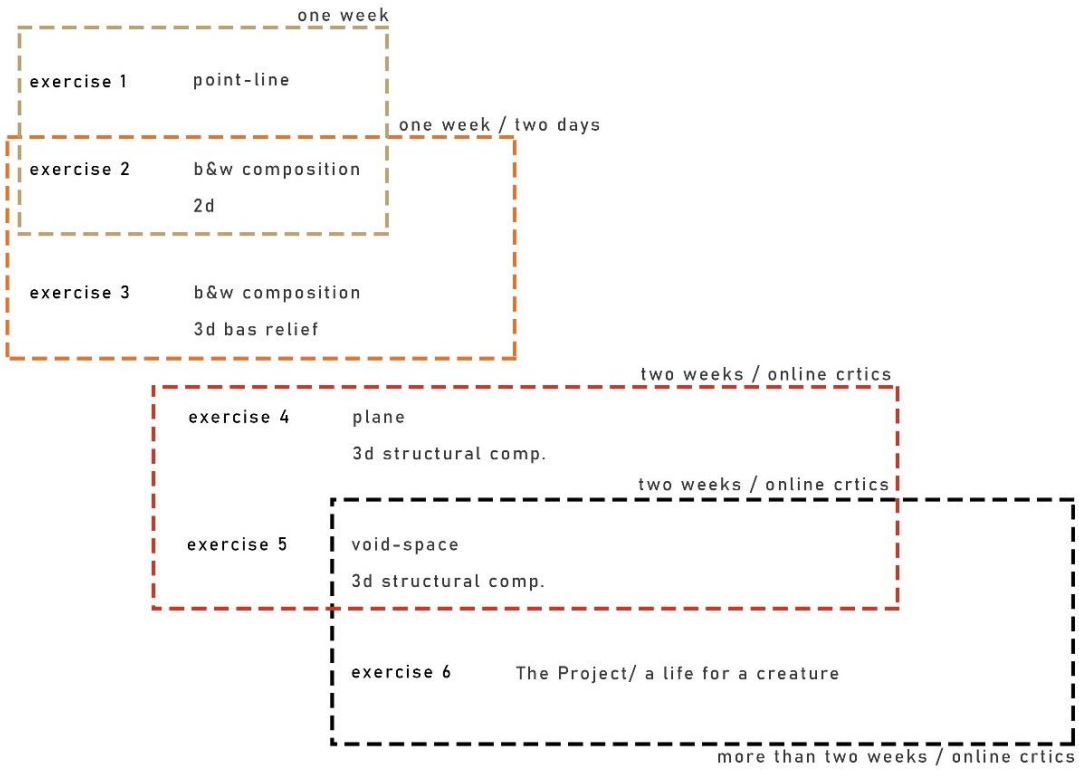

Figure 1: *Program of the course*

4. The Process

A meeting session was held in the first week. Later a short instruction was given about the 14 weeks of the term. In the following week, students were informed about the point and line design elements. After a theoretical lecture session, a specific exercise was given via instructions. First, students were asked to use 35x50 paper horizontally and divide the area into six even (5x5cm) squares by three rows. Then, in the upper row, from left to right, it was asked to perform a freestyle exercise with different pencils, a 2-dimensional composition expression, and a perspective drawing containing only points. After that, they were asked to perform a re-composition of the exercise by subtraction on the lower row. Following that assignment, students were asked to perform the same exercise using only lines (Figure 2).

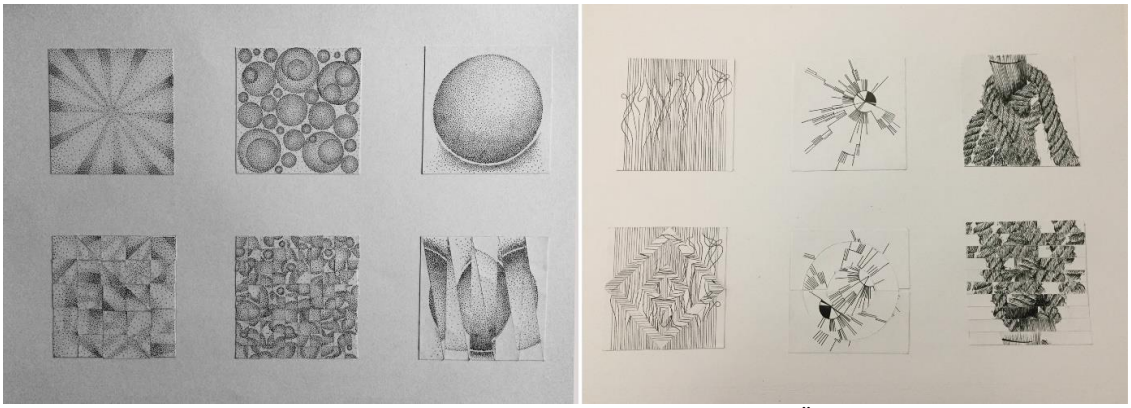

Figure 2: *Exercise 1: Points and lines of infinite space; Ayça Özel, Fatma Yağız.*

All assignments were submitted to a drive folder. Every submission was criticized on a shared screen according to the basic instructions, use of paper and pencils, drawing techniques and intentions, overall proportions of squares, and re-compositions. The limitation of this study was the lack of control over simple proportional mistakes made by students.

In the second part of the course, students were introduced to the basic design principles and gestalt theory. They were asked to perform black and white compositions on 35x50 canvas papers showing at least three principles with shapes and figures in a balanced composition (Figure 3). This study was challenging to comprehend the principles, yet students could overcome it in distant instructions.

In the third session, yet again based on at least three principles, students were asked to design 3d bas relief compositions in referring to a 2dimentional composition next to it on 35x50 canvas paper (Figure 4). The main intention of this study was to build an understanding of different shades of different design principles

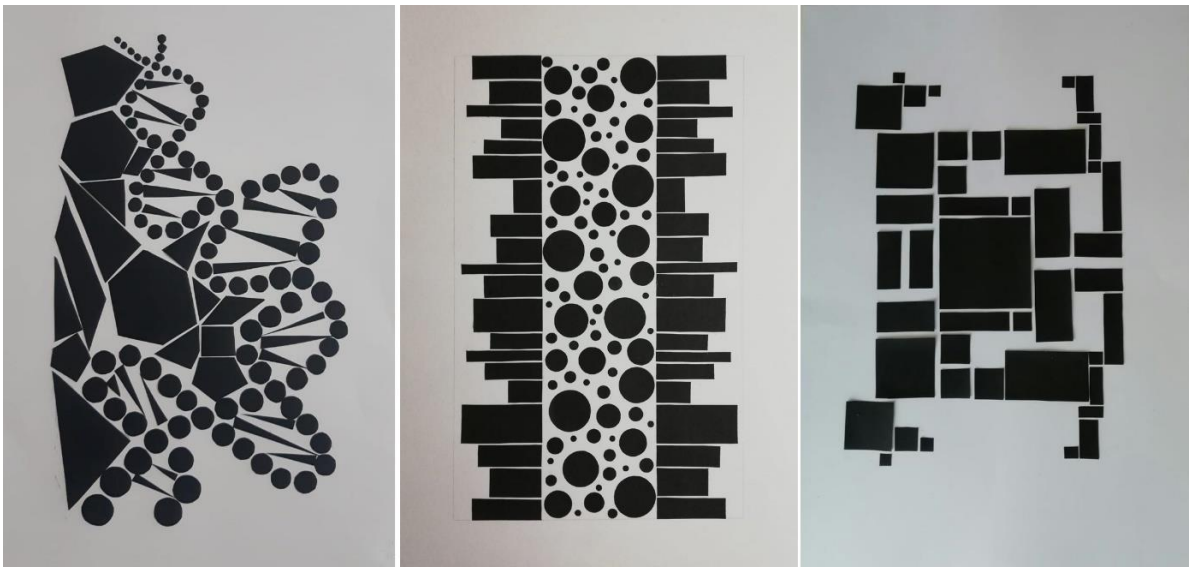

Figure 3: *Exercise 2: Basic Design Principles (2d b&w compositions); Elanur Akdaş, Betül Şekar, Nigar Peri Polat.*

Figure 4*: Exercise 3: Basic Design Principles (3d bas relief compositions) Abdullah Taylan, Nigar Peri Polat.*

and transfer it to a 3d environment. In this practice, students were confused about using different colors such as white, black, and grey, but after online criticism, most of them could manage to express their studies. The primary purpose of this study was to introduce students to the basic concepts of space, such as surface-volume, occupancy-space, and horizontal-vertical, and to develop their 2- and 3-dimensional thinking skills.

After these 2d and 3d bas relief exercises, students were asked to create modules of figures with the method of folding. Before the study, the students were given structural and basic information and various examples.

After creating the modules, it was asked to design a 3dimensional composition presenting at least three basic design principles (Figure 5). With this exercise, students were forced to consider the structure itself. The main question of this study was, "what do we need this design to stand up on its own?". We talk about the meaning of structure, and in this process, basic design principles were examined in different mediums of design parameters. The main aim of this study was for the students to internalize the concepts and structural systems- the relationship between form, space, and structure to understand that the structural system is not independent of form and space. On the contrary, the structure is the determinant of the form, and the structure system is an essential component of the design process from the beginning. In addition, the space-creating potentials of the supporting structures were also included in the exploration process.

Later in that exercise, students were asked to think about what happens if we add another material like chopsticks to this system. Before the pandemic, we made students use strings to support the structure. However, due to the shortcomings of online interaction, we preferred to limit the material to only two and

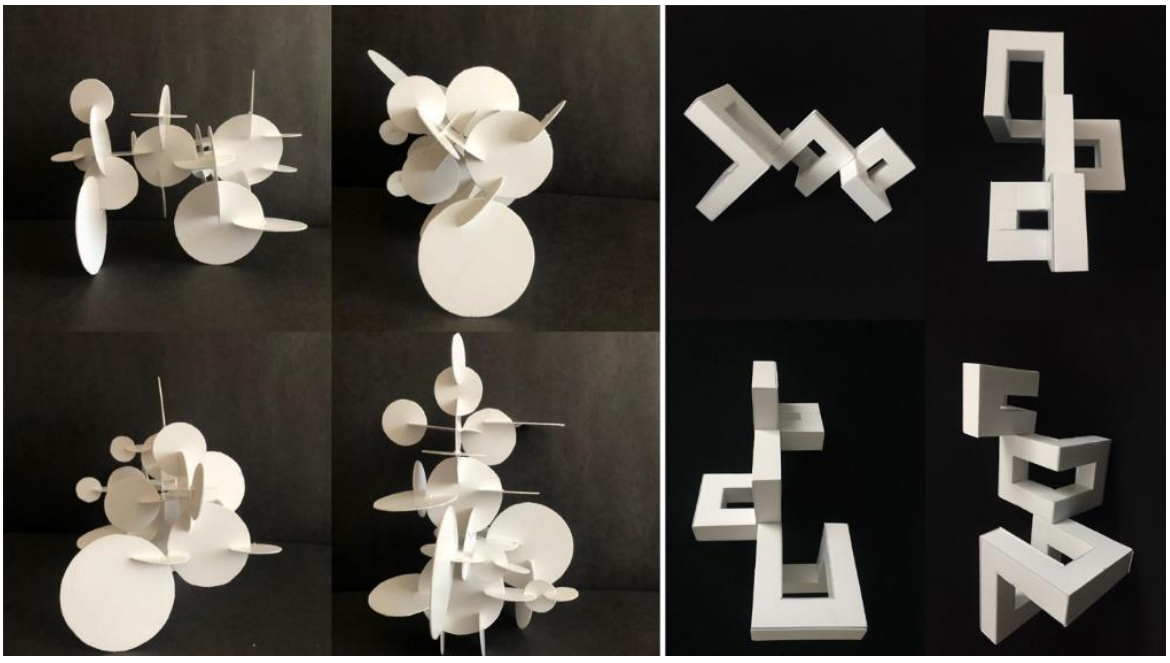

Figure 5: *Exercise 4: Basic Design Principles (3d structural compositions) Emine Seçil Karakoç, Fatma Yağız*

Figure 6: *Exercise 5: Basic Design Principles (3d structural compositions) Arda Danışmazoğlu, Çağla Ateş, Şevval Yaman, Ceren Dilber*

let students create a structure of two different materials (plane elements and line elements-wooden sticks) into one coherent system (Figure 6). In this study, students were asked to think about the concept of void. After several discussions, the link between void and space became the main relation to consider before the project.

The final project took at least six weeks to complete, and the concept of scale is discussed in the course. Students were asked to think about a creature that has a character of its own. The main questions for this study were; What is its name? Where does it live? What does it like to do on a regular day? Etc.

Along with the critics, students designed a structure for the creature they created. They had to consider its' habitat of living, its movements, habits, etc., and they prepared a poster to represent their project (Figure 7). The design process was developed through the critics. The students had to reproduce their models several times because they were working with a scenario for a particular creature upon online critics for every session. The material was limited again to whiteboards and wooden sticks. The differentiation of the scenario brought the differentiation of both the design process and the final product. At the end of the study, students were asked to photograph their models and prepare a poster presentation, including technical drawings of their designs.

5. Discussion and Conclusion

Design education transitioning online from face-to-face has become a challenging scope for architectural education. After a semi-online term with the outbreak of the Covid19 pandemic, architectural courses had to re-build the outlines of the courses for the following semesters. On the other hand, some aspects of design education have not changed, which is the environment of learning itself. Basic design studios are the environments where students encounter abstract thinking and transform it into a concept of doing by learning with peers.

The course was designed to maintain unity from beginning to end for students to keep up with the process. Therefore, the main aim throughout the course was to establish strong relationships between students and the design thinking

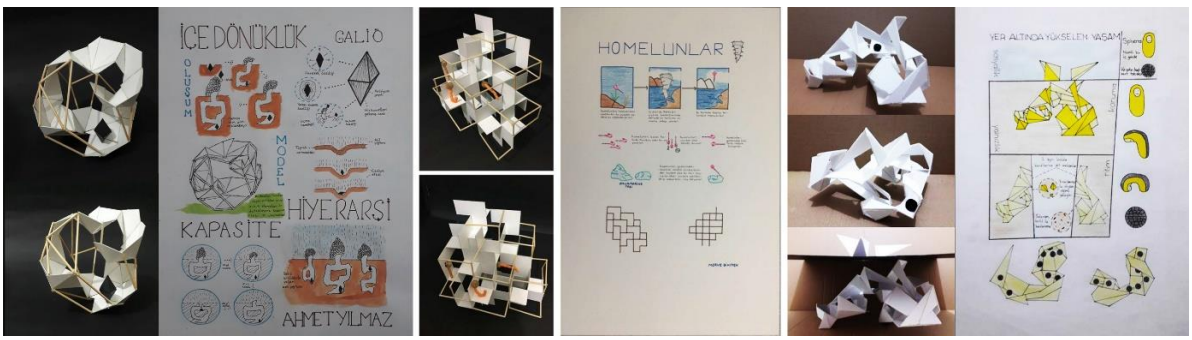

Figure 7: *Exercise 6: The Project Ahmet Yasin Yılmaz, Merve Dikmen, Mukaddes Demir*

process from a physical distance. Unfortunately, this physical distance has become an obstacle to maintaining a peer learning environment. To overcome this, students were asked to speak for themselves in every online session and explain their designs, and give critics to other students on what they understand of other works.

On the other hand, every study was evaluated to question the subject's necessities and the works' originality with participation. Furthermore, every study had its own time according to the context, approximately a minimum of 2 weeks, besides the final project. Therefore, students were left alone during the design process, unlike the exercises that usually took place in one 8-hour studio time with direct face-to-face education interaction.

It is observed that students could keep up with the process and complete the term with a final project. However, along the process, it is seen that some of the students are not so excited to talk about their designs for online discussions and critics. It can be evaluated as a reason for one of the difficulties in comprehending the atmosphere of an actual studio on an online platform. It is also observed that students were mostly hesitant to take action for being alone during the design period. They constantly waited for approval on their decisions but were also very eager to criticize others. This action can be considered another indication of adaptation problems in an online environment and may be a reason for some to drop the course while most students gain confidence.

This course shows how architectural design skill is developed and articulated during online interaction and sets an example for generating the online environment's teaching methods and design pedagogies to overcome physical and social distance. As a result, it is possible to say that the interconnected structure of the course was successful through the students' final projects. Furthermore, it is seen that the structure of the given works, starting from the point and extending to the space, feeds each other conceptually. Finally, it has been determined that it allows students to experience an objectively perceptible design process from abstract productions.

Acknowledgments: I would like to thank all our students for their hard work and our research assistants, Saime Gümüştaş Babalı and Müge Meterelliyöz, for their contribution.
Conflict of Interest: The author stated that there are no conflicts of interest regarding the publication of this article
Ethics Committee Approval: N/A.
Author Contributions: The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.
Financial Disclosure: The author declared that this study has received no financial support.

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