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Research Article

Students' Experiences and Usability Evaluation in Interactive Digital Interface Development Process

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Abstract

In this research, it was aimed to determine student experiences in the design process of interactive digital interfaces developed with Figma and to evaluate students' works developed within the scope of the "Digital Interface Design" course by students and lecturer. The case study design was used in the research. While determining the participant group of the study conducted with 57 students, convenient sampling method, which is one of the non-random sampling types was used. Implementation activities lasted eight weeks. At the end of the implementation process, each of the student was expected to develop interactive mobile application or website interfaces. The qualitative data of the study were analyzed by content analysis method, while the quantitative data were analyzed descriptively. According to findings, most of the mobile application and website interfaces designed by students were evaluated as good usable, and a certain part as excellent usable.

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Introduction

Companies that are newly established in different sectors or that have been operating for a long time need digital applications that best represent their corporate identities in order to continue their services effectively and practically. Almost all of the corporate companies carry out their services through websites or mobile applications. For this reason, companies are obliged to provide the best service to their customers. Otherwise, they may face the potential of losing customers. Firms or organizations should be able to offer an understandable interface design to their customers both with websites and mobile applications. The need for usability arises with the continuous increase and change in the user profiles of the products that develop with technology. The customer should be able to easily find the product they are looking for in a digital application. In addition, these applications should have functional features to ensure the satisfaction of their customers. Because every user wants to have error-free experiences in the applications they use.

The graphical representations prepared by the designers that provide communication between the hardware and the user are called the user interface (UI). User interfaces contain graphical features such as menus, buttons and icons (Butow, 2007). The use of unnecessary objects should be avoided while designing the interfaces. Interface designs should be user-oriented. With the increase in the variety and popularity of mobile devices, there is a need for responsive designs that can work stably on every device. Effective interfaces should facilitate the actions that users want to perform. For this reason, mobile applications should have an easy-to-use and understandable interface that meets user expectations. For mobile devices, designs are generally made for clicking on small screens according to the device type, while designs are made for desktop and laptop computers according to larger screen resolutions. The layout and color harmony of the content on websites or mobile applications is important for the usability of the interfaces. User experience (UX) and interaction factors should be considered while designing user interfaces. User experiences for applications should be measurable and observable (Tullis & Albert, 2013). User experience is related to how users feel and communicate while interacting with the system or application. According to McKay (2013), user interfaces are a form of communication between the application and the user, and it is essential to convey information to the user. In user interface designs, the communication between the system and the user comes to the fore. Users want to communicate with applications that have a user-friendly interface design for certain purposes. User interface designs have a significant impact on the usability of the developed applications. Poorly designed user interfaces can lead to misunderstandings. Thus, these may cause users to make mistakes. Good interface designs are hard to spot due to their natural use. The important thing is to detect problems in bad interface designs and increase the usability of applications. Another important issue in user interface designs is prototyping. It is faster and more economical for designers to test their applications while they are in prototype form. Therefore, prototyping increases efficiency in the design process (Dix, Finlay, Abowd, & Beale, 2004). In a successful user interface design, the user can easily communicate with the system or application (Kraleva, 2017). There are some steps to follow while developing user interface designs for mobile applications. First of all, potential users should be analyzed. Then, interfaces should be created for the purpose of the application and user requirements. Interactive pages containing information such as text, graphics, sound

should be prototyped. Usability tests should be done with real users. Finally, the user interface should be finalized (Georgiev & Georgieva, 2009).

Usability is the degree to which an application can be easily and effectively used by users to perform certain tasks. Usability is related to both the system interface and the interaction between the system and the user. When users find a product, system or application useless, they give up using that design by expressing their dissatisfaction. The designs that satisfy the users are preferred by the users for the next application selections. Nielsen (1994) drew attention to five basic features of usability: learnability, efficiency, memorability, errors and satisfaction. Learnability refers to how well users can perform tasks when they encounter the interface for the first time. Efficiency is related to how quickly the given tasks are done, at low cost and correctly. Efficiency is also associated with performance. The state of being familiar with the application by interrupting the use of an application for a while and starting to use the same application again represents memorability. Mistakes made by users while using a system indicate errors. The level of happiness of users from using the system is explained with satisfaction. According to ISO (9241-11) usability is a measure of effectiveness, efficiency and satisfaction (Çağıltay, 2011; Lee & Kozar, 2012; Park & Lim, 1999). Effectiveness refers to the degree to which a system or application serves its purpose. If users can use an application in the expected direction, then the effectiveness of the application can be mentioned. Usability analysis should be done to find out how efficient a newly developed system is (Shackel & Richardson, 1991). Usability tests are generally time-consuming and performed with a small number of users (Rubin & Chisnell, 2008). However, usability tests with a small number of users are insufficient to represent the whole universe. For this reason, tests for a product, system or application cannot be definitive proof of the usability of those designs. In order to support the usability test results, users can share their experiences about the applications in written or verbally. According to Goldberg and Wichansky (2003) usability features are: 1) the acceptability of a product by the user, 2) efficiency of use, 3) the concept of usability, 4) human-computer interaction components and 5) the selection of users among the target group in usability evaluations. The main purpose of the interface design is to know the target group, because the needs of the users cannot be fulfilled in the absence of designs for the target group (Galitz, 2007). If a product is easy to learn and satisfies the user, it can be said that the product is successful in terms of usability.

There are many applications that can be used in interface designs. One of these applications is Figma that allows users to create effective and interactive designs. The aim of this study is to determine student experiences in the design process of interactive digital interfaces developed with Figma and to evaluate the usability of original interactive interface designs developed within the scope of the Digital Interface Design course by students and lecturer. Within the scope of the study, it is anticipated that student opinions on how to design more interactive interfaces will contribute to the literature. In this direction, the following research problems were examined.

1. What are the student experiences in the design process carried out with the Figma?
2. What are the suggestions for designing more interactive interfaces?
3. What are the usability situations of interactive digital interfaces developed within the scope of the course activities?

Method

Research Model

Considering the problem situation and research problems, case study design was used in the research. In the case study design, factors such as individuals, environment, processes and events related to a situation are handled with a holistic approach. In addition, it focuses on how these factors affect the relevant situation and how they are affected by the relevant situation. Due to the nature of case studies, both qualitative and quantitative data can be used together (Yıldırım & Şimsek, 2011). This study differs from the usability analysis method in terms of its purpose and implementation process. There are different requirements for usability analysis. (Rubin & Chisnell, 2008).

Participants

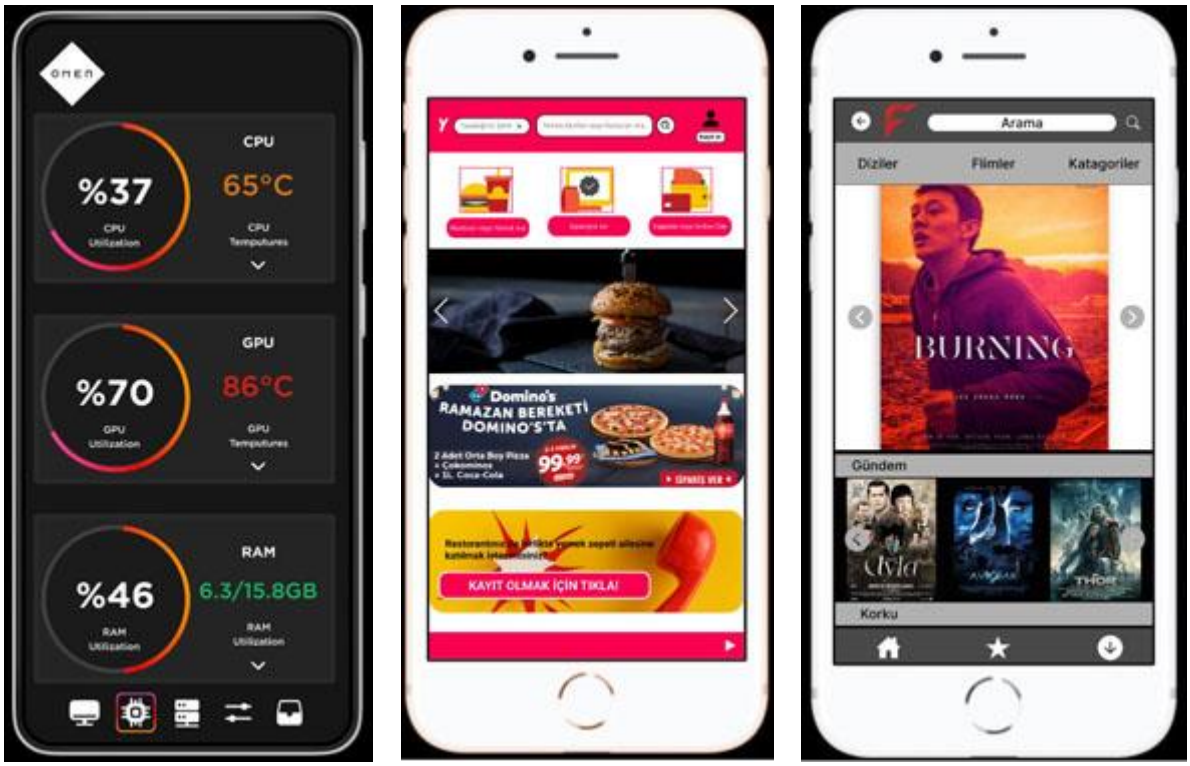
A total of 57 students participated in the research studying in the A, B, and C classes of a state university the department of Visual Communication Design in the 2021-2022 spring semester. The participant group consists of 23 male and 34 female students. The number of participants by classes is given in Table 1. While selecting the participant group, the easily accessible (convenient) sampling method was used. According to this sampling method, researchers choose situations and study groups that are close to reaching them (Patton, 2014).

Table 1. Number of participants by classes

Class	Gender	
	Female	Male
A	13	6
B	11	7
C	10	10
Total	34	23

Implementation

The design activities lasted eight weeks. The Digital Interface Design course contents were taught to classes A, B, and C with Figma program regularly along five weeks by the lecturer of the course. Activities were carried out with Class A on Wednesday, with Class B on Thursday, and with Class C on Friday. The activities were first shown to the students with the demonstration technique by the lecturer of the course. Afterwards, the students carried out their studies using the technique shown by the lecturer. The lecturer provided one-on-one assistance to the students who had difficulties in the lesson. Weekly homeworks were given to the students so they were encouraged to repeat the information they learned. The students created their own unique projects by adding their creativity to the information taught in the course while making their designs. In the last three weeks of the design activities, each of the student was expected to develop interactive mobile application or website interfaces. Some of the students created their own trademarks, and some of them designed interactive interfaces by taking the applications of existing corporate companies as reference. Some sample mobile application interface designs made by students are shown in Figure 1 and website interface designs are shown in Figure 2. Since Figma is a internet based program, sample interface designs can be viewed by clicking the links below the relevant images (In order to see the contents, it is necessary to register Figma).



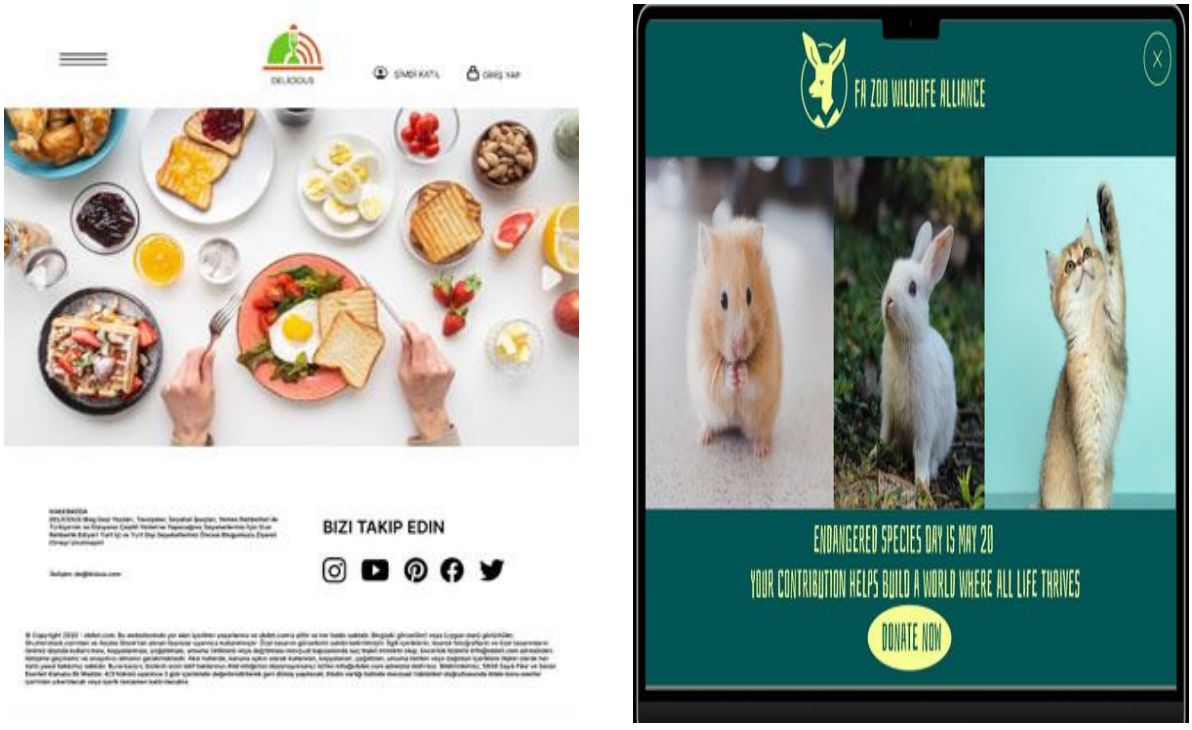
A B C

A) https://www.figma.com/proto/bPY5Fe5D3EUaIFiMatyemT/hp-omen-ary%C3%BCz?node-id=1%3A2&scaling=scale-down&page-id=0%3A1&starting-point-node-id=1%3A2

B) https://www.figma.com/proto/QXbV40rX5C25HIblssZJQr/Untitled?node-id=98%3A28&scaling=scale-down&page-id=0%3A1&starting-point-node-id=98%3A28

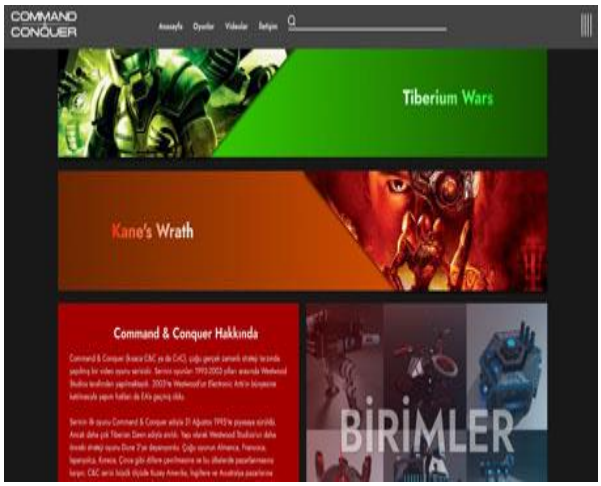
C) https://www.figma.com/proto/4D1GbdY2i5ihHPHW7WcoWo/Untitled?page-id=0%3A1&node-id=2%3A275&viewport=241%2C48%2C0.13&scaling=scale-down&starting-point-node-id=2%3A5&show-proto-sidebar=1

Figure 1. Mobil application interface designs



A B

C



D

A) https://www.figma.com/proto/aNdvzsjNDPs9mAHgkLXLee/F%C4%B0NAL-%C3%96DEV%C4%B0-YEMEK-S%C4%B0TES%C4%B0?page-id=0%3A1&node-id=2%3A2&viewport=241%2C48%2C0.13&scaling=scale-down&starting-point-node-id=437%3A2

B) https://www.figma.com/proto/9Zc9gEXWpQTzgmI3MCRR8x/Untitled?page-id=0%3A1&node-id=1%3A3&viewport=244%2C48%2C0.03&scaling=scale-down&starting-point-node-id=1%3A3&show-proto-sidebar=1

C) https://www.figma.com/proto/RXStUKgdpC349uHLZEsBJY/WEB-S%C4%B0TE?page-id=0%3A1&node-id=1%3A2&viewport=241%2C48%2C0.22&scaling=scale-down-width&starting-point-node-id=1%3A2

D) https://www.figma.com/proto/drnVVgxZ9XhJZMeHxMHXvB/Final-%C3%96devi?page-id=0%3A1&node-id=2%3A2&viewport=241%2C48%2C0.07&scaling=scale-down-width&starting-point-node-id=2%3A2

Figure 2. Website interface designs

Data Collection Tools

As data collection tools in the study: 1) "Student Opinion Form for the Development of Interactive Digital Interfaces" (SOFDIDI) developed by the researcher, 2) "Computer System Usability Questionnaire" (CSUQ) developed by Lewis (1995) and adapted into Turkish by Erdinç and Lewis (2013) (T-CSUQ) was used. SOFDIDI consists of three open-ended questions. Open-ended questions were examined by four different field experts and their approval was taken. The original Computer System Usability Questionnaire (CSUQ) consists of 19 items. T-CSUQ was simplified to 13 items by removing items measuring similar expressions from the CSUQ. T-CSUQ consists of three factors. In this researh, there are no system error messages and feedback features in students' designs. An item that measures system error messages in the 13-item T-CSUQ was excluded from the analysis because it did not serve the purpose of the study. Thus, student designs were evaluated over 12 items in the dimensions of system usefulness, information quality and interface quality. T-CSUQ is a 7-point likert type questionnaire, and a low score on the questionnaire represents good usability. The highest score that can be obtained from the 7-point likert type T-CSUQ is 12, and the lowest score is 84. The internal reliability coefficients of each factor (Cronbach Alpha) were calculated as: System Usefulness (.85), Information Quality (.71), Interface

Quality (.73) and Overall (.85) (Erdinç & Lewis, 2013). At the end of the eight-week implementation period, the students expressed their opinions in writing with the SOFDIDI distributed to them. In addition, students in classes A, B, and C did not evaluate their own projects, but they evaluated their friends' projects in terms of system usability using T-CSUQ together with the lecturer of the course.

Data Analysis

While examining the first two research questions of the study, the qualitative data obtained from the students were analyzed by content analysis method. As a result of content analysis, themes and codes were determined. Within the scope of the third research question, the quantitative data obtained from T-CSUQ were analyzed descriptively. The average evaluation scores of each project were obtained by taking the average of the answers given by the students in the A, B, and C classes and lecturer to the T-CSUQ. Descriptive analyzes were carried out according to these average evaluation scores.

Validity and Reliability

Findings are described with direct quotations in order to ensure transferability in the study. The research results were supported by the quotations obtained from the participants. The researcher did not add their own interpretation to the data in any way while transcribing the qualitative data in order to provide dependability. The participants were informed about the working environment and process for the comfirmability of the study. The raw data set was stored after being read twice.

Findings

Student Experiences in the Design Process of Digital Interfaces

The following themes were determined from the qualitative data obtained as a result of student experiences in the design process of interactive digital interfaces: 1) "facilitating factors of the design process", 2) "complicating factors of the design process", 3) "fulfilling expectations". Facilitating factors of the design process are given in Table 2, complicating factors of the design process are given in Table 3, and case of fulfilling expectations are given in Table 4. Frequency counting of the codes that emerged for the answers given by the students was made. The total numbers in the frequency represent different student numbers. Opinions of different students were expressed as S1, S2, S3, S4….

Table 2. Facilitating factors of the design process

Codes	Frequency
Ease of use	25
Using the plugins	20
Simple interface	19
Lecturer assistance	17
Teaching the lesson in an interactive and funny way	11
Teaching practical methods and shortcuts	10
Allows teamwork	6
Similarity to other design programs	5
Weekly homeworks increase learning	4
Automatic scaling and distance adjustment	4
Frame usage and naming of frames	4
Tools are functional	3
Saving time	3
Cloud storage / automatic recording	3
Instant preview	2
Work in sync with other programs	2
Ease of creating animations	2
Ease of sending homeworks	2
Design by device	1
Allows to produce creative designs	1
Figma community	1
Increases retention	1
Prototyping process	1
No need to learn coding	1
Ready-made templates	1

When Table 2 is examined, the students expressed their opinions about the simple interface and easy use of the Figma program during the design process. Figma provided facilities to students in the design process with its ready-made icon sets, visuals and animation tools. The lecturer of the course paid close attention to his students. It was stated that the course was interactive and fun. The information taught to the students was reinforced with weekly homeworks. Figma, which enables teamwork, has an interface structure similar to some of the other design applications. In Figma, which has functional toolbars, automatic scaling between objects and adjusting the dimensions of their designs according to the desired platform offered advantages to the students. Naming the frames facilitated the prototyping phase. The designs made in Figma, which saves time in the design process, are stored in the cloud system and the works can be accessed from any device at any time. Students can work in sync with other design programs and see instant previews of their designs. Completed projects can be shared and evaluated over the internet with a single

link. Original and creative designs can be made with Figma without need to know any code. Designers can also create different designs inspired by ready-made templates in Figma.

> *In addition to the simple and original application interface, our weekly practice conducted by our lecturer was more effective in the learning process of Figma [S3].*
>
> *Figma's easy interface has made my mobile application and web design projects very easy. We taught our lessons in a fun way with Figma [S19].*
>
> *Figma is simpler, more effective and easier than other interface design programs. Very creative results were obtained without writing code. It is possible to work interactively with another person in Figma. The application can work in any environment and saves time [S21].*
>
> *Not having to search for visuals using the images and icons in the plugins menu made the design process easier and faster. The ability to share my work with my friends and lecturer and edit at the same time was also useful [Q26].*
>
> *The interface is very easy to use. Clearly and simply designed. Toolbars are functional and easy to find. It is also suitable for collaboration. The design process was enjoyable and fun. It was an easy to understand program [S30].*
>
> *The compatibility of Figma with other vector-based programs made our work easier. Since we have a good command of Adobe Illustrator, we also understood the program in an easy and understandable way with the support of our lecturer. It also helped us learn the shortcuts [S41].*
>
> *Plugins in the program allow us to design in a practical way. Since it is a web-based application, our work is automatically recorded. A mutual project can be made by participating in the design process by more than one person [P45].*

Table 3. Complicating factors of the design process

Codes	Frequency
There is nothing compelling factor	13
Getting used to the program interface	12
Internet problem	7
Inability of the program	5
Complexity of the prototype section	4
Pen tool difficulty	3
Inability to fully understand some topics	3
Language support	3
Creating animation	2
Forgetting by not repeating	1
Inability to keep up with the pace of the lesson	1
Not naming frames	1
Ability to use a PC	1
Plugins not working stable	1
Lack of animations, effects and frames	1

The factors that complicate the design process are summarized in Table 3. In general, the students stated that there was no feature that forced them in the design process. The

biggest difficulty experienced in the design process was the getting used to the program interface. Since Figma is a web-based application that works with the internet, the design process was interrupted when wireless internet was not available in the laboratories where the course was taught. In the absence of internet, students could not access Figma program from anywhere and with any device they wanted. Due to the limitations of the Figma, the students could not implement every project they thought of. There were students who had difficulty in using the pentool tool while drawing, and in the process of grasping the prototype menu which is used to interact. Some students stated that they could not keep up with the pace of the lesson and could not fully understand some of the topics. Some students, who did not repeat the subject after the lessons, did not name the frames, and did not have the ability to use a computer before, had difficulties in the design process. It has been shown that it is difficult to create animations, the lack of animation, effects and frames in Figma, and the instability of some plugins are among the other problems experienced. In addition, some students complained about the language support problem in Figma.

> *In the beginning, I had a hard time because I did not know about Figma. It took me a while to figure out the program's interface [Q8].*
> *We had a hard time because some features of the program were insufficient. I had difficulties when I tried to design without repeating the methods shown by the lecturer [S10].*
> *Nothing forced me. I could not work only when there was no internet [P29].*
> *Figma was incompetent when creating animations and doing some design. The fact that the prototype part was a bit confusing made it difficult for me [P32].*
> *I had a hard time because there is no Turkish language support in the program. There was confusion when I didn't name the frames. Pentool was not sensitive enough [S42].*
> *I was a little inexperienced as I started designing on the computer for the first time. Sometimes I could not keep up with the pace of the lesson [P46].*
> *I had a hard time understanding some of the topics in the lesson. The variety of animations and effects in the program were few [P57].*

Table 4. Fulfilling expectations

Codes	Frequency
Expectations were adequately fulfilled	45
Satisfaction	21
Opportunity for self-development	8
Increasing learning and retention	5
System feedback is missing	3
Ease in designs	2
Expectations were not adequately fulfilled	2
Increasing creativity	1

It was examined to what extent the design process carried out with the Figma responded to the expectations of the students (Table 4). The majority of the students stated that the Figma fulfilled their expectations to a great extent and they were satisfied with the design process. During the design process, the students emphasized that they improved themselves by increasing their level of knowledge. The Figma enabled students to produce creative designs by providing convenience in different subjects during the design process. Some students stated that the Figma program could not fully fulfill their expectations and could not create the designs they wanted. In addition, the lack of system feedback in Figma has been reported as a deficiency.

> *Figma has accelerated and facilitated our work with its easy interface design. It is an easy program to learn. I did my studies easily [S6].*
> *I was surprised that it was detailed and easy to learn beyond my expectations. When I went into the details, I saw that it was an even better application [Q11].*
> *When we wanted to enter text in the relevant fields in our designs, Figma was insufficient. However, since the purpose is interface design it is sufficient in terms of designing [S22].*
> *We can make versatile designs with Figma. The program fulfills my expectations in terms of many aspects [S27].*
> *It's a nice alternative to start designing interfaces. Figma fell short of creating the designs I was considering. It was insufficient in error detection and animation applications in prototyping [S31].*
> *Figma was pretty good. You can make project designs with pleasure. Everything is there for you to create a website interface. I can say that this is the maximum efficiency that can be obtained from a program [S40].*
> *Figma helped me to develop myself in design. I found the program to be more comprehensive than I expected and it has been useful to me in most of my work [Q49].*

Suggestions for Designing More Interactive Interfaces

Although the Figma program is useful in the process of designing the interactive interfaces, some suggestions have been made to improve the design process. The codes obtained under this theme are given in Table 5.

Table 5. Suggestions for improving the design process

Codes	Frequency
Animation UI should be improved	9
The way of teaching should continue in the same way.	6
Animation, effect and frame variety	4
Using different programs	4
More tools in Figma	3
Opportunity to watch the lessons again	3
System feedback	3
Ready-made templates and icons	3
More practice in lessons	3

Self-development of student	2
One-to-one teaching	2
Updating some plugins	2
Necessity of language support	2
Short lecture videos	2
Wider view of the toolbar	2
Audio plugin	2
More repetition and practice	2
Interaction with alternative programs	2
Simpler commands	2
More features	2
Target group oriented design	2
Analysis of sample designs	1
Design by reference	1
More extensive project examples	1
Basic web coding	1
Learning during the lesson	1
Lecture speed	1

A certain part of the students stated that the current way of teaching is efficient and it should be continued in the same way in the following years. It was the most stated that the animation preparation interface should be improved during the design process. Students wanted to use more effective animations, different effects and frames in their designs. There were students who did not find the toolbar feature sufficient in Figma and wanted to work with different programs. In order to repeat the learned information, it has been suggested that the lessons should be recorded or there may be short lecture videos in the program. Thus, the students expressed that they could improve themselves even more. Students wanted to learn more features of the program with more course content. It was stated that it would be beneficial to develop designs by practicing more with the information learned. Some students who had difficulties in the design process wanted to benefit from ready-made templates and interactive icons. The importance of system feedback was emphasized. Some students expected one-to-one attention in the learning process. Thoughts were expressed that some plugins should be updated and the toolbar should be positioned more visible. It was emphasized that the program should have different language options. There have been students who wanted to add sound to their designs and to interact with alternative programs. It was stated that the designs made for the target group would be more beneficial. It was emphasized that students' visions could be increased by taking the existing designs as a reference or by analyzing comprehensive sample designs. Some students expressed their desire to learn basic coding knowledge. Students who had difficulty with commands stated

that some commands could be more understandable. In addition, students who could not keep up with the pace of the lesson stated that the lesson should be taught a little slower and should be learned in the classroom.

> *Different language supports can be added to Figma [S1].*
> *It would be beneficial to repeat the topics more, to examine the program and do research [S4].*
> *I think moving with the lecturer is more effective and makes it easier for us to learn. It should continue in this way [S5].*
> *If a video is recorded during the lesson and uploaded to a website, we can view it from there when we have confused it or forgotten it [S16].*
> *I would like to be easier and more practical the animation preparation menu [P23].*
> *I think interaction is an action-reaction situation. The more feedback the user gets, the better the interface. It can be designed by interacting with different programs [S24].*
> *Studies can be carried out by taking a design as a reference or by analyzing sample designs. Effective designs can be made with sound [S37].*
> *Suitable works for the target group and modern design culture can increase interaction. The program was enough, the talent of the designer is important [S43].*
> *Instead of a single program, we can work with different programs. In this way, we can compensate the features that are insufficient for us while designing with alternative programs [S47].*

Usability Situations of Interactive Digital Interfaces

Eight-week course activities were carried out by 57 students. At the end of the eighth week, each of the students were expected to comprehensively design mobile application or website interface. However, since 20 students could not complete their projects at the end of the specified time, usability evaluation was not done in these designs. For this reason, the usability of 37 students' designs was examined. Table 6 shows how many students designed a mobile application or website interface in A, B, and C classes.

Table 6. The number of design interfaces by classes

Design Interface	Class A	Class B	Class C
Mobil application	6	9	3
Web site	7	7	5
Total	13	16	8

Students in A, B and C classes only evaluated the projects presented in their classes together with the instructor. Average scores were calculated for each design in A, B and C classes, within the scores given by the students and lecturer to the items of T-CSUQ. Descriptive statistics were analysed according to these average scores. The design interface average scores by classes are given in Table 7.

Table 7. Design interface average scores by class

Design Interface	Class A	Class B	Class C
Mobil application	27,33	22,77	24,33
Web site	28,14	28,71	33,6
Mean	27,73	25,74	28,96

According to T-CSUQ, 12-24 points were interpreted as excellent usability, 24-36 points as good usability, 36-48 points as moderate usability, and 48 points and above as poor usability. When Table 7 is examined, mobile applications designed in class B have excellent usability and website designs have good usability. Mobile applications and website interfaces designed in A and C classes have good usability. Table 8 shows the average scores given to the interface designs for each item of the T-CSUQ.

Table 8. Average scores of interface designs for T-CSUQ items

Items	Mean
Overall, I am satisfied with how easy it is to use this system.	2,08
It is simple to use this system.	2,24
I can effectively complete my work using this system.	2,30
I feel comfortable using this system.	2,14
It was easy to learn to use this system.	2,27
I believe I became productive quickly using this system.	2,57
The information provided with this system is clear.	2,51
The information provided with the system is easy to understand.	2,27
The interface of this system is pleasant.	2,05
I like using the interface of this system.	2,24
This system has all the functions and capabilities I expect it to have.	2,41
Overall, I am satisfied with this system.	2,16

In T-CSUQ, value of 1 represents the best usability and value of 7 represents the worst usability. Since the average value of each item is between 2 and 3, it is possible to say that the usability of the interface designs developed within the scope of the research is at a good level in general. The qualitative data of the study support these quantitative findings.

Discussion and Conclusion

Most of the mobile application and website interfaces designed by students were evaluated as good usable, and a certain part as excellent usable. Students generally evaluated Figma, which they used to design interfaces, as easy to use and easy to learn. Figma has provided many benefits to students in the design process due to its important features. It is stated that the designs revealed within the scope of the study have an understandable

interface. It has been emphasized that the interface designs have a sufficient level of functionality. Interface designs were evaluated as satisfactory in general. The students found the interfaces designed by each other to be usable at a good level. While browsing through the menus, they could easily find the features they were looking for. According to Salvendy (2012), the most important issue in interface designs is to develop interfaces that support user task performance. Users can only navigate through well-designed interfaces and use applications for their purposes without any problems. Ghaoui (2006) stated that for the usability of user interfaces to be good, the interfaces should be easy to learn and easy to remember as well as satisfying. During the design process in this research, students created easy to learn and satisfying designs with Figma. The fact that Figma program can fulfill the expectations and needs of students can be shown as the main factor in their being able to produce usable designs.

During the design process, students had to struggle with some of Figma's limitations. Since Figma is an application that works with the internet, the design process is interrupted when there is no internet. However, the students had internet problems for a short time and the problem was resolved. Since Figma has a limited number of toolbars, the students could not produce the designs they wanted. Instead, they prepared some of their images with alternative drawing programs and integrated them into Figma. Figma failed to fulfill expectations in terms of user data entry and system feedback. The main purpose of Figma program is not to provide system feedback and system-user interaction. Its purpose is to design interactive interfaces. However, interaction between the user and the system can be created partially by using alternative methods.

Students stated the importance of interface designs should be made for the target group. Similarly, Galitz (2007) stated that the basis of interface designs is to know users. Designs made without taking into account the expectations of the target group cannot achieve their purpose and result in failure. In line with the same views, Norman (2004) stated that unusable products negatively affect the user experience. Students stated that they wanted to create more effective animations during the design process. They also suggested that improvements should be done in Figma. The statements of Head (2016), stating the importance of using animation in interface designs support these expectations of the students. Since Figma cannot fulfill user expectations in terms of user data entry and system feedback, alternative applications such as Balsamiq can be used in digital interface designs.

The effects of these alternative applications on student experiences during the design process can be examined. Different language options can be added to Figma in line with students' suggestions. In this way, students who have foreign language problems can learn Figma more easily. Designers can reveal more interactive digital interfaces by examining mobile applications and websites that serve their purpose, fulfill user expectations and are visually good.

Ethics Committee Permit Information

Name of the board that carries out ethical evaluation: Mehmet Akif Ersoy University Ethics Committee

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Author Contribution Statement

***Tansel TEPE**: Conceptualization, methodology, implementation, data analysis, review-writing and editing*

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