



An Epitaph for Flash: Preliminary Results

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ABSTRACT Adobe Flash (formerly Macromedia Flash) enjoyed a dominant position in web design for more than a decade. This position began to decline in 2010, when Steve Jobs posted his statement “Thoughts on Flash”, in which he explained the reasons why Apple decided not to allow Flash on iPhone, iPod and iPad. In a short period, designers started their migration path to open web technologies. In 2017, Adobe announced its plans to stop supporting Flash, and Google posted that it would be completely removed from Chrome toward the end of 2020.

To a certain extent, this represents the end of a whole period in the history of web design. Flash has left its mark on practitioners and users, many of whom have held opposite and extreme positions when it comes to evaluating the benefits and drawbacks of this tool and associated technology.

Given the extreme polarization of the arguments found in the literature, we wonder if Flash will go down in history as a negative influence, due to Nielsen’s criticism in his article “Flash: 99% Bad” and Jobs’ statements—among other factors—or whether the memory of the creative effervescence will tilt the balance towards a positive view.

In this paper, we present some of the preliminary results of an online survey designed to gather both qualitative and quantitative information to answer our research question: How will Flash go down in history? We hereby present some of the most striking and representative responses to the open-ended questions, looking for an epitaph for Flash.

Keywords: flash, Adobe, Macromedia, web design history, motion design, animation, epitaph

Introduction

The constant reminder of Google inviting users to deactivate Flash Player throughout the whole year of 2020 (Figure 1), worked as an insistent announcement of the imminent end of an era. Instead of uninstalling the plugin, this frequent notification led us to re-visit every Flash site that was still accessible, and even properly working on the web. As design educators, we encouraged our motion design students to do the same, taking the chance to interact by themselves with websites that marked an era, a possibility denied to the next generations. Interacting for the last time with webpages from the 90’s and 00’s, made us “re(connect)” with a time when the web was profoundly transformed, leaving behind the codes and structure inherited from the written press (Scolari 118) and evolving towards the medium we know today.

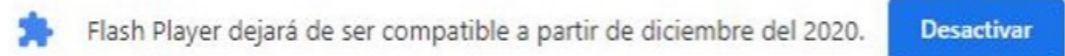


Figure 1: Google Chrome screenshot captured on December 2020.

A little bit of history

From the first web browser in 1990 (Berners-Lee 30) until the mid-1990s, the average webpage was scarcely a gray screen full of text with some blue colored hyperlinks turning purple when clicked (Ford 30). Only the most avant-garde web pages included some images and, even though the gif file format allowed the inclusion of animations since 1989 (Chapman 44), it was not common on the web because of the slow downloading process.

Only with this picture in mind the statement “You are about to enter a new era in website design. This is the new standard for all things to come” (Kovář and Letocha) in the intro of Gabocorp’s site in 1997, gets its prophetic scent. This website was created using Macromedia Flash, a software acquired later by Adobe that became mainstream in the late 90s. In a few years, as its creator recalls, Flash become synonymous with animation on the Internet, growing to a complete environment with 500,000 developers and over 325 million web users of the Flash Player (Gay).



Figure 2: Screenshot crop taken from <https://www.webdesignmuseum.org/gallery/year/1995/open/year>

Flash was easy to learn (Reinhardt in Corsaro 13), and this attracted the interest of many creators for which the web offered the possibility of immediate access to a huge audience impossible to reach through traditional media (Donnelly 6). The new medium became a playground where information, games, storytelling and visual experimentation melded into new interaction patterns with the corresponding visual representation. Flash was the tool of choice in many fields related to motion design, opening new possibilities for artistic experimentation inside and outside the web (Salter and Murray).

The book series “Masters of Flash” (Jankowski et al.; Tan et al.) and the recent book describing the evolution of web design from 1990 by (Ford), include interviews with many Flash-design pioneers that proclaim this tool allowed them to unleash this explosion of creativity. Jonathan Gay, the main programmer and co-creator of Flash, describes the importance of these creators in the success of the tool, who together with developers, educators and even people who enjoyed Flash content formed a vibrant community that he refers as the “Flash community” (Tan et al. 3). Sometimes, either due to lack of knowledge or because of being carried away by the capabilities of the program (DiNucci VII), the designers deviated to such an extent from established web design conventions that they soon received harsh criticism from usability experts and their work was even titled as “absolute trash” (Bedingfield). Those who considered the web as a center of operations in which to perform specific tasks consistently reported the usability problems of Flash products (Nielsen, “Top 10 Web Design Mistakes of 2005”; Loranger et al.). Jakob Nielsen, blamed Flash for encouraging “gratuitous animation” in his article “Flash: 99% Bad”, considering Flash creators as “outside agents who don’t understand the business” (Nielsen, “Flash”).

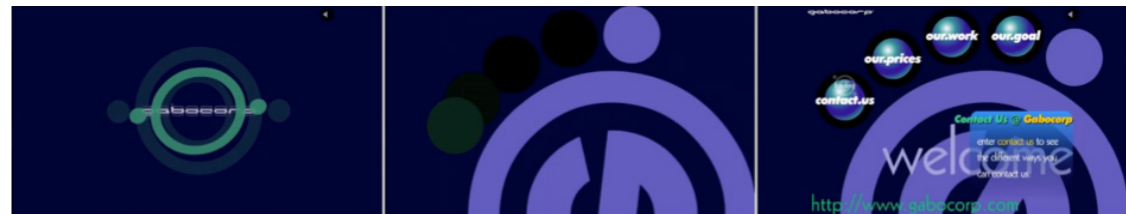


Figure 3 (top): Screenshot of Gabocorp’s web intro in 1997, taken from <https://www.webdesignmuseum.org/flash-websites/gabocorp-1997>

Figure 4 (bottom): Navigation to main menu in Gabocorp’s web, taken from <https://www.webdesignmuseum.org/flash-websites/gabocorp-1997>

The end of an era

The dominant position of Flash in web design began to decline in 2010, when Steve Jobs posted his statement “Thoughts on Flash” in which he explained the reasons why Apple decided not to allow Flash on mobile products (Heron). Despite the issues described by Jobs, years later Flash content was still available and even working properly on the few browsers that supported Flash Player (Salter and Murray 142; Laforge). In 2017, Adobe announced its plans to stop supporting Flash, and Google posted that it would be completely removed from Chrome toward the end of 2020 (Laforge). To a certain extent, this event marks the end of a whole period in the history of web design.

Lessons to learn

The chronicle of the successes and excesses during the golden age of Flash leads to an in-depth reflection regarding the high impact of motion design in interactive environments. One of them is to realize how important is to know the environment for which one is working and to make a conscious use of the tools. This connects with the statement of Afanador-Llach (33) highlighting that a design course is not just about software and that students need to understand the history and context of the design practice. Not so long ago, learning how to use Flash was a core subject taught in many design and animation programs. Today, it must be included as part of the lessons of Design History, as examples of how to avoid the mistakes of the past. Nevertheless, the purpose of this paper is not to cover the history of Flash, nor to present an in-depth reflection of its impact in web development. Our goal is to find out how Flash will go down in history: either remembered in negative terms, under the influence of Nielsen and Jobs' statements, or in positive terms, because of the memory of the creative effervescence it initiated.

Method

The research consisted of a questionnaire distributed online on the LimeSurvey platform in both English and Spanish. The survey, initially launched using the researchers' personal contacts and social networks, uses a non-probabilistic snowball sampling strategy. The objective was to reach the greatest possible number of professionals and users in all the areas in which Flash has been a reference. Data collection began in early September of 2020 and remained active until December 31, 2020, when Flash stopped working on Chrome.

The first section of the questionnaire encompasses two open questions that pursue the same objective: to extract descriptive terms from which we can infer the positive or negative affective state of the respondents:

Q1: Please, write the first word that comes to mind when you think of Flash.

Q2: Write in a sentence, as an epitaph or a dedication, how you feel about not being able to visit websites, games or other content created with Flash through the Internet.

Along with these two questions, we ask the respondents about being part of the so-called "Flash community", giving three options to choose a unique response: yes, no, or "I don't know exactly what is meant by *Flash Community*".

Although the questionnaire also collects more information on issues related to the influence of Flash in different areas of design and audiovisual production, in this paper we focus on the open-ended questions established with the aim of finding an epitaph for Flash.

The survey reached 1.164 people, but only 211 answered question Q2. As a guide to evaluate the positive or negative tendency in the responses, we evaluate in a scale of five [+2, +1, 0, -1, -2] the questions Q1 and Q2 together. This is a very subjective process, especially when answers had an ironic tone. To minimize subjectivity, the three authors independently evaluated the responses, taking the arithmetic mean when there was no agreement at least between two author's evaluation.

Preliminary results

Based on the literature, we expected a high polarity in the responses and some balance between negative and positive memories. Indeed, there is variability, but not as evenly distributed as expected. Almost a third of the sample presents neutral responses, but there is a greater number of positive-like answers, reaching 50% of the sample. In contrast, the negative-like responses are just the 18%, including a 2% of memories rated as highly negative.

Flash community membership as an influential variable

Presumably, subjects who consider themselves part of the Flash community could be more inclined to answer the survey, and provide positive responses. This is why we introduced the question about the sense of belonging to the Flash community.

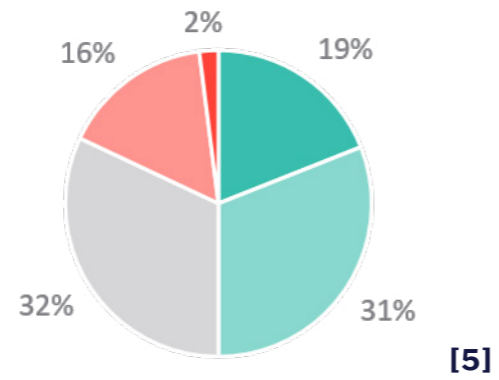
The distribution of the sample is not entirely homogeneous. Forty percent of the respondents consider themselves as members of the Flash Community, while 28% don't. As shown in Figure 7, this variable does indeed affect the results. Flash community members present the highest number of highly positive responses. Those who do not belong to the community have the highest percentage of negative responses and those who do not know exactly what the term "Flash community" means present the highest number of neutral responses. However, all three segments show a higher percentage of positive than negative responses.

Epitaphs review

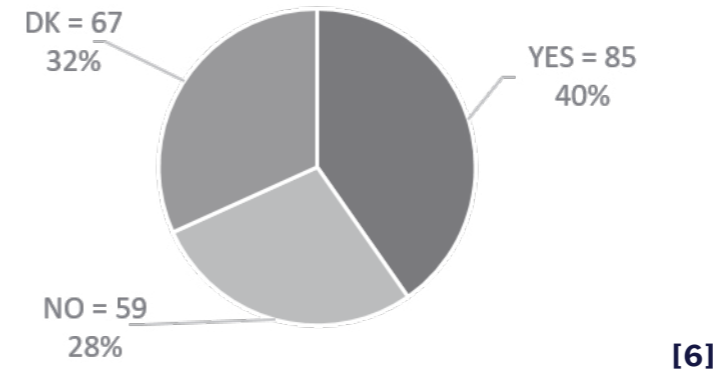
Due to the high variability on the responses, it is difficult to select just one epitaph for Flash. The sentences goes from a loving "rest easy my friend" or a respectful "rest in peace", going through an indifferent "ciao" or "bye bye" to a sarcastic "good riddance" and a cruel "Die, you wretch!" One subject uses what may be the equivalent to good riddance in Spanish: "Tanta paz llevas como descanso dejas", a sarcastic RIP used to bid farewell to deceased persons who were annoying in life.

APPRAISAL OF MEMORIES

- Highly positive [+2]
- Positive memories [+1]
- Neutral memories [0]
- Negative memories [-1]
- Highly negative [-2]

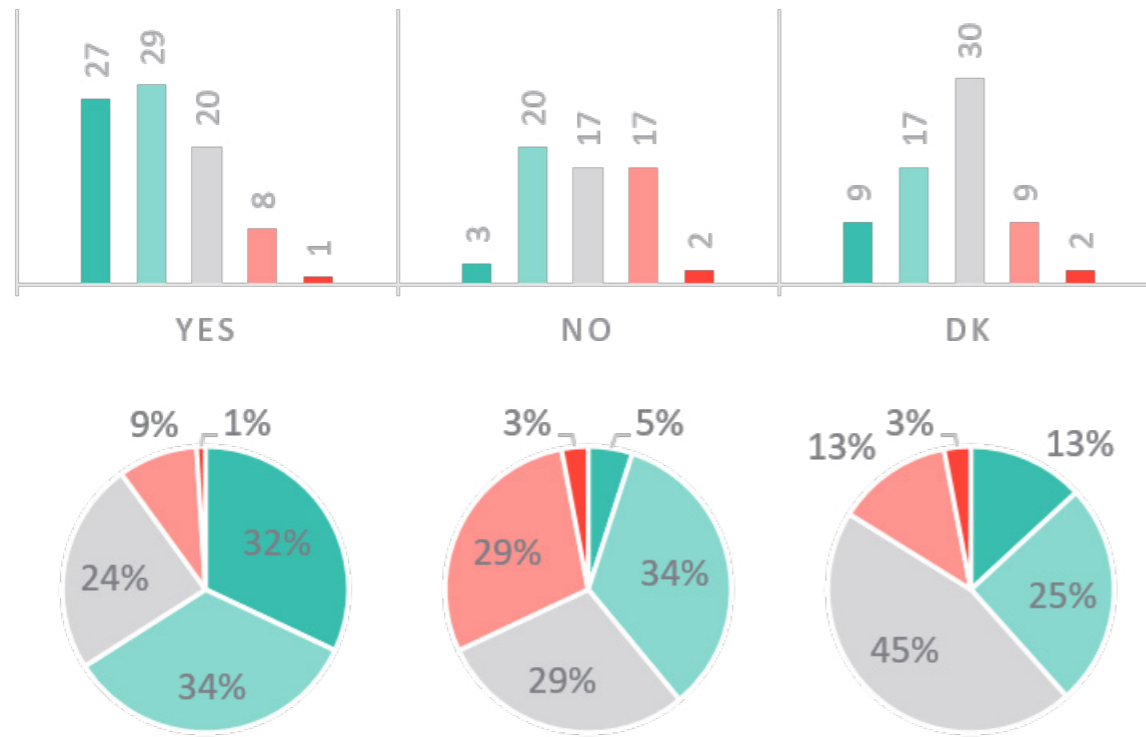


[5]



[6]

EVALUATION OF MEMORIES BASED ON THE SENSE OF BELONGING TO THE "FLASH COMMUNITY".



[7]



Figure 5: Distribution of responses by appraisal of memories.

Figure 6: Distribution of the sample according to the sense of belonging to the "Flash Community"

Figure 7: Distribution of memories in relation to Flash community membership variable.



Among phrases representing a highly positive recall of Flash, rated [+2], it is worth mentioning those that convey a deep sense of nostalgia. Such as feeling “incredibly sad” about not being able to “revisit Flash childhood games” and other content online anymore, or signaling those games that were still working and that “continue to be my place of comfort when I want to unwind”. Sentences that describe the loss of “a little piece of the old internet” or “the loss of a community of developers that you no longer find” in the industry. One subject describes, “A great deal of sadness and nostalgia since a part of my life is there”. Several respondents use the “f word” to emphasize their feelings and many extol the “super cool” things, never seen before, done without programming. Another epitaph worth mentioning is one that evokes the well-known line from the replicant’s final monologue in Blade Runner. While the cinematographic version reads “All those moments will be lost in time, like tears in rain. Time to die”, the respondent says: “All those works of art will be lost like tears in rain”.

Rated as positive memories [+1], several respondents talk about the fluidity and beauty that Flash brought to the web or the “ease of use and with it the abuse”, considering this moment as “the end of an era”, but without extolling or expressing a big sadness. They rather express resignation, and allude to “the life cycle of technologies”. One subject used the “f word” referring to Steve Jobs and another shows a sense of humor saying “My mother will never be the same”. The most repeated sentence was “It was nice while it lasted”.

Within the group of neutral responses, rated [0], the most frequent words were “renew or die”, along with expressions that represent indifference, no feeling at all, such as: “I don’t care”, “I don’t feel anything”, “I don’t mind”, or the subject who claims to feel “neither hot nor cold”. We also find a cryptic sense of humor in the epitaph of the subject that goes “I feel like a cassette tape”.

The negative sentences [-1] express relief, celebrating the end of “the distribution of obscure software and the always annoying use of music in the speakers”; feeling joy, because there will be no need to upgrade the plugin anymore. One considers this as “the best news in many years” and another recognizes that “I never liked you, Flash”. Finally, the highly negative responses [-2], include sentences like “Very grateful to see this crap end once and for all”, expressing hate and disdain and even swearing.

Conclusion and future work

Now that a decade has passed since Steve Jobs’ statement sentenced the future of Flash and in the days before its total deactivation in Google Chrome, the memory of Flash turns out to be eminently positive, with a particularly warm and nostalgic tinge on the part of those who had a closer contact with Flash in the past. Surprisingly, Flash continues to provoke visceral responses in the form of hurtful comments, a reaction that not many inanimate beings are capable of eliciting.

This leads us to highlight how this piece of software, and the related technology and products that once were a milestone in history of design, shaping the web, have left a mark on the thoughts and feelings of several generations. How practitioners from different domains evaluate the positive or negative influence on every field related to Flash, or to what extent gender, age or training affects the assessment, needs a more profound analysis of the data gathered in the questionnaire. As the objective of this paper was to find an epitaph for Flash, we selected the words of one of our questionnaire respondents, a male born in 1978, who, speaking like a priest at a funeral, said:

We now bid farewell to a breakthrough content delivery platform that allowed artists and developers to create deeply immersive interactive website experiences by combining powerful animation tools with programming logic and database integration, a paradigm shift that allowed a generation of artists to build rich experiences that could be shared and interacted with around the world. This technology will be greatly missed, and the Internet will become a much less lively and vibrant place to exhibit content as a result of allowing it to fade into history (Survey respondent ID: 812).

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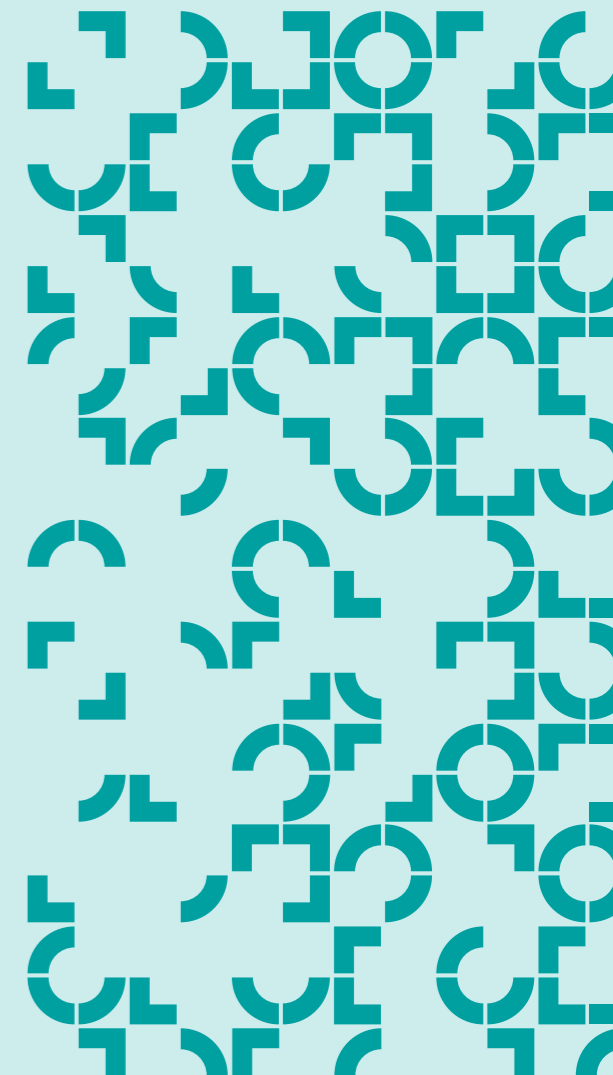
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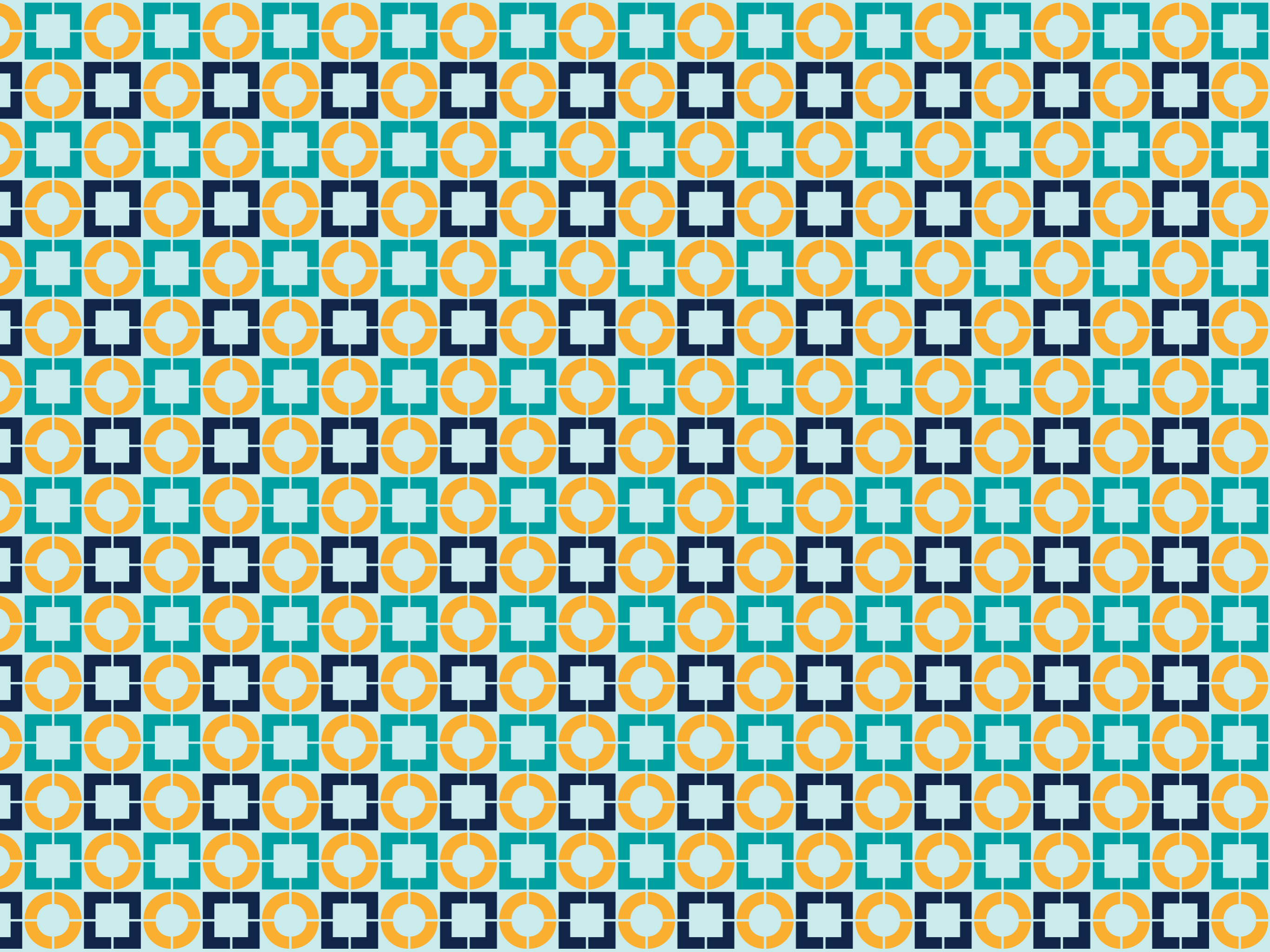
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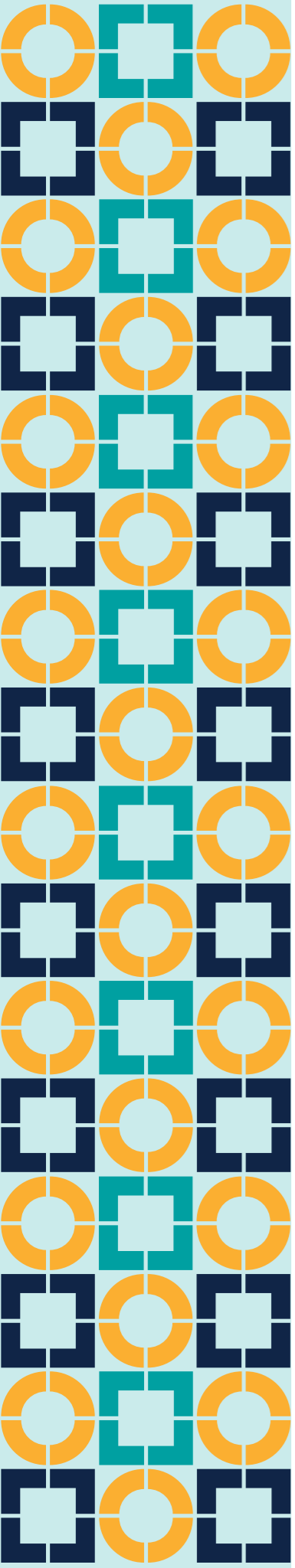
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SESSION

EMBEDDED AND EMBODIED MOTION

We explore new tools, new languages, and new environments for motion design practitioners, educators, and students. Interdisciplinary research aims to extend and support these emerging domains through experimental projects and pedagogy. Topics include 3D/VR environments, flexible connections between the visual and the audible, multimodal performative experiences, and which language might best support each of these endeavours. What new mental models, approaches, and languages currently support these new practices, and what others might be required? This group represents a dynamic conversation about the future and boundaries of motion design education and practice.

- p 94 **Face to Interface: Designing for Virtual Touch**
Jonathan Hamilton
- p 104 **Teenage Engineering's OP-Z and Live Motion Design Performance**
Kimmie Parker
- p 108 **Exploring the Audiovisuality of Neo-Post-Punk Music**
Dan Vlahos