

Who | Institutional Profile

Institution	<u>Computer History Museum</u> (Računalniški muzej)
Location	Ljubljana, Slovenia
Short Description	<p><i>“Raising digital heritage awareness since 2004”</i></p> <p>In the last decade humanity experienced a radical change; foremost it became entirely computerised. Because ICT has completely penetrated society there is a stronger need for museum institutions that will document and reflect these changes in society, creating a space for exchange and discussion of pressing technology topics.</p> <p>The Computer History Museum’s collection consists of more than 6,500 examples of hardware and software, books, magazines and related objects representing the history of computing development in Slovenia and abroad.</p> <p>A large part of the collection is maintained in working condition to showcase the pristine interactions with software and human computer interfaces of certain times. Specialised museum laboratory staff extend their creativity into reconstructions of historic experiences such as dial-up internet browsing, and creatively approach the combination of old and new technology to enable unique and engaging visitor experiences. Digital archaeology skills are essential to the Computer History Museum’s UNESCO Software Heritage mission but are also put to use for the broader needs of partner organisations and individuals alike.</p> <p>The Computer History Museum is also a place of knowledge transfer, networking and idea exchange. Through various community events such as tech meetups, book launches, expert panel discussions, lectures and training programs it is a focal point of the local technology community as well as a place for vibrant exchanges between audiences of multiple generations.</p> <p>The museum education department runs afternoon computer clubs, school programmes and teacher training for local and international education staff. The museum works with universities to create new research and to broaden the horizons of young academics in the making through practical engagement at the museum.</p> <p>At the same time a significant proportion of the museum’s audience development efforts goes into keeping things fun with special events, such as dinners at the museum, game nights, trivia nights, family fun, company team building programs, and more.</p>
Ownership	The Computer History Museum is a privately owned volunteer based non-profit institution.
Size	The Computer History Museum caters to approx. 14,000 visitors annually, with a team of dedicated 2 FTE people and a steady group of 10 active part-time team members and volunteers as well as an extended team of another 20 occasional volunteers who participate in select niche activities. Our audience focus so far has been defined by the physical museum location.

Approach to Digital

Input by Gaja Zornada

Digital runs through our veins. Our core mission is to preserve and present the digital heritage of the recent seven decades of informatisation and its impact on society at large. On a daily basis we work with the digital narrative (machines - computer hardware, software and oral history from the age of digital discovery to the end of the era of digital innocence and the introduction of digital related issues and contemplations about the future it can provide).

That said, we are far from having all our processes run digital, or having a unified level of digital literacy within our organisation. On an organisational level we still need to invest time, thought and effort into supporting our digital strategy goals and implementing processes and solutions to bring theory to practice. Although we have an above average adoption of digital tools, foster remote working online communication as the baseline for our asynchronous and dispersed team, and have digital creativity as one of our core values, we have yet to shift our focus from presenting digital in the physical space of our museum, to truly developing digital stack beyond mere media production and external communication efforts.

What | Case

Project Title

Ctrl+Shift+Esc – Digital Museum Escape Game and Live Stream Treasure Hunt - a digital framework for turning internal museum expertise into a remote engagement and monetisation product

Timeframe

2022-2023

Concept & Approach

Not a lot of things in life age as quickly as the digital

Being a museum, dedicated to preserving fragments of our digital existence through the decades, we are acutely aware of the production equipment capacity tell-signs of digital products. Every day we are faced with what used to be cutting edge but would now fly well under the expectations of an average consumer of digital products. But despite the inevitable digital ageing, we were able to often identify principles, concepts, approaches, that seem timeless in a sense, preserving their original value through the changing decades of user appetite development.

User behaviour change of 2020-2022

Like many other institutions, our digital efforts before the pandemic were focused primarily on internal needs and processes. We were gearing up to open a new physical location and most of our audience efforts were concentrated on the exhibition space and things such as adequately conceptualising physical interactive exhibits to illustrate various digital phenomena.

With the profound change towards the use of digital interactions brought to most audiences during the 2020-2022 period, however, we identified for the first time a direct opportunity to address a much wider audience than the physical space ever could. At the same time, we like many others started hedging our location dependency with this digital first model for new revenue generation. We took our initial location-based museum escape game and decided to turn it into an online experience that could be enjoyed by audiences located further away.

Scarcity breeds ingenuity

As we performed our market research, we discovered that the offering of similar products was existent but extremely resource-demanding and tended not to age well at all. We reached out to the tech community, that is our core subject matter constituency, to validate some hypotheses and the games developers confirmed our fears that creating a really good online interactive experience is far beyond the museum budget or reasonable time investment foreseen for such an experiment and would not be feasible as a stand-alone auxiliary revenue generation product.

Luckily the history of computing is full of brilliant ideas resulting from constraints of early computing power. One of those that we liked a lot in particular is the format of so-called Interactive fiction or text adventure games, where the player interacts with a written text story, influencing the way it unfolds through the actions they type in responses.

We first adopted this cross-over format between literature and computer games in our 2019 CodeweekEU workshops, when we started reaching out to non-computer-first young audiences that didn't identify primarily with the desire for learning to code, do maths or become an engineer. The tremendous impact of creative ideation and imaginative collaboration at those workshops instantly overpowered any fear of coding and it became our staple approach. It also made us realise just how powerful a well-done narrative really is for all those challenged to imagine their next move in a story.

Reaching out to a new audience by bringing back a lost art

So we decided to turn back to this once extremely popular adventure game format, that experienced its peak in the early 1980s and withered out of use when graphic capabilities of home computers accelerated, partially because of the appeal of visual, but partially also because the production studios' twisted competition spiralled into ever harder riddles and less and less enjoyable games, with more focus on challenges than storytelling.

We took it upon ourselves to make text adventures come back - at least for our own purpose - because it so nicely illustrates where human imagination is more powerful than the machine that runs it. Something we need to be reassured of in this new AI flavoured reality. Exercising a vital muscle that must not go out of use...and to test our own group imagination in a new digital first platform turning on its head everything we have so far believed we know about presentation and audiences. It sounded like an adventure. And a sustainable one to begin with.

We discovered interactive fiction is a curious format - too light perhaps for hard core book worms, too demanding for casual players, but with an excellent fit to the edutainment needs of a cultural tourist. At the same time, we discovered it can easily be paired with a conclusive participatory online streaming event in the format of a live treasure hunt from the museum, to give it more substance. Thus extending and deepening the connection with the museum and its subject matter. As it turned out, this combination of individual and group experience also offered itself as an interesting team-building programme format for primarily remote working teams, making us shift our business model to a more reliable business format to avoid the bottomless pits of marketing spends on games platforms geared towards direct consumers.

Benefits & Impact

Although creating a digital first product for a museum no longer means you're going alone on a road less travelled, it is still an exercise far from the predictable everyday museum. If this is to be a successful endeavour, it demands a special dedication from the very top of the organisation all the way to every single participant in the process. You need to overcome the rather large initial intangibility gap, before you can produce a prototype people can begin to relate to. In that, the process of developing a digital product is foreign to a team used to physical presentation production principles, with standardised outcomes (exhibition, experience, exploration box, lecture, workshop,...). The novelty as well as the ambiguity of the process offer ample room for re-evaluating our presentation tactics, organisational growth, internal skills identification, new skills development and introduction of new workflows and reporting paths. If done with a purpose, the process of new product development can serve as an organisational reset button, to balance out entrenched behavioural patterns, stemming from the habits tied to the physical space and objects.

Internal – tangible – short-term

- All departments participation mechanics

Gaja Zornada, Museum CEO:

"The most quantifiable internal impact and benefit of this product development project has been a set of mechanisms that allowed us to create workflows allowing for hop-on / hop-off participation of teams from all museum departments. By breaking the large project down into small discrete units that had defined grids of interaction with one another, we were able to introduce a new way of working, upskilling and promoting within the team."

- Additional training for team members (storytelling, performance)

Marko Štamcar, Engineer – Head of Laboratory:

“I find an opportunity to interact with the audience while exploring the museum live very exciting and at the same time daunting because it requires me not only to present clearly and efficiently the content the way we imagined it but also interact in a way that addresses all the inquiries, questions, reminiscing and all other inputs from the audience which come out of experiencing nostalgia in a computer history museum. For that I needed to explore my strengths and weaknesses while giving live lectures and interacting with others. I strive to have a positive impact on those interacting with the museum and at the same time want to keep the focus on our way of telling the story which is a challenging task to manage in unpredictable non-frontal exchange. What used to throw me off balance as an introverted engineer - head of the museum lab - is now much much less of a challenge.”

Internal – tangible – long-term

- Empowerment (going beyond default hierarchical structures)

Tara Maja Simonič, Student:

“When I was asked to shift my focus from day-to-day front of house operations to custodial department work and later this digital presentation of our collection I knew I was going into something new and challenging. What I, as a student of history and cognitive sciences, didn’t foresee is how well all of my insights and expertise will connect in the escape digital project. This was the first time for me to be involved in developing a tech product and I was able to see first-hand how much complexity you need to manage to produce a simple and enjoyable digital experience. I know this time spent working on reimagining the online part of the computer history museum gave me an understanding and product design I would never get in my university curriculum. It also enabled me to take on a much more responsible role than managing the front desk interactions and guided tours which in turn helped me understand the workings of a museum even better and at the same time use my knowledge to help bring to life something new independent of the previous museum content presentation.”

- Differentiating product purposes based on target audiences and sales tactics – the process of developing this digital-first extension of our museum offering and following correct target audience product development formats resulted amongst other things in exposing team building programmes as a service segment we wish to focus more on. Effectively opening up our broader understanding of the corporate relations building potential of the museum, previously more focused on education and individual visitor programmes.

External-less tangible

- Reimagining the international positioning of our museum collection

Boštjan Špetič, Head of Collections:

“Earlier, before starting to work on Ctrl+Shift+Esc text adventure, we wanted to internationally position ourselves by using the history of technology between East and West, based on Yugoslavia’s amazing economic and international relations position at the time of early technology development. Now we see that as an idea card, which didn’t even make it into the game! Through the process we discovered it is much more valuable to our intended international audience to develop experiences based on similarities of memories, on common understandings and shared group nostalgia, than to try to “sell” another uniqueness, no matter how relevant or irrelevant to their personal experience.”

- Cross sector collaboration such as expanding our network to the global IF community and local storytelling community as well as considering theatre in the museum as part of our new outreach and at the same time a continuation of research and discovery into variations of presentation tactics seem to have landed on our roadmap.

Limits & Drawbacks

When you are well-versed in new product creation you know one thing: the more you want to focus on the process instead of the end result, the more patience you will need to run project management. This is doubly so the case for digital products. The tech industry's processes and workflows are pretty much standardised and time pressure is one of the main imperatives when innovating digitally. There are known pitfalls if you let the ideation process linger on too long, if you run too many compliance circles, if you want to make sure everyone has had a chance to contribute. But going into this product development cycle it just didn't feel right to introduce the standard product development rigidity, because the environment was too early-stage for it. This was our first digital product and we were supposed to try and fail and try again, to experiment, to learn from our mistakes and at the end to come out better equipped for the next round than we went in. In some sense we put ourselves in the mindset of first time start-up entrepreneurs, hacking at a prototype like there is no tomorrow, bruising our knees and elbows along the way – collectively discovering what we are actually making and for whom. So it made no sense to write down a Product requirements document and to design a Scope of work checklist, to just hand over to a digital service provider, only to be disappointed at how differently it came out from what we imagined, but we took extra time to find someone who would be willing to work alongside us through the process.

This resulted in giving us more creative freedom, but also less project management structure because we had the opportunity to adapt the work to our needs as often as we desired. At a certain point in the process, we experienced a belated effect of ideas overflowing far beyond the designated ideation stage. The main focus of the project management shifted to managing internal inclusion expectations and deriving outlets for creative expression with a purpose in future implementations. Sprint deadlines shifted, tasks lagged, we focused more on keeping everyone on board rather than on keeping to the PM timeline. Was it worth it? We believe so, but we will begin onboarding client companies later than anticipated, which means, we will have to wait longer for the market feedback and adjustments that will undoubtedly come from actual – non-tester – use.

Future Prospects

We believe both our project and the process behind it translate well into other museum environments as a learning mechanism to bring teams onboard with practical and manageable outputs in digital form. All museums are good at content and the audience knows that. So we foresee expanding this project further with partner organisations into a network of connected narratives.

Key Take-Aways

- In addressing an international audience, we started to look for similarities with their experiences, not differentiation from offerings they can find elsewhere, which is a major shift in how we approach a global audience.
- The process of creating something completely new in a new medium (the digital) enabled us to deconstruct existing workflows and hierarchies and set new relationships within the team.
- By engaging everyone at various points in the development of the product, we enabled people to step in and out of the process at will, which removed the pressure or feeling of disconnect for those who needed more time to get to know the project and its purpose better.
- This process effectively became a silent programme of digital upskilling for the team.
- One of the best decisions was to 'adopt' our digital service provider as almost an extended team member – a practice known in tech start ups as 'external technical cofounder development agencies' which work with product or business co-founders to develop their initial idea.
- Since from the perspective of the core tech team this was 'not our first rodeo' with a digital product because of the experience we had in the private sector, we vastly underestimated the need to bring everyone onboard with the product and under-budgeted the time and personal effort involved. But as we corrected our approach it paid off.
- That said, we had to push a feature set to a later version of the product to fit the timeframe. So our end product will not be as polished as initially conceived, while at the same time retaining its function to test the market readiness for our new business model.

- One thing we had to adjust was our initial approach to accessibility, because our user testing informed us that we cannot cater well to younger audiences if we exclude all visual information from the narrative as was the original and most historically correct approach. So we introduced visual accompaniment to the online part of the experience in a non-essential way to ensure age inclusivity. The live streamed segment remains narrated as well as carried out in front of a camera, again ensuring accessibility with live captioning software.

Involved Parties

First a big shout out goes to the museum team and volunteers for having the faith, courage and persistence to see this novel experiment through on all levels in all departments.

Eduard Filipas, from [Rhea technologies](#), whom we have all but adopted, who had the interest, dedication and stamina to grind through this project with us and will stay close to help us iron out any bumps along the road.

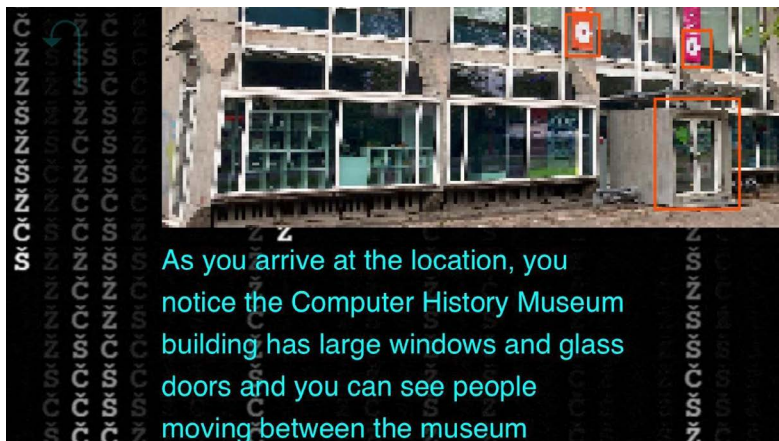
Veronika Hana Grubič, who taught us how to be better storytellers and whose input on all things performative was invaluable and has changed our organisation dramatically.

Ines Camara, your words of wisdom and openness to share the knowledge you acquired along your rich path of working with museums and their audiences was the adult guidance we needed in the process.

Vanessa Mignan, who made us focus on the benefits and not limitations of accessibility and how a digital first product can illustrate the power of using unlimited imagination to bring content closer to a wide array of users.

The team and fabulous mentors at DOORS, who have made us part of a stellar incubation program, the fertile ground on which our ideas sprouted into tangible existence.

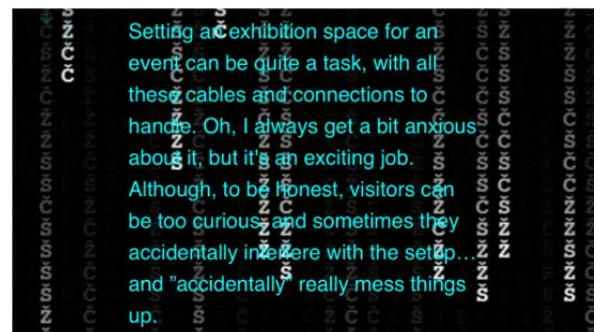
Last but not least, our peer cohort museums, who have been a shoulder to lean on in times of confusion and were happy to share their notes and insights as well as connections.

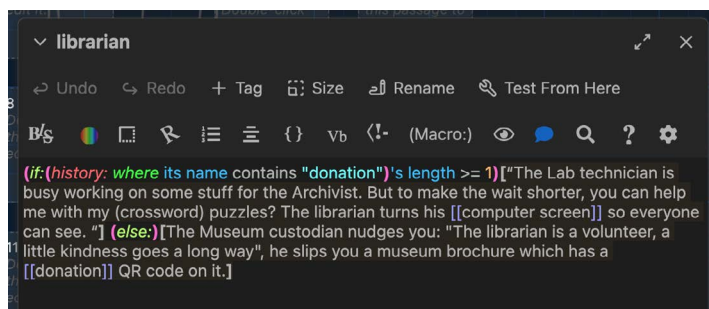


Ctrl+Shift+Esc, Computer History Museum (Računalniški muzej)

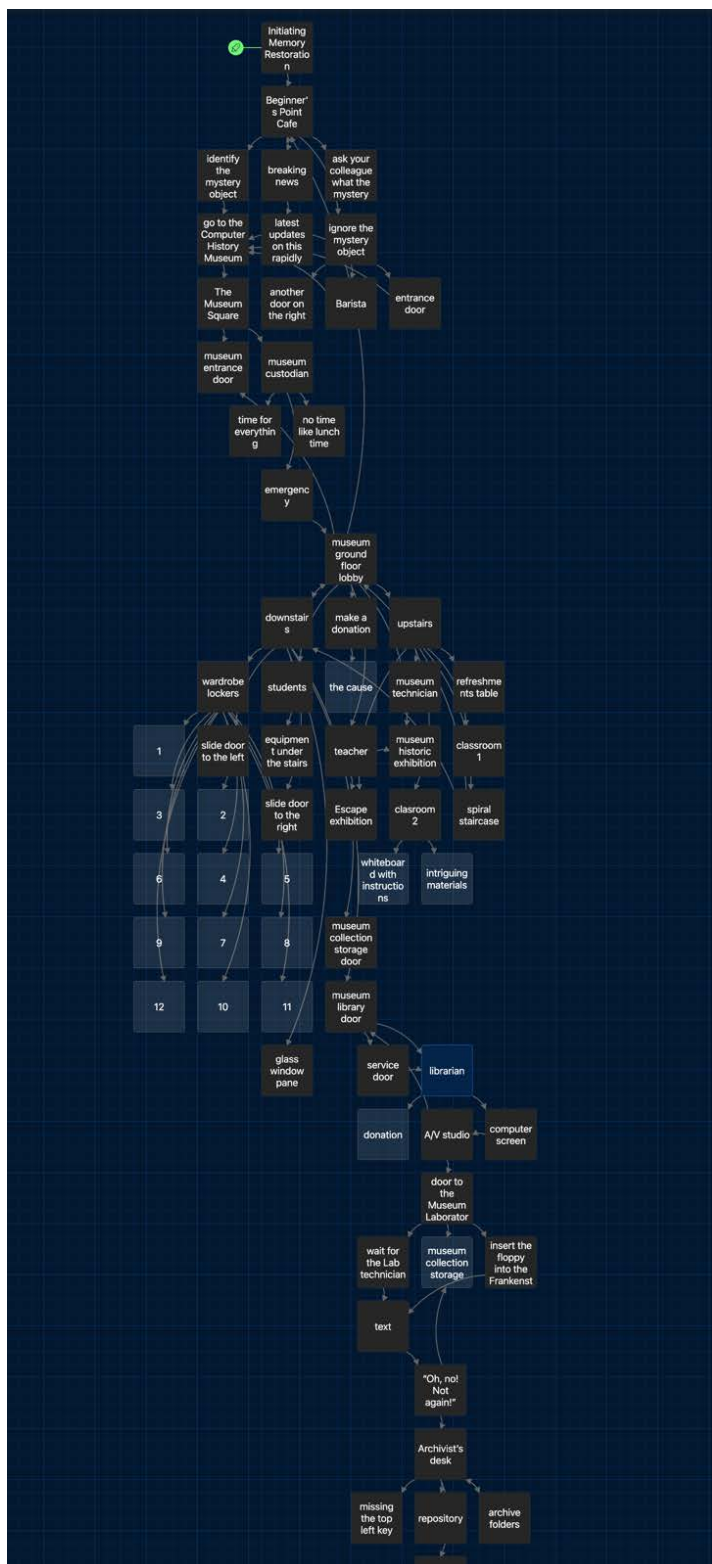


Ctrl+Shift+Esc, Computer History Museum (Računalniški muzej)





Part of backstage short-code, Computer History Museum (Računalniški muzej)



Segment of story structure, Computer History Museum (Računalniški muzej)