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Educating Interactive Narrative Designers

Cornerstones of a Program

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ABSTRACT

In recent years, games with a focus on narrative have been a growing area. However, so far, interactive narrative aspects have not been the focus of video game education (with the noted exception of a small number of programs in game writing), which indicates that many narrative designers are self-trained. The insular status means that many designers use private vocabulary and conceptualizations that are not directly transferable. This state of affairs is an obstacle to productive discourse and has negative consequences for the further development of the professional field.

By starting an educational program, we aim to address this problem using the opportunity to also include perspectives outside of games. We report on the first iteration of a minor in interactive narrative design, and reflect on lessons learned, while considering future trajectories for this and similar programs.

Keywords

Ludonarrative pedagogy, game design education, interactive digital narrative (IDN), interactive narrative design, interactive narrative pedagogy

INTRODUCTION

Interactive narrative aspects, sometimes referred to ludonarrative, have not been the focus of video game studies and education. During the foundational phase of the discipline, the focus was placed on game mechanics and on understanding what distinguishes games from earlier forms, such as movies and novels. In addition, some scholars presented narratives as oppositional to the very idea of games. In recent years, however, the growing field of high-profile narrative-focused games (e.g., Dear Esther (The Chinese Room 2008), Gone Home (The Fullbright Company 2013), Telltale Games' productions like The Walking Dead (Telltale Games 2012), The Wolf Amongst Us (2013), Firewatch (Campo Santo 2016)) and Detroit: Become Human (Quantic Dream 2018), Mutazione (Die Gute Fabrik 2019) and more recently the release of The Last of Us 2 (Naughty Dog 2020) have alerted a wider audience to the possibilities of narrative expressions that embrace the affordances and unique possibilities of digital interactivity (Laurel 1986; Murray 1997; Rieser 1997; Jenkins 2004a; Murray 2011; Calleja 2013; Koenitz et al. 2015). In other words – these games do not attempt to 'interactivize' print literature or the movie, but instead explore a different and, so far, less explored space of interactive digital narration. This development needs to be reflected in video game teaching. Yet, so far, narrative has been a stepchild in games education. Most game design degree programs feature only a single course on the topic, and specific programs in game writing are scarce¹. Our approach, instead, is to offer a minor concentration within a game design program, which also integrates perspectives outside of games, for example interactive documentaries and installation pieces. and thus offers a wider view on interactive digital narratives (IDN). First, we will discuss the concrete motivation and professional context of the minor interactive narrative design. Next, we will explain our overall pedagogical approach, followed by a report on the first full iteration of the course. Finally, we will reflect on the lessons learned and consider future trajectories for this and other programs.

MINOR INTERACTIVE NARRATIVE DESIGN

One reason for the development of the minor Interactive Narrative Design has been the expressed need of the game industry in the Netherlands for skilled interactive narrative designers. When developing narrative content for games, such as dialogues or storylines, game studios often rely on scriptwriters. These are trained in the art of creating traditional, fixed forms of storytelling, and understand the appeal of narrative experiences. However, this skillset is not directly applicable in an interactive context. In contrast, game designers understand the art of interaction design, and see the appeal of interactive experiences, but often lack a deep understanding of interactive narrative. Consequently, some game studies have resorted to in-house training in order to transform game designers into narrative designers. This practice has economic implications (training costs for companies, lost projects due to lack of expertise and/or capacity), but more significantly, this condition creates vocabularies and practices specific to a particular employer – knowledge that is scattered, siloed and not easily transferable to other contexts (cf. Koenitz and Eladhari's "Babylonian Confusion" (2019)). For the individual narrative

^{1.} The authors are aware of less than ten specific programs worldwide.

designer this means re-learning becomes necessary when switching companies. In addition, for the field of narrative design as a whole, this state of affairs is a significant obstacle to further development, since incompatible vocabulary results in a vicious circle of 'forget and reinvent' and endlessly repeating "groundhog day" (ibid) of interactive narrative design. This is the other motivation for the minor – to break the vicious circle of company-specific silos and offer an education that is oriented on furthering the creation of interactive digital narratives as a design discipline beyond immediate economic interests. On this backdrop, the minor targets game design students with an interest in designing interactive narrative experiences.

As Koenitz et al. (2016) have pointed out earlier, the interactive narrative designer finds their craftsmanship in the ability to express narrative through interaction. In other words, an interactive narrative designer understands the appeal of characters, or the importance of conflict and then must be able to apply this narrative sensibility when designing engaging interactions for its audiences. The question thus is how to turn this sensibility into concrete designs?

Two Approaches: Unlearn and Reuse

The challenge for us as educators in the minor is to first help game design students "unlearn" linear and static ways of storytelling, which still dominate school education and public discourse about narrative. We do this by expanding students' understanding of narrative and raising awareness of alternatives to the dominant euro-centric forms (e.g., multi-climactic and cyclical Africa oral storytelling forms or the 'conflict-less' Asian form of Kishotenketsu) and thus counter the myth of "universal" narrative models (Koenitz et al. 2018).

Secondly, we train students to "reuse" their game design skills for narrative purposes. Students first need to develop a new understanding of narrative; one that is not based on established notions of storytelling, but that understands narrative as a cognitive meaning-making process, a "mental frame for cognitively projected worlds" (Herman 2002). We explain to the students how this 'cognitive turn' in narratology facilitates novel forms of narration and thus provides a solid foundation for interactive narrative design (Ryan 2006; Koenitz 2015a; Roth, van Nuenen, and Koenitz 2018). When they have acquired this alternative understanding of narrative, they can start using their skillset in a new way by applying specific design principles (Koenitz 2015b). For example, we ask students to design interesting narrative game mechanics (Dubbelman 2016) that invite the player to perform actions that support the construction of engaging stories and fictional worlds in the mind of the player.

In this two-step process, we turn game designers into narrative game designers; students with the ability to design game systems in such a way that meaningful narratives emerge in the imagination of players when they interact with the designed interactive systems.

The Multiple Roles of the Designer

We train the students to be narrative artists, interactive system designers and vision holders (Figure 1). The skillset that interactive narrative designers need to master, is derived from these three essential components. First, we consider them to be artists (Knoller 2012), working with interactive technologies as their medium of (self-) expression. The skills pertaining to this narrative sensibility are, amongst others, the ability to imagine and express engaging and believable characters, worlds, events and conflicts. Although they do not necessarily have to been trained scriptwriters or visual artists, they do need to be able to understand and apply the basic principles of writing and visualizing for an interactive context. Secondly, they are system designers who need to be deeply aware that their creation is a dynamic artefact that already by itself at runtime can show intricate and even unintended behaviors, an aspect already described for cybernetic art by Roy

Ascott in 1964 (Ascott 1964). Once players/interactors enter the picture, the complexity only grows. The role of the designer is to plan for these effects and embrace the role of "narrative architect" (Jenkins 2004) who sets boundaries, and offers opportunities for meaningful interaction — the quality Janet Murray has deemed agency (Murray 1997). Third, as vision holder, it is the responsibility of the interactive narrative designer to facilitate the vision of an interactive narrative project and communicate about it internally and with clients. This is a considerable responsibility due to the lack of standardized procedures in the production of narrative-focused games and other forms of interactive digital narratives. Equally, clients often have little understanding of interactive narrative, and the lack of an established lingo means that a considerable effort is needed to prevent misunderstandings, and ensure successful communication.

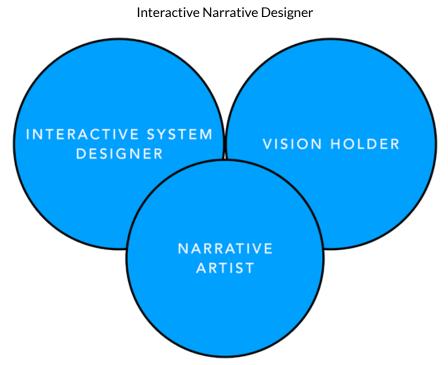


Figure 1: Triadic perspective of the interactive narrative designer

The multiple roles of the designer translate to an expanded skillset (Table 1) in nine areas: interactive narrative design principles and conventions, narrative sensibility, ideation and conception, testing, prototyping, writing (for interaction), audio-visualizing (for interaction), communication, and dramaturgy. In each area, we define three different skill levels with expected knowledge/abilities at that level. In this way both educators and students have a clear understanding of where they stand and what they need to accomplish to reach the next level.

A Multidisciplinary Perspective

While our minor is located in a game design program, we do understand interactive narrative design as a cross-cutting perspective of which ludonarrative design is one variety (cf. Koenitz et al. 2015). Consequently, we acknowledge additional forms, for instance, interactive documentaries (Aston et al. 2017), interactive film (Hales 2015), non-game forms of VR and AR experiences (Bucher 2017, Fisher 2021), interactive art and museum installations (Oh & Shi 2012, Vayanou et al. 2014), educational approaches (Dubbelman et al. 2018, Sylla & Gil 2020), as well as journalistic interactives (Usher 2016; Jones 2017). Our curriculum reflects this view by also bringing students in contact with these additional varieties and their design practice. For their projects, students can choose to also work on these forms, and thus use an extended design space. This multidisciplinary perspective also distinguishes our program from existing ones focused exclusively on game writing.

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Skills	Basic	Advanced	Expert
1) IDN design conventions	Student is able to recognize IDN design conventions in existing interactive narratives	Student is able to apply existing IDN design conventions in their own work	Student is able to develop new (potential) IDN design conventions
2) Narrative sensibility	Student understands the appeal of (interactive) narrative experiences and the basic components of (interactive) narrative	Student is able to apply their insight in the appeal of (interactive) narrative experiences in their own work	Student is able to apply their insight in the appeal of (interactive) narrative experiences in their own work, creating works with emotional impact
3) Ideation and concepting	Student has worked incidentally with existing tools and methods for ideation and concepting (e.g., IDN design canvas / IDN design lenses / IDN design branching cards)	Student has worked regularly with existing methods for ideation and concepting (e.g., IDN design canvas / IDN design lenses / IDN design branching cards)	Student develops new tools and methods for ideation and concepting Student develops unexpected ideas and concepts
4) Testing	Student is able to conduct existing user experience tests	Student is able to combine existing user experience tests	Student is able to develop new user experience tests
5) Prototyping	Student masters three methods for physical prototyping (e.g., paper prototyping, play prototyping, preja vu prototyping)	Student masters three tools for simple digital prototyping (e.g., Twine, Construct 3, Ren'Py)	Student masters three tools for complex digital prototyping (e.g., Unity, Unreal, Godot)
6) Writing (for interaction)	Student is able to recognize 'writing for interaction' techniques	Student is able to apply 'writing for interaction' techniques in her own work	Student is able to develop new 'writing for interaction' techniques
7) Audio-visualizing (for interaction)	Student is able to recognize the power of audiovisual (and haptic) stimulus for narrative expression	Student is able to design the audiovisual (and haptic) stimulus for narrative expression (in concept)	Student is able to develop the audiovisual (and haptic) stimulus (e.g., illustration, modelling, animation, UI, etc.)
8) Communication	Student is able to share ideas internally, supported by basic communication tools (e.g., pitch, slides)	Student is able to share ideas internally, supported by advanced communication tools (e.g., video, prototypes)	Student is able to share ideas externally (offline/online), supported by advanced communication tools (e.g., video, prototypes)
9) Creative leadership	Student is able to integrate the various elements of her own work, supporting an overall vision	Student is able to integrate the various elements of a small team production, supporting an overall vision	Student is able to integrate the various elements of a large team production, supporting an overall vision

Table 1: Skillset on the interactive narrative designer

IMPLEMENTATION

Our approach became a concrete educational program in the form of a minor in interactive narrative design at the University of the Arts Utrecht. The minor had its first run in the fall term 2019. It was in high demand, and therefore, participation became competitive. After a selection process, 20 students were accepted. In this section, we describe the structure and content of the program, and give examples of student projects. We close this section with a reflection of our approach, consider lessons learned, and point out topics for future improvement.

Structure

The minor is scheduled as a 20-week program starting in the fall and extending into spring. The full syllabus is available online². As shown in Figure 2, the overall course is divided into two periods, each lasting ten weeks and ending with a project presentation. In the first project ("Express yourself"), the students work in pairs to create a simple interactive digital narrative. The main learning goal for the students is to acquire the basic skills of interactive digital narrative design (see Table 1). In the second project, the students work in teams to create a pitch to an external committee, which includes the creation of a digital prototype. The main learning goal here is for the students to apply the skills they have acquired thus far, in a context relevant to their future professional ambitions. For example, students wanting to pursue a career in the arts, work on a proposition for an art grants committee. Students who would want to start their own company, prepare a proposition for a publisher or investor. Students who would want to work in a company, do not have to prepare a pitch, but instead make a portfolio and participate in a mock job interview.

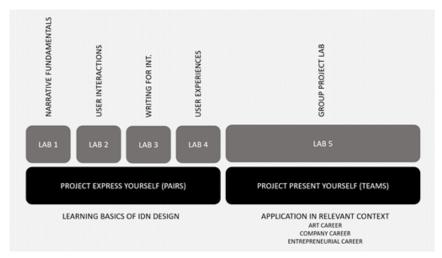


Figure 2: Program overview of the minor IND

In parallel with the projects, the students participate in labs. These are learning units in which students explore one particular topic in detail. Each lab is given by a topic expert. These topics are closely connected to the basic interactive narrative design skills the students have to master (cf. Table 1) and are relevant to the respective phase of the project. The first lab focuses on narrative fundamentals. In the following sections we describe the structure and content in sequential order.

Kick-off: Play and discuss

In the first week of the minor, we introduced a wide variety of interactive narrative works, and taught and discussed the basic terminology, including Murray's affordances and aesthetic qualities (Murray 1997) and Koenitz's SPP model (Koenitz 2015a). Together with students, we played games, VR/AR apps, interactive documentaries, and more. By reflecting on our play experiences, we tried to answer questions such as: What is special about an interactive narrative experience? How does it differ from other narrative experiences, like watching a TV show or reading a book? Can we already recognize certain design principles or conventions? And how do we talk about these products? What

kind of terminology should we use? At this stage, students were encouraged to start thinking about their own upcoming projects, and to develop some initial ideas.

LAB #1: Narrative fundamentals

This lab provided a framework for discussing and designing interactive digital narratives. We started by tackling the big elephant in the room: what is narrative and how can it be designed to be interactive? To answer that question, students have to unlearn much of what they have been told about narrative so far to be able to look at the topic with fresh eyes, connecting age-old traditions of oral storytelling with modern insights from cybernetic arts (Ascott 1964) and brain sciences (Herman 2002). Students learned that narrative can be many things beyond the novel and the movie, and that the notion of a universal story structure is only a myth (Koenitz et al. 2018). Building on this expanded understanding of the narrative space, we taught basic vocabulary and a model (Koenitz 2015) for analysis and critique of existing interactive narrative works and for presenting sample analyses. We explained to the students that we intend to continually evolve these foundations to reflect on our own design practice, communicate it to others.

LAB #2: User interactions

This lab focused on the design of the interactions that users have at their disposal to influence the narrative. These actions can differ between different interactive digital narratives. Some provide the user with explicit choices, for example: "Do you want to go right or left?" Others create an exciting environment for users to experience and explore. And yet others give the user a set of tasks to perform, like running, jumping and picking up items. In this lab, we looked at different interactive narratives and discussed their differences in terms of user interactions. Students explored the types of user interaction suited their own projects, trying to find answers to questions such as: "What kind of user interactions

are inspired by the story you have chosen as a starting point?" and "How can you create narrative meaning or arouse emotions through user interactions?" Students worked with a set of concrete tools to communicate, discuss and test their ideas, such as the IDN Design Canvas (Dubbelman 2021) and a specific framework for evaluation (Roth 2016), With the help of these tools, students created their first digital (or physical) prototype during this lab.

LAB #3: Writing for interaction

In this lab, students focused on the topic of writing for interaction in different media. Students acquired tools and techniques for layered and impactful storytelling. Throughout the lab, we drew inspiration from a wide variety of source material, from cutting-edge interactive narrative projects to examples from the world of cinema, theatre and literature, and even traditional ways of storytelling. In this lab, we focused on different aspects of 'writing': from creating convincing characters and scenes, to playing with the structure and possibilities of language itself. There was also an emphasis on how to structure the writing process, and students learned to not only write, but also to re-write their texts throughout different iterations. Finally, we focused on how students can reach out to target groups (audience members, peers, investors, etc.) through the writing of treatments, synopses, and marketing texts.

LAB #4: User experiences

Meaning-making, understood as the process by which we create, construe, and interpret meaning, is an essential part of how we experience different forms of creative expressions. In this lab, participants learned how the design, delivery, and reception of meaning contribute to the interactive narrative experience. We investigated how designers create meaningful, potentially transformative, experiences, and how to evaluate the resulting user experience (Roth and Koenitz 2016). This lab applied cognitive psychology to facilitate insights into the interactors' perspective

and interactive narrative meaning-making processes, which is crucial when designing with a goal in mind. In this context, we analyzed and utilized the concepts of ludonarrative harmony – the successful combination of ludic and other narrative elements – and ludonarrative dissonance – the clash between ludic and other narrative elements. In the second part of the lab, the aspiring interactive narrative designers learned how to efficiently playtest and evaluate their prototypes. Participants applied Roth's Measurement Toolbox (Roth 2016) to evaluate their works both qualitatively and quantitatively as part of an iterative design process. The Measurement Toolbox consists of 12 user experience research dimensions (usability, effectance, autonomy, flow, presence, role-identification, curiosity, suspense, believability, eudaimonic appreciation, affect positive/negative, enjoyment) that can be used in experimental setups to identify effective design principles and potential for improvement. A concrete application of this set of measurements is asking users to fill in questionnaires immediately after an experience. Since interactive narratives can take many forms, and this robust measurement toolset is able to compare user experiences across different technological and design approaches. For example, evaluating an interactive theatre experience with VR elements (Roth 2019) or the interactive movie, Bandersnatch (Roth and Koenitz 2019).

Kick-off project - Present yourself

The second half of the minor was concerned with the "Present yourself" project. During the kick-off, the project details were shared and project teams were formed.

LAB #5: Group project lab

This lab supported the group project by having students focus on creating documentation, portfolio items, or presentation material for both their internal communication needs as well as the final assessment. In contrast to the previous two-week intensive labs, contact hours in this part were spread over the whole second block

and consisted of a bi-weekly mentoring session with each group, ongoing peer-review and structured meetings with other teachers, as well as the final judges, which included potential employers, investors, clients, curators, or representatives from art funding bodies, depending on each project's focus. The students' projects were discussed from the perspective of real-world orientation.

PROJECTS

Project 1: Express yourself

In the first project, students worked in pairs. The task was to create a simple, personal interactive narrative with the skills acquired in the first half of the course. The starting point of the project was an existing story of the student's choosing. This could be a movie, TV show, book, or a play, but also a news item, documentary, historical event, or something that happened in real-life. The students were told to choose a narrative that was particularly relevant to them. For the project, they had to turn this existing narrative into a personal interactive narrative experience. The project was assessed by a committee of teachers and industry professionals. The learning goals were to understand core elements of an IDN design process, and apply these in a concrete project, more specifically:

- Use of a set of IDN design tools (IDN Design Canvas (Dubbelman 2021), IDN Design principles (Koenitz 2015b)), and a specific framework for evaluation (Roth 2016).
- Learn a set of IDN design conventions (e.g., delayed consequences, foldback structures and scripting the interactor), and apply them.
- Create a project with the following requirements:
 - The project must be inspired by an existing story, chosen by the students.

- The project contains a clear analysis of the basic elements of (a part of) the story (characters, setting, conflict, events) as well as the story's appeal, according to you (topic, message, affect).
- The project must be small in scope (preferably one scene with a limited playtime).
- The project includes:
 - 1. Multiple characters.
 - 2. Some form of interactive written text.
 - 3. A limited set of clearly defined user interactions (i.e., narrative game mechanics).
- The project must be tested with the intended target audience.

The projects in this category took a wide range of different forms, including an interactive documentary about nuclear energy and its potential benefits in reducing CO2 output, an interactive movie about a child having to cope with a serious illness, another interactive movie about addiction, a game where the interactor became a censor in an Orwellian world, an AR-based science fiction code puzzle, and a VR experience where the interactor is trapped and needs to free themselves. In the following section we describe two projects in more detail.

VR experience

In this project, the students³ used an interesting design solution to heighten the sense of immersion. The starting point of the

experience is that the interactor is an agent tasked with retrieving data from a computer for their remote instructor. However, upon entering the building, an earthquake happens, burying the interactor under debris. To convey this situation, students fixed the interactor's right foot to the ground to create an experience congruent with the player character being physically restricted (Figure 3), thus also limiting the range of interaction. Only after solving a series of puzzles, for instance by combining objects to reach a switch, is the interactor set free. Play testers and evaluators were impressed with the resulting embodied experience. This project showcased how a seemingly simple design choice can have a strong impact on the user experience.



Figure 3: VR experience with right leg fixed to the floor.

Redemption Project

Originally, the two students⁴ working on this project had a plan to create a technically sophisticated mask that would emit visual impulses through the closed eyelids of the interactor to trigger afterimages, accompanied by synchronized audio effects. The first

prototype of the mask revealed too many design challenges, and the team deemed the project to be too ambitious. Instead, the advisor to the project suggested the use of simpler technology, and to focus on self-expression and interaction. The resulting project was a powerful interactive narrative of addiction and failure, realized as an artistically filmed interactive movie, using an almost invisible interface with hotspots to trigger different metaphorical video clips that provided a fuller picture of the protagonist's personal narrative (Figure 4). The project showed that a focus on interactive narrative first and technological sophistication second can pay off. Play testers and evaluators were impressed by the project and surprised to learn that Microsoft's PowerPoint presentation software was used as the authoring system.



Figure 4: Interactive movie experience realized with PowerPoint

Project 2: Present yourself

The second course project, "Present yourself", was about the students' position as an interactive narrative designer in the

creative industry and in society at large. What is their role, and what kind of opportunities exist to work in this profession? If they want to succeed as an interactive narrative designer, they have to be good designers first. In addition, they also have to learn how to create their own opportunities for a profession that is still not widely known, or understood. In this project, students explored the kind of opportunities that exist by reflecting on the value of interactive narrative designers for society. Conversely, they needed to consider the different application areas of interactive narrative design. They also learned how to seize these opportunities by practicing the "selling" of their capabilities, skillsets, and concept ideas. For this project, students worked in teams to create and pitch a promising ("saleable") interactive narrative concept (supported by a convincing, playable prototype), targeted at a relevant application area and audience.

Students were reminded that interactive narratives come in all shapes and sizes. They can offer engaging artistic experiences, they can be used in a museum to shed light on a historical event, they can be used in an advertisement to sell a particular product or brand, they can be used by journalists to share insights on a news topic, they can be used by politicians in their campaigns, and so on. It was up to them and their team to decide what kind of interactive narrative concept they wanted to pitch, as long as it catered to a clearly defined and existing societal (social, economic, political, artistic) need or opportunity. Mentors from the industry were attached to the projects and a committee of teachers and industry professionals assessed the students' projects.

In this project, there were three main learning goals:

- How to work in a team.
- How to develop and pitch a promising, purposeful IDN concept (supported by a prototype), targeted at the "right" audience and application area.
- How to present themselves as professional interactive

narrative designers.

The project itself had the following basic requirements:

- The project must address an existing societal need or opportunity.
- The project must contain a clear exploration and analysis of this need or opportunity (research).
- The project's aims and targets must be realistic –
 workable in scope (considering team size, skills, and
 available time).
- The project team must deliver a pitch presentation, supported by a tested and playable prototype.

"Present yourself" projects again took a range of different forms, including an interactive movie about stress, a VR experience about hacking computers, a VR experience about the fabrication of beauty, and an interactive narrative experience about teenagers' online experiences, including the consequences of online fame and harassment.

Example project: Antidotum

A team of six students⁵ worked on the project, *Antidotum*, a short interactive movie demonstrating that ignoring stress can lead to unforeseen consequences and panic attacks. The team's goal was to give interactors a warning about what can happen when body and mind can no longer cope with stress and panic.

In their narrative, Theo, a businessman in decline, retires after experiencing a violent panic attack in an empty country house, in the hope of learning to prevent this in the future. His expectation of this rest period is disturbed by his own twists and fears. By making choices about Theo's life, interactors get involved in his

^{5.} Dwayne Rufai, Nicky Maatman, Peter-Jan Wittebol, Sam Vette, Thom de Bie, Wim Brouwer

inner struggle. In this interactive film, interactors select options similar to Netflix's Bandersnatch. The team wanted to include interaction to immerse players in Theo's role and to create a bond. For this, they introduced breathing and heart rate mechanics. By simultaneously pressing L2 and R2 on a gamepad, interactors regulate Theo's breathing. Pressing the "X" button regulates Theo's heartbeat. These controls serve to involve interactors in more than just visual and auditory areas, and to bind them emotionally to the story, striving for ludonarrative harmony, where all facets of the interaction play a role in connecting the interactor with the narrative experience.

For the realized project (Figure 5), the introduction part was text-based with choices inspired by the introduction part of the narrative game, Firewatch. Three crucial scenes were filmed and aforementioned mechanics were fully implemented: 1) the isolation of Theo, 2) Theo's moment of insight, and 3) the confrontation of the problem. Playtesting revealed that while controls were clear and easy to remember, players needed better feedback on how well they were performing regarding the breathing and heartrate mechanics, e.g., by using certain controller vibrations when performing in the right or wrong rhythm.



Figure 5: Project Antidotum – Interactive movie

Reflection

Overall, the first iteration of the minor was a considerable success. The program attracted more applicants than available spaces, and the cross-cutting perspective that addressed different forms of interactive digital narratives not only worked well, but also resulted in interesting cross-fertilization, e.g., students from game design backgrounds remarked how they were enriched by the contact with students from film backgrounds. Student evaluations were also positive.

In terms of lessons learned, we found that unlearning ingrained explicit and implicit knowledge on linear storytelling can be challenging, especially when students have already worked for years in a professional capacity following design conventions and paradigms from linear media, such as film and books. Students with such backgrounds have a tendency to initially create linear narrative, that they interactivize in the second step, usually resulting in limited agency and a lack of meaningful interaction. During our supervision of the group projects, we learned that it helped to play to the strengths of a particular group. A group with

helped to play to the strengths of a particular group. A group with experience in writing film scripts had to learn to plan their scripts by working from a perspective of interaction, while integrating their knowledge of filmmaking.

The separation into two projects worked well, for two reasons. First, it enabled students to express themselves freely via a first project before tackling an applied project in connection with the industry. Secondly, the initial project allowed for failure and faster iteration, and thus was focused on the learning experience. On that basis, the second project, "Present yourself", needs professional planning. Through industry involvement, the stakes are much higher.

The role of mentors in the second project proved to be a bit of a double-edged sword. On the one hand, it was beneficial for the students to have industry insiders attached to the projects, and they profited from their experience. On the other hand, mentors were at times also the source of confusion, as the boundary between the mentoring role and teaching roles were not clear enough – in some instances, mentors became teachers without fully understanding our educational concept. A more clear-cut definition of the mentor's role is necessary here.

CONCLUSION

In this paper, we have described the context of our educational efforts in educating interactive narrative designers, outlined our

approach in creating a minor in interactive narrative design, and described its first implementation. We see this effort as a step in the direction of establishing interactive narrative design as a discipline. We will use the lessons learned from this milestone to further develop this approach.

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