**Course Title**

Augmenting the Gallery

## Course Number

IMNY-UT 9001D01

## Instruction Mode: Blended

# Spring 2021

If you are enrolled in this course 100% remotely and are not a Go Local/Study Away student for NYU Berlin, please make sure that you’ve completed the online academic orientation via NYU Classes so you are aware of site specific support structure, policies and procedures. Please contact [berlin.academics@nyu.edu](mailto:berlin.academics@nyu.edu) if you have trouble accessing the NYU Classes site.

## Inclusion, Diversity, Belonging and Equity

NYU is committed to building a culture that respects and embraces diversity, inclusion, and equity, believing that these values – in all their facets – are, as President Andrew Hamilton has said, “...not only important to cherish for their own sake, but because they are also vital for advancing knowledge, sparking innovation, and creating sustainable communities.” At NYU Berlin, we are committed to creating a learning environment that:

* fosters intellectual inquiry, research, and artistic practices that respectfully and rigorously take account of a wide range of opinions, perspectives, and experiences.

* promotes an inclusive community in which diversity is valued and every member feels they have a rightful place, is welcome, respected, and supported in their endeavours.

**Syllabus last updated on:** 27 Jan 2021

## Lecturer Contact Information

Pierre Depaz (he/him)

[pierre.depaz@nyu.edu](mailto:pierre.depaz@nyu.edu)

Your instructor will inform you about office hours/learner hours.

## Course Details

Time: Tues 1:00pm–2:15pm / Thurs 1:00pm-3:00pm

All times are Central European Time (Daylight Saving Time begins Mar 28, 2021).

Location: Rooms will be posted in Albert before your first class.

Remote Participants: Your instructor will provide you with the Zoom link via NYU Classes.

## Prerequisites

None

## Units earned

4

## Course Description

Wall labels, audio guides, and informative maps are just some of the ways galleries and museums convey information and hidden narratives about a collection. Given the changing role of museums and galleries in the 21st century, how can we utilize new tools such as Augmented Reality (AR) to design and deliver immersive experiences that breathe new life into an exhibit? How can such tools do so without distracting from the power and importance of a collection, or by purposefully challenging problematic aspects such as an exhibit’s disputed provenance or ethical concerns? And how can they make collections more accessible to a wider audience?

This course mobilizes resources from museography, art history, sociology, interaction design and 3D, real-time development to answer these questions. Topics covered include exhibition installation and curation, mixed reality production in Unity, and mobile development for Augmented Reality. The course is open to students from a variety of academic backgrounds interested in gaining hands-on experience applying new technologies to exhibition spaces.

## Course Objectives

* Understand the theoretical concepts and practical challenges of curating and exhibiting artworks in 21st century museum and gallery spaces.
* Evaluate the diversity of exhibition spaces and missions in Berlin and their digital communication strategies.
* Understand the development workflow in the Unity game engine for AR applications.
* Determine and integrate best-practices in user-interface design and information delivery on mobile platforms.
* Create, through prototyping, iteration and integration, relevant mobile digital content within a given exhibition.
* Furthermore, by working on use cases with Berlin museums or galleries, students also gain insights into how professional exhibitors work and the innovations they are considering. Students become aware of skills and experiences they can offer to potential future employers in the museum and gallery world.

## Course Approach to Teaching & Learning

This course focuses on a hands-on approach to theoretical issues in curation and exhibition. In this regard, learning by doing is given a preferential approach, both through design and development. Topics explored during the Tuesday meetings (Lecture) will then be prototyped through practical implementation during the Thursday classes (Lab). Each week includes both a theoretical discussion on a given topic, as well as technical content to develop familiarity with the software used in this class, Unity. However, in order to accommodate a spectrum of technical expertise and abilities among students, additional platforms for prototyping (Figma, Adobe XD) are provided to enable students to complete the exercises.

Regarding class participation, the working assumption here is that *critical feedback is the highest form of respect*. Thus, you are encouraged to comment on your classmates’ work when they present it, and encouraged to ask for feedback from your classmates when you present yours.

Finally, students will have the opportunity to work with partner institutions in order to design and develop an AR project based on a professional use-case.

## Assessment Components

You are expected to attend class in person or remote synchronously. Failure to submit or fulfill any required component may result in failure of the class, regardless of grades achieved in other assignments.

*Technical projects* - 25%. Students complete a series of short technical projects in order to develop familiarity with the Unity engine and ARy workflow. Students start from an existing tech template and are expected to present their projects in class on the day that it is due for a group review.

*Participation* - 20%. Participation includes (a) in-class discussion of readings and discussion of your classmates’ project presentations, (b) completion of all homework assignments, (c) posting your weekly reading responses online, and (d) contribution to the class resources — whether by finding interesting exhibitions, or interesting AR projects not mentioned during class, and sharing them with your instructors and classmates.

*Collection activation* - 25%. Due March 15 - You will design a digital project proposal for a large-scale institution’s collection, by applying your knowledge of both technical development, application design and possibilities of augmentation as seen in class. Your report should include background research on the gallery/museum and the artist(s) exhibited, analysis of the curatorial intent, the practical installation and description of the attendees, and conclude with a proposal for augmenting that specific exhibition. You will submit a PDF of your proposal to your instructor.

*Final project* - 30% - Due May 9 - You will complete a longer project which will be developed throughout the semester in collaboration with our museum partners. This group project will include (a) a pre-emptive analysis of the site and collection that you will be working with, (b) design and development of the AR and (c) a presentation to the partner teams with user-testing and post-production conclusions on the effectiveness and limitations of the application. A detailed grading rubric will be provided on the class website.

**Note:** all homework and reading responses are due by the time class starts. All readings are expected to be completed for the week they are listed, unless stated otherwise.

Students are expected to attend class in person or remote synchronously. Failure to submit or fulfill any required component may result in failure of the class, regardless of grades achieved in other assignments.

## Required Text(s)

All required readings will be provided as a digital copy.

## Supplemental Text(s) (not required to purchase)

All supplemental readings will be provided as a digital copy.

## Additional Required Equipment

Students are encouraged to work with their laptop and can also use their own smartphones for mobile development. Nonetheless, essential work will take place in the computer lab.

## Session 1 - 28 Jan 2021 - Introduction

*This session first covers housekeeping matters, introduces the course materials, learning objectives and technological tools. The second part introduces students to the changing landscape of museum institutions in the 21st century, as well as to the current state of technology in mixed and augmented reality, and will ask questions about the relationship between the digital and the physical.*

***Learning Outcomes:*** *Technical fluency: be able to develop a basic, functioning mobile application using the Unity Engine and the Augmented Reality toolkits*

## Session 2 – 02 Feb 2021 - Basics of Unity

*This session dives deeper into the development workflow of Unity, the main software that we use for the class. Students are first invited to show and discuss their homework and reflect on the invisible narratives that exist around one single object.*

***Learning Outcomes:*** *Technical fluency: be able to develop a basic, functioning mobile application using the Unity Engine and the Augmented Reality toolkits; Design awareness: be able to understand how to structure an application around the principles of human-computer interaction and user-centered design.*

**Reading:**

* [*The Ultimate Display*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Sutherland_TheUltimateDisplay.pdf), Ivan Sutherland, Information Processing Techniques Office, https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Sutherland\_TheUltimateDisplay.pdf
* [*A Survey of Augmented Reality*](http://www.cs.unc.edu/~azuma/ARpresence.pdf), R. T. Azuma, Presence, vol. 6, no. 4, pp. 1–18, Jul. 1997. [Online]. Available: http://www.cs.unc.edu/~azuma/ARpresence.pdf.

**Homework (due 02/09):** Choose an object. Develop a simple screen interaction which cycles through media assets and provides information about that object. Follow the online tutorial for the code, but use your own assets and descriptions to create your own narrative.

**Lecture:**

* History and principles of Mixed and Augmented Reality.
* Introduction to ARKit/ARCore and setting up a development environment.

## Session 3 - 04 Feb 2021 - Basics of Unity

## Watch:

* [*Unity Tutorials, Interface Essentials*](https://unity3d.com/learn/tutorials/topics/interface-essentials/interface-overview?playlist=17090), Video 1-7, https://unity3d.com/learn/tutorials/topics/interface-essentials/interface-overview?playlist=17090

**Technical:**

* Introduction to Unity
* GameObject / Component / Script model
* Introduction to C#

## Session 4 - 09 Feb 2021 - Unity and Interaction Design

*This week takes a step back from the hands-on development in Unity in order to look at some essential design concepts, such as user-experience, affordance, user story and information interfaces. What is interface design? What is interaction design? What is UX design? We will discuss the specificities and interconnections of all these approaches in the context of AR, as well as practical methods for implementing them.*

***Learning Outcomes:*** *Design awareness: be able to understand how to structure an application around the principles of human-computer interaction and user-centered design. Construct a narrative thread in a digital interactive environment.*

**Reading:**

* [*The Medium is the Message*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/McLuhan_TheMediumIsTheMessage.pdf)*,* Marshall McLuhan, Gingko Press, 2011, pp.18-35.https://github.com/periode/augmentinggallery/blob/master/resources/readings/McLuhan\_TheMediumIsTheMessage.pdf
* [*A Cultural Approach to Interaction Design*](https://github.com/NYUAD-IM/Comm-Lab/blob/master/Assets/Readings/InventingTheMedium_JanetMurray.pdf), Janet Murray, https://github.com/NYUAD-IM/Comm-Lab/blob/master/Assets/Readings/InventingTheMedium\_JanetMurray.pdf
* [*Interaction Design*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Preece_InteractionDesign.pdf), Jenny Preece, Helen Sharp and Yvonne Rogers, Wiley and Sharp, 2019, pp. 20-27, https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Preece\_InteractionDesign.pdf

**Homework (due 02/16):** Developan AR application which allows your user to position multiple objects around the physical world. The objects that you choose should tell a broader story about a specific period of your life. You should implement an input for your user to place objects, and UI components to provide feedback and information.

**Lecture:**

* Interaction Design
* Storytelling in the digital age.

## Session 5 - 11 Feb 2021

**Technical:**

* Build systems for ARKit
* Storytelling in the digital age.
* Canvas and UI in Unity

## Session 6 - 16 Feb 2021 – Augmenting Objects

*This week focuses on the idea and the reality of what an “object” is. What are some of the visible properties of an object? What are the invisible ones? If objects also symbolize things beyond themselves, how can we use AR and digital technology to bring those aspects to the forefront?*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas and intent behind the organization, layout, presentation of a given body of work; Design awareness: be able to understand how to structure an application around the principles of human-computer interaction and user-centered design.*

**Reading**:

* *Artefacts and the Meaning of Things*, Daniel Miller, Routledge, 1994, pp. 96-147
* *Radical Technologies: The Design of Everyday Life*, Adam Greenfield, Verso, 2017.

**Lecture:** The object, the art-object and the display.

**Homework (due 02/23):** Develop a first application with ARKit using a marker to tell a story about a particular artwork. You can use text, images, 3D models and/or sound.

**18 Feb 2021 – NO CLASS (MAKE UP DAY FOR MONDAY CLASSES)**

**Session 7 - 23 Feb 2021 – Augmenting Spaces**

*This week focuses on how AR can modify our perception of public space, starting from definitions of what public is, and how/if it is manifested in museums. We use this opportunity to explore further the social dynamics of art-gallery owners and museum-goers, in terms of sociology and psychology, and compare it to the sociology and psychology of individual app users.*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas and intent behind the organization, layout, presentation of a given body of work.*

**Reading**:

* [*The Poetics of Augmented Space*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Manovich_PoeticsOfAugmentedSpace.pdf), Lev Manovich, Journal of Visual Communication, 2006. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Manovich\_PoeticsOfAugmentedSpace.pdf
* [*The Street as Platform 2050*](https://medium.com/butwhatwasthequestion/the-street-as-platform-2050-98bbb81016f4), Dan Hill, Medium.com https://medium.com/butwhatwasthequestion/the-street-as-platform-2050-98bbb81016f4

**Homework:** N/A

**Lecture:**

* Augmented Spaces
* Spatial Computing
* Spatial Environment

**Session 8 - 25 Feb 2021**

**Technical:**

* ARKit programming 2
* Plane detection
* Raycasting
* Image Markers

## Session 9 - 02 Mar 2021 – Museum Partner Presentations

*This week will mark the beginning of our collaboration with our museum partners, as well as the start of our reflection on the specific museum or gallery partners.*

***Learning Outcomes:*** *Real-world implementation: be able to propose and implement a design around a given constraint (i.e., that of a real-world exhibition).*

**Reading**:

* [*Museum4Punkt0*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Glinka_Museum4Punkt0.pdf), Katrin Glinka, in *ICOM*, vol 70, 2018. <https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Glinka_Museum4Punkt0.pdf> Further reading to be added on specific partner institutions.

**Homework (due on that day): N/A**

***Lecture:*** *Introduction of our museum partners and use cases to work on. Formation of groups.*

## Session 10 - 04 Mar 2021

**Technical:**

* Unity Collab
* Physics in Unity

## Session 11 - 09 Mar 2021 – The Role of Museums

*This session focuses on analyzing and exploring the role of museums as historical and cultural institutions. Why do museums exist? Why do people go to museums? Have museums evolved over time? In which direction? The second part of the session is dedicated to working time on the students’ projects.*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas and intent behind the organization, layout, presentation of a given body of work. Analyze the evolution of the role of the museum in the 21st century.*

**Reading:**

* [*Key Concepts of Museology*](https://icom.museum/wp-content/uploads/2018/07/Museologie_Anglais_BD.pdf)*, ed. André Desvallées and François Mairesse, Armand Colin, 2010, articles Collection* *pp. 26-28, Exhibition* *pp. 34-38, Mediation* *pp. 46-48, Museum* *pp.56-60, Object* *pp.61-64. https://icom.museum/wp-content/uploads/2018/07/Museologie\_Anglais\_BD.pdf*
* [*The End of the Museum?*](https://www.jstor.org/stable/3332464)*,* Nelson Goodman, Journal of Aesthetic Education, University of Illinois Press, 1985. https://www.jstor.org/stable/3332464
* [*Museums in the Digital Age*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Bautista_MuseumsDigitalAge.pdf), Susanna Bautista, AltaMira Press, 2013, *Framing A Changing Museology in The Digital Age*, pp.7-30. <https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Bautista_MuseumsDigitalAge.pdf>

**Homework (due 03/16):** Blog about the use-case you are working on, explaining **why** you're interested in them, and giving at least **three** options of how you could envision augmenting them.

**Lecture:** The purpose of the museum, the museum, its objects, and its technologies.

## Session 12 - 11 Mar 2021

**Technical:**

* Unity Animations
* Basics of 3D modeling

## Session 13 - 16 Mar 2021 – Museums and Information in physical spaces

*This week focuses on laying out the current use of digital media (not limited to AR), ranging from audio guides, to interactive display tables, VR installations and companion applications. We examine how museums are making the most of digital media while also addressing the limitations of this approach. The second part of the lecture will focus on how to organize brainstormed ideas into a design document for your M4P0 development project.*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas and intent behind the organization, layout, presentation of a given body of work. Design awareness: be able to understand how to structure an application around the principles of human-computer interaction and user-centered design. Transdisciplinarity: analyze the issue at hand from the lens of technology and media studies as well as museum studies.*

**Reading**:

* N/A

**Homework:** N/A

**Lecture:**

* The different spaces of a museum
* Guides in museums
* Walking and orientations

## Session 14 - 18 Mar 2021

**Lecture:**

* Presentation on how to draft the specifics of an interactive project. In-class working session for Design and Technical documents.

**Technical:**

* ARKit Image Libraries

## Session 15 - 23 Mar 2021 – Museums and Information in online spaces

*This week looks at how museums engage in technology that is exclusively online. Whether through social media, online access of physical collections or online exploration of non-accessible collections, the Internet has changed the way we consider accessibility and information.*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas and intent behind the organization, layout, presentation of a given body of work. Design awareness: be able to understand how to structure an application around the principles of human-computer interaction and user-centered design. Analyze the evolution of the role of the museum in the 21st century. Transdisciplinarity: analyze the issue at hand from the lens of technology and media studies as well as museum studies.*

**Reading**:

* [*From Malraux's Imaginary Museum to the Virtual Museum*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Battro_VirtualMuseum.pdf), Antonia Battro in Museums in the Digital Age, ed. Ross Perry, Routledge, 2010, pp.136-147. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Battro\_VirtualMuseum.pdf
* [*Behind the scenes of the museum's website*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Wilson_BehindTheScenesOnlineMuseum.pdf), R.J. Wilson, Museum Management and Curatorship, 2011. pp.373-389, https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Wilson\_BehindTheScenesOnlineMuseum.pdf

**Homework (due 03/30):**

* Complete a first version of your design document.
* Get in touch with the contact person at the partner museum or gallery regarding your project. Discuss your idea with them and see how they can help (assets, examples, code, reports, visitor studies, etc.).
* Come prepared to present what project you've decided to work on for the museum partnership.

**Lecture:**

* Online information organization
* The virtual museum
* The museum beyond its walls

## Session 16 - 25 Mar 2021

**Technical:**

* Start working on an AR application which uses Unity’s API capabilities to interface with the Internet.
* Unity APIs - 1

## Session 17 - 30 Mar 2021 – Museum and Education

*This week looks at the educational role of museums, focusing on inclusiveness and design for (dis)abilities. The lecture will highlight how it relates to both physical spaces, in the case of cultural institutions, and digital spaces, in the case of application design and development.*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the educational and pedagogical approaches behind the organization, layout, presentation of a given body of work. Design awareness: evaluate how human-computer interaction and user-centered design are used to pedagogical ends. Analyze the evolution of the role of the museum in the 21st century.*

**Reading**:

* [*Distinction*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Bourdieu_Distinction.pdf), Pierre Bourdieu, Distinction: Social Critique of Judgment of Taste, Introduction, MIT Press, 1984. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Bourdieu\_Distinction.pdf
* *The Ignorant Art Museum: Beyond Meaning Making*, Emilie Sitzia, in Journal of Lifelong Education, 2018, pp. 73-87. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Sitzia\_IgnorantArtMuseum.pdf
* [*Museum Education*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/MuseumEducation.pdf), George E. Hein, in A Companion to Museum Studies, 2006, ch. 20, pp. 340-341. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/MuseumEducation.pdf

**Homework (due 04/06):** Finish your AR application which makes use of the APIs provided by the instructor.

**Lecture:** Museum as education-providers.Cultural Capital.Accessibility in physical and digital spaces.

## Session 18 - 01 Apr 2021

**Technical:**

* Finish working on your AR application.
* Unity APIs – 2.
* Spatial Unity with geolocalization and compass

## Session 19 - 06 Apr 2021 – Museums and Utopia

*The week looks at museums as “extra-real” spaces, offering alternative worldviews and paradigms, focusing on the presentation of work-in-progress and feedback-oriented discussions regarding your current progress.*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas and intent behind the organization, layout, presentation of a given body of work. Transdisciplinarity: analyze the issue at hand from the lens of technology and media studies as well as museum studies.*

**Reading**:

* [*The Museum: A Refuge for Utopian Thought*](https://www.nyu.edu/classes/bkg/web/museutopia.pdf), Barbara Kirshenblatt-Gimblett, in *Die Unruhe der Kultur: Potentiale des Utopischen*, eds. Jörn Rusen, Michael Fehr, Annelie Ramsbrock, Velbruck Wissenschaft, 2004. https://www.nyu.edu/classes/bkg/web/museutopia.pdf

**Homework (due 04/13):** Start making development progress on your museum project. Pick a database of cultural heritage of your (an indicative list is provided on [the class website](https://github.com/periode/augmenting-gallery/wiki/Museum-databases)) to activate in your Collection Activation assignment. Write a blog post as to why you're interested in this database and list some of the possibilities you intend to develop.

**Lecture:** Design and development workflows.

## Session 20 - 08 Apr 2021

**Technical:**

* ARKit Collaborative Sessions

## Session 21 - 13 Apr 2021 – Augmenting Art Galleries

*This session introduces students to the principles and practices of curating a show for an art gallery. What do curators do? How do they select artists? How do they organize a show spatially and theoretically, by taking into account technical requirements, artistic intent and expected audiences? Why put up a show in the first place? The second part of this session is dedicated to student work.*

***Learning Outcomes:*** *Curatorial awareness: evaluate the role of art galleries in relation to the role of museums. Real-world implementation: be able to propose and implement a design around a given constraint (i.e., that of a real-world exhibition). Execute the best practices in media development and project planning.*

**Reading**:

* [*Show and Tell*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Storr_ShowAndTell.pdf), Robert Storr in *What Makes a Great Exhibition?*, Paul Marincola, Reaktion Books, 2007. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Storr\_ShowAndTell.pdf
* [*What is an Exhibition?*](https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Filipovic_WhatIsAnExhibition.pdf), Elena Filipovic in *Ten Fundamental Questions of Curating*, ed. Jens Hoffman, Mousse Publishing, 2008. https://github.com/periode/augmenting-gallery/blob/master/resources/readings/Filipovic\_WhatIsAnExhibition.pdf

**Homework (due 04/20):** Establish a **retro-planning** for your project, breaking down the next four weeks day by day, and post it on your blog (you can link to a google spreadsheet, for instance).

**Lecture:** The history and role of the art gallery. Digital media as an integral part of the exhibition process.

## Session 22 - 15 Apr 2021

**Technical:**

* Unity Inputs
* Unity PlayerPrefs

## Session 23 - 20 Apr 2021 – Exhibiting Digital Artworks

*While more and more artworks include a software component, the question of how to present and preserve them has shown to be more and more complicated. How is the exhibition of a piece of software art faithful to its original intent and situation?*

***Learning Outcomes:*** *Curatorial awareness: be able to understand the ideas, intent and challenges of curation and preservation, in the specific context of new media art. Design awareness: be able to understand how to structure an application around the principles of human-computer interaction and user-centered design.*

**Reading**:

* [*Presenting and Preserving New Media*](http://www.neme.org/texts/preserving-new-media), Christiane Paul in *Digital Art*, Thames and Hudson, 2007. http://www.neme.org/texts/preserving-new-media
* [*Objects, Intent, and Authenticity: Producing, Selling, and Conserving Media Art*](https://www.taylorfrancis.com/books/9781315597898/chapters/10.4324/9781315597898-8), Caitlin Jones, in *New Collecting: Exhibiting and Audiences after New Media Art*, Routledge, 2016.

**Homework (04/27):** Write an update regarding your Collection Activation assignment (what further research have you done, what wireframes have you made, etc.)

**Lecture:** Exhibition and preservation of digital artworks.

## Session 24 - 22 Apr 2021

*Work and catch-up session on Unity. Introduction to Adobe InDesign and visual layout and communication.*

## Session 25 - 27 Apr 2021 – Work Session

*This session is dedicated to in-class working time in expectation of the presentation next week.*

***Learning Outcomes:*** *Real-world implementation: be able to propose and implement a design around a given constraint (i.e., that of a real-world exhibition). Technical fluency: be able to develop a basic, functioning mobile application using the Unity Engine and the Augmented Reality toolkits*

**Reading**:

* N/A

**Lecture:** N/A

## Session 26 - 29 Apr 2021

**Work Session**

**Homework (due 05/06):** Put the final touches on development of your project. If necessary, make an office hour appointment with your instructor for specific advice and debugging. Finalize your presentation for the museum/Gallery partners and include a short presentation and video of the application running on your device.

## Session 27 - 04 May 2021

*This session concludes the semester by summing up some of the key developments in the interaction between portable digital technology and museum institutions, as well as providing some directions going forward (developing museum web platforms, using Virtual Reality or archiving objects through photogrammetry). The end of the session is dedicated to course evaluations.*

## Session 28 - 06 May 2021 – Final Presentations

Final presentations

## Important Hygiene/Social Distancing Regulations in the Classroom

In the interest of protecting the NYU Berlin community, we are closely following guidance around COVID-19 from the Robert Koch Institute (Germany’s institute for disease control and prevention), the Centers for Disease Control and Prevention (CDC), the World Health Organization, and the New York City Department of Health and Mental Hygiene and adjusting our recommendations and policies accordingly. Your health and well-being is our top priority. Please consult the [NYU Berlin Resource Page](https://wp.nyu.edu/nyuberlin/health-wellness/covid-19-information/) frequently for the latest information. You are required to adhere to the most recent policies.

If you are attending in person, you will be assigned a seat on the first day and are expected to use that seat for the entire semester due to NYU COVID-19 safety protocol. Please note that you are expected to attend every class meeting in-person; however, this may change during the drop/add period if in-person student registration increases significantly or at any point during the semester if local COVID-19 regulations require additional physical distancing.

## Recommendations for Teaching and Learning in Blended Learning Environment

To optimize the experience in a blended learning environment, please consider the following:

* Be mindful of your microphone and video display during synchronous class meetings. As research has shown, quiet and visually neutral backgrounds are conducive to learning.
* Please do not eat during class and minimize any other distracting noises (e.g. rustling of papers and leaving the classroom before the break, unless absolutely necessary).
* If deemed necessary by the study away site (i.e., a COVID-19 related necessity), synchronous class sessions may be recorded and archived for other students to view. This will be announced at the beginning of class time.

Laptops are not allowed during class time, unless we are working on technical aspects of the course, since they distract not just you, but classmates as well. In order to avoid unnecessary printing of materials, students are encouraged to take notes from readings and write down questions as preparation for class discussions.

## Suggested Co-Curricular Activities

You are strongly encouraged to visit museums and galleries wherever you are based, the current local health and safety guidelines permitting. For those based in Berlin, recommendations will be listed on the class website, but feel free to add to that list by editing the wiki. The museum and gallery scene in Berlin is an incredibly diverse array of curatorial projects, materials, histories, and approaches.

## Your Lecturer

Pierre Depaz is an educator, artist, and programmer from France. Having taught at NYU New York and Abu Dhabi, he is currently a Lecturer at NYU Berlin and Sciences Po. Pierre is interested in the multiple ways computers are attempting to represent and interface with human concepts and emotions. His academic research revolves around simulation, semantics and public organization through technological means. His artistic practice includes digital games, computer simulations, interactive installations, networked performances and experimental web projects, which have been exhibited in NYC, Paris, Cairo, Abu Dhabi, Brussels, and Berlin. His teaching philosophy is influenced by Jacques Rancière’s analysis of Joseph Jactotot’s Universal Method, developed in *The Ignorant Schoolmaster*, which assumes the radical equality of all minds.

# Academic Policies

## Grade Conversion

Your lecturer may use one of the following scales of numerical equivalents to letter grades:

A = 94-100 or 4.0

A- = 90-93 or 3.7

B+ = 87-89 or 3.3

B = 84-86 or 3.0

B- = 80-83 or 2.7

C+ = 77-79 or 2.3

C = 74-76 or 2.0

C- = 70-73 or 1.7

D+ = 67-69 or 1.3

D = 65-66 or 1.0

F = below 65 or 0

## Attendance Policy

Studying at Global Academic Centers is an academically intensive and immersive experience, in which students from a wide range of backgrounds exchange ideas in discussion-based seminars. Learning in such an environment depends on the active participation of all students. And since classes typically meet once or twice a week, even a single absence can cause a student to miss a significant portion of a course. To ensure the integrity of this academic experience, class attendance at the centers, or online if the course is remote synchronous/blended, is expected promptly when class begins. Attendance will be checked at each class meeting. If you have scheduled a remote course immediately preceding/following an in-person class, you may want to write to [berlin.academics@nyu.edu](mailto:berlin.academics@nyu.edu) to see if you can take your remote class at the Academic Center.

As soon as it becomes clear that you cannot attend a class, you must inform your professor and/or the Academics team (berlin.academics@nyu.edu) by email immediately (i.e. before the start of your class). Absences are only excused if they are due to illness, Moses Center accommodations, religious observance or emergencies. Your professor or NYU Berlin's administration may ask you to present a doctor's note or an exceptional permission from NYU Berlin's Director or Wellness Counselor as proof. Emergencies or other exceptional circumstances that you wish to be treated confidentially must be presented to the Director. Doctor's notes must be submitted in person or by email to the Academics team, who will inform your professors.

Unexcused absences will be penalized with a two percent deduction from the student’s final course grade for every week's worth of classes missed, and may negatively affect your class participation grade. Four unexcused absences in one course may lead to a Fail in that course. Being more than 15 minutes late counts as an unexcused absence. Furthermore, your professor may deduct points for frequently joining the class late. Note that this also applies to online attendance, where punctual attendance is as vital as during your in-person courses.

Exams, tests and quizzes, deadlines, and oral presentations that are missed due to illness always require a doctor's note as documentation. It is the student's responsibility to produce this doctor's note and submit it to [berlin.academics@nyu.edu](mailto:berlin.academics@nyu.edu). Until this doctor's note is produced the missed assessment is graded with an F and no make-up assessment is scheduled. In content classes, an F in one assignment may lead to failure of the entire class.

Regardless of whether an absence is excused or not, it is the student's responsibility to catch up with the work that was missed.

## Attendance Rules on Religious Holidays

Members of any religious group may, without penalty, excuse themselves from classes when required in compliance with their religious obligations. Students who anticipate being absent due to religious observance should notify their lecturer AND NYU Berlin's Academics Office in writing via email one week in advance. If examinations or assignment deadlines are scheduled on the day the student will be absent, the Academics Office will schedule a make-up examination or extend the deadline for assignments. Please note that an absence is only excused for the holiday but not for any days of travel that may come before and/or after the holiday. See also [University Calendar Policy on Religious Holidays](http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-calendar-policy-on-religious-holidays.html)

## Final exams

Final exams must be taken at their designated times. Should there be a conflict between your final exams, please bring this to the attention of the Academics team by writing to berlin.academics@nyu.edu. Final exams may not be taken early, and students should not plan to leave the site before the end of the finals period.

## Late Submission of Work

1. Work submitted late receives a penalty of 2 points on the 100 point scale for each day it is late (including weekends and public holidays), unless an extension has been approved (with a doctor's note or by approval of NYU Berlin's administration), in which case the 2 points per day deductions start counting from the day the extended deadline has passed.
2. Without an approved extension, written work submitted more than 5 days (including weekends and public holidays) following the submission date receives an F.
3. Assignments due during finals week that are submitted more than 3 days late (including weekends and public holidays) without previously arranged extensions will not be accepted and will receive a zero. Any exceptions or extensions for work during finals week must be discussed with the Site Director Dr. Gabriella Etmektsoglou (ge377@nyu.edu).
4. Students who are late for a written exam have no automatic right to take extra time or to write the exam on another day.
5. Please remember that university computers do not keep your essays - you must save them elsewhere. Having lost parts of your essay on the university computer is no excuse for a late submission.

## Moses Accommodations Statement

Academic accommodations are available for students with documented and registered disabilities. Please contact the Moses Center for Student Accessibility (+1 212-998-4980 or [mosescsd@nyu.edu](mailto:mosescsd@nyu.edu)) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance. Accommodations for this course are managed through NYU Berlin ([berlin.academics@nyu.edu](mailto:berlin.academics@nyu.edu)).

## Academic Honesty/Plagiarism

As the University's policy on "[Academic Integrity for Students at NYU](http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html)" states: "At NYU, a commitment to excellence, fairness, honesty, and respect within and outside the classroom is essential to maintaining the integrity of our community. By accepting membership in this community, students take responsibility for demonstrating these values in their own conduct and for recognizing and supporting these values in others." Students at Global Academic Centers must follow the University and school policies.  
  
NYU Berlin takes plagiarism very seriously; penalties follow and may exceed those set out by your home school. Your lecturer may ask you to sign a declaration of authorship form, and may check your assignments by using TurnItIn or another software designed to detect offences against academic integrity.

The presentation of another person’s words, ideas, judgment, images, or data as though they were your own, whether intentionally or unintentionally, constitutes an act of plagiarism. It is also an offense to submit work for assignments from two different courses that is substantially the same (be it oral presentations or written work). If there is an overlap of the subject of your assignment with one that you produced for another course (either in the current or any previous semester), you MUST inform your professor.  
  
For guidelines on academic honesty, clarification of the definition of plagiarism, examples of procedures and sanctions, and resources to support proper citation, please see:

[NYU Academic Integrity Policies and Guidelines](http://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html)   
  
[NYU Library Guides](http://nyu.libguides.com/content.php?pid=123054&sid=1057581)