

## 6 FRAGMENTS OF LAURA & HÁ-VITA

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*Fragments of Laura (FoL) & Há-vita* is a transmedia project inspired by the natural capital of UNESCO's World Natural Heritage Laurisilva Forest of Madeira. The project will allow the audience to experience different historical times of Madeira's cultural and natural heritage.

In "FoL", the narrative takes place in the 19th century and the user has the chance to follow the story while interacting with the environment, as they can unlock new content on each historical landmark included in the experience. In "Há-vita", the content is presented in a web-platform, designed to create a bridge between the locative playable fictional story with journalistic style interviews providing more in depth information about the local heritage in the current days.

In this way, we find the experience related to Time and Tempo, as it allows the audience to time-travel to the 19th century and experience a story that touches upon local

natural heritage. The user gets to learn about the outstanding relic of Laurisilva forest, through the eyes of a 19th century naturalist (the heroine of the fictional story) who just discovered the wonders of the forest's biodiversity. Then browsing in the "Há-vita" Web Platform, the audience travels back to current times, where they are able to interact with new content and hear from today's scientists and locals about the value of Madeira's heritage. Furthermore, the experience brings awareness on how now we have to act to preserve, protect and cherish all the biodiversity we have before it's too late.

"Fragments of Laura" is a fictional narrative delivered to its audience through a custom made location-aware mobile application that uses location-aware sensing to guide the audience to discover a fictional story developed around seven touch points, specially designed to deliver information about Madeira island's natural capital and its



value. The “FoL” mobile app was designed with the intent of making the audience discover certain locations in the historical part of Funchal to unlock parts of the story. The story is presented in the form of audiovisual content (2D motion comics), and interactive virtual reality scenes. At the end of each plot point, an interview clip, synthesized from in-depth recorded conversations with local scientists and local knowledge holders, is proposed to the participant, who can choose to watch or save it for late viewing. Furthermore, the full version of the interviews can be followed in the

“Há-vita” web platform, which collects a variety of scientific facts about the island natural heritage, collected and edited as video clips and available online. The “Há-vita” portal is designed to foster the intersection of the locative playable fictional story with journalistic style video interviews. In this way we have a transmedia experience, composed of two interconnected components: an online participatory portal (“Há-vita”) and the mobile context-aware story (“Fragments of Laura”).



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<https://havita.m-iti.org/fragments-of-laura/>  
 Smartphone Application, Web Platform, Virtual Reality



## BRINGING LOCATIVE MEDIA INDOORS: STRATEGIES FOR REMEDIATION

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### Introduction

Remediation, the representation of one medium in another medium, is a crucial concept to understand the emergence of New Media, and its relation to its predecessors (Bolter, Grusin, & Grusin, 2000). The concept of remediation offers a new lens to understand the emergence of Locative Media. Initially, the term 'Locative Media' defined the study and the practice of how GPS and wireless location-based networking affects people's notions of space and social organisation within space ("International Workshop 'Locative Media,'" 2003). GPS services can be understood as remediation of maps; not only are you able to access the same information a map would allow, it also, pinpoints your spatial position in relation to it. Later, the term 'Locative Media' became a synonym for media that blurred the barrier between the physical and the virtual world, using mobile media that augments experiences in real places through relevant geo-tagged information (Espinoza et al., 2001; Kjeldskov & Paay, 2005; "Proboscis," 2003). Therefore, works on Locative Media grow from being merely the remediation of GPS services, to include remediation of other mediums, such as cinema, augmented reality, and gaming, among others. In a way, Locative Media is constantly growing as it remediates new mediums into it.

Remediation is often inspired by a specific need stemming from the medium itself. For example, the digitization of books not only allows for widespread distribution of knowledge but also safeguards against the ephemerality of the medium, by actively playing a part in the curation and preservation of the work. Locative Media also encounters the issue of ephemerality, in particular in relation to

the context that it is experienced. As opposed to most New Media, which uses the virtual space as representational context, Locative Media adopts a critical approach towards the "decorporealized" screen-based experience, claiming the physical world as their territory, therefore being strongly site-specific. Although Locative Media is normally supported by a technological framework that is not ephemeral (or at least robust), the reliance on location as a medium or as context, makes Locative Media, ephemeral in nature. For example, sand paintings, sculptures made of organic materials that are designed to disintegrate, graffiti and guerrilla art (London, 2013), all use location as a medium, and therefore are highly depended on its ephemerality. The location can also be used to create context, where the visual link between digital media and physical locations can help generate what has been identified by Reid et al (Reid, Hull, Cater, & Fleuriot, 2005) as a "magic moment", a moment when the user experiences excitement or joy in overlapping the world they are living in with the world of the story being told. On one side, location and its ephemeral quality are a novelty/attractiveness factor to Locative Media experiences, since an "expiration date" creates urgency around the content and motivates participants to experience it. On the other side, most Locative Media works that use location as a context, are short-lived or limited time projects, due to the difficulty in maintaining the same conditions that make the project successful in the first place (Crow, Longford, Sawchuk, & Zeffiro, 2009).

While the site-specific nature of Locative Media as a core component of the work can be easily recognized, artists and researchers, often need to showcase their work outside the location to where it was designed for. This need

highlights the necessity of remediation strategies to deal with the change of location as medium and context. However, this fails to address issues such as conservation and documentation of ephemeral Locative Media. Therefore, in this chapter we explore how we can use remediation strategies to transpose the Locative Media art from the location where it was designed for, to a location where it is showcased or documented (such as art galleries, public events within conferences or museums). To address this need, throughout this paper we reflect on locative storytelling projects and artworks that we developed and the strategies utilized to adapt them to different contexts. Firstly, we provide some background on locative storytelling, namely, Location-Aware Multimedia Story (LAMS), a subgenre that our work falls into. We also look at the ephemeral nature and challenges in curating such works. Secondly, we review existing LAMS experiences and strategies we used to remediate them to be shown in different contexts. Finally, we conclude with a reflection on such strategies.

### BACKGROUND Remediation

Remediation (Bolter et al., 2000) is distributed along the dual logic in between immediacy and hypermediacy; both poles hold the intention of making the representation seem real. While immediacy tries to erase the media itself to achieve authenticity, hypermediacy on the other side inflates the media to achieve authenticity and a feeling of fullness. The extent of the remediation leads to different categorizations of the process. In a transparent remediation, the new medium is used to represent the old medium without adding to it (e.g. digitized text based on a book). In translucent remediation, the difference between the old and new medium is emphasized to highlight the superiority of the new (e.g., you can electronically search a document faster than its physical counterpart). In hypermediated remedi-

ation, the old medium is presented alongside the new (e.g., a website image gallery). In aggressive remediation, the new medium absorbs the old medium (e.g., a digital interactive narrative that counters the passiveness user experience of cinema). Finally, in refashioning remediation, the new medium refers to the old medium, such as when, a film borrows the same composition from another. Common to all of these is the central statement that all media is understood in relation to other media, therefore, the uniqueness of New Media refers to the ways that we reuse mediums or technology in different contexts to create different experiences.

### Location-Aware Multimedia Story (LAMS)

"Location-Aware Multimedia Story (LAMS) systems are a subgenre within the wider field of Locative Media" (Nisi, Oakley, & Haahr, 2008). Locative Media can be seen as the type of media in which the position and the change of position within a particular space is essential to their conception. Nisi et al. in their work (Nisi et al., 2008) defined LAMS as: "Cinematically rendered narrative content related to specific locations and embedded in real spaces through the use of location-aware mobile technologies. LAMS combine the mobility of the audience with the spatial distribution of the story contained in interactive, multi-threaded narrative experiences, to create a sense of place from otherwise unknown spaces."

In the work "Towards a Language of Mobile Media" (Dovey & Fleuriot, 2011), a dimension called "Arbitrary Mapping->Meaningful Mapping" describing the nature of an application related to the physical/social/cultural landscapes it pervades. For example, an application when is arbitrarily mapped onto a landscape, there is no semiotic or meaning-making necessary between landscape and application for it to make sense. While for a meaningful mapped application, the content relates to specific parts of the location and it would not make sense to run the application else-

where. Therefore, LAMS are encased in the Locative Media concept where a meaningful mapping occurs as the stories presented are strongly related to the locations. These spaces become “hybrid spaces”, digitally layered spaces where social interaction and communication patterns traverse through physical, digital, and a mix of both spaces (De Souza e Silva, 2006). While the strong mapping between LAMS and locations is beneficial to the creation of the story world, the ephemeral nature of locations endangers the resilience of LAMS.

### Media Ephemerality

Historically, the term “ephemeral” has been used to describe things that do not endure (London, 2013). Ephemerality, has recently regained attention and popularity with the appearance of ephemeral communication platforms (e.g., Snapchat, Instagram Stories, and Facebook Stories) (Cavalcanti, Pinto, Brubaker, & Dombrowski, 2017) and the ephemeral nature of these types of media leave users experiencing different types of loss. For example, Snapchat users experience media loss (the loss of an artifact), meaning loss (the loss of emotional and social significance of shared content), and context loss (lack of understanding of the conversation’s flow) (Cavalcanti et al., 2017).

In technology, most discussions of ephemerality revolve around the user’s limited exposure to media. This is, however, different in other areas leading to the separation of ephemeral work and ephemeral medium. While, an ephemeral work can be seen or heard only once (London, 2013), the ephemeral medium deals with the fragility of materials and harsh environments in which the works are presented and stored (London, 2013). In Locative Media,

particularly in LAMS, we find a combination of issues of ephemerality. Initially, back in the early 2000s, LAMS were highly dependent on custom devices as a support framework<sup>1,2,3</sup> (Collins, 2013). Eventually, the move to mobile technology that is more accessible and popular, gave rise to technology support frameworks that are more robust and easy to maintain (Avouris & Yiannoutsou, 2012; Bilandzic & Foth, 2012). As technology rapidly evolves, we risk obsolescence of the work, so the threat of ephemerality is always looming. A common strategy is to have LAMS artwork that is often only available for a limited amount of time, akin to performance art. This is intentional on the part of the creators to capitalize on the “urgency” of work, even though they risk making it inaccessible for future reach. Moreover, the spatial and time nature of LAMS is dependent on an ever-changing atmosphere of the location that it is designed for. The ephemerality of the context/location is a constant risk for the experience of LAMS. For example, if for some reason the location or ideal time of the day is not available, the experience might be sacrificed. All these risks to the significance and experience of LAMS, accentuate the need for preservation and curation of Locative Media.

### Curating locative artwork

*“The term locative art itself already points to a state of closure - locative is location-based and site-specific and thus implies access limitations” (Cook, 2008)*

The temporal aspect of an art piece and deals with the fact that a locative work used to become a permanent part of the environment or only exist there for a limited period

(Dovey & Fleuriot, 2011). This limitation affects the artist’s design decisions. It is far easier to have higher levels of technical support for a unique event than for a year-round installation. However, like Graham (Graham, 2011) points out in “Snapshots from Curating Mobility”, there is a gap between documentation and reality, and the occasional equally strange gap between artwork and audience in mobile artworks. As artists, we must also facilitate and work together with curators to increase the life span of the work. An absence of collaboration would be problematic for a curator to deal with the locative work without any specialist knowledge from the local community that the work relates to (Harding, 2003). Artists are the closest people to the conception creation of the art piece; its meaning and message. It is usually in the artist best interest to make the art piece as easy to curate and document as possible. When discussing LAMS, these tasks become an extension of the artwork itself, and the solution for this requires the inventiveness of the artists to pull together the factors of time, space, and a sense of context in recreating the artwork in the absence of those factors.

### REMIEDIATION STRATEGIES FOR LAMS

Due to years of experience working and developing LAMS projects, the need to move and showcase the work outside the locations that they were developed for, became pivotal. Furthermore, we identified the need for curation and preservation of locative projects. Over the next sections, four LAMS projects are discussed, alongside strategies taken to remediate the work, in the absence of factors such as time, space, and sense of context. Such approaches are aiming at remediating site-specific mobile interactive storytelling projects from the place where they were designed to be experienced into art galleries, public events within conferenc-

es or museums. The resulting work should not be seen as an extension of the work; rather, we defend that this remediation should be considered as an extension of the process of designing LAMS.

### 7 Stories: A location-based narrative experience set on Madeira Island.

Madeira, a small island in Portugal, has a very rich traditional culture full of superstitions and folktales, alongside a booming tourist market unaware of its lore. This provides a rich context to design and produce, 7 Stories, a mobile application, treasures traditional folklore and makes it available to locals, foreign residents, and tourists. Santa Maria Street was chosen as an appropriate setting for the experience, for being a long and straight path, easy to navigate by non-locals, still maintaining its traditional atmosphere. After collecting old anecdotes and folktales from the local tradition, these were scripted and adapted into multimedia productions. These story fragments are connected to the locations through the visuals of the video material. An example of this is the use of a real window and balcony in the street as referred by a narrator during the recounting of the story of Santo Antonio, to function as an anchor point in the setting where the audience experiences it. GPS technology triggers the narrated general introduction to the stories, while visual markers were placed as close as possible to specific architectural features related to the content of the story; each marker indicates the location of a story. The audience using the map-based mobile application, guided by the narrator voice, walk along the old street, and scan each visual marker to access the multimedia content. (Figure 1)

<sup>1</sup><http://polakvanbekkum.com/done/majorgps-projects/amsterdamrealtime>

<sup>2</sup>[http://terirueb.net/place\\_names/](http://terirueb.net/place_names/)

<sup>3</sup>[http://yolandeharris.net/?nk\\_project=sun-runsun](http://yolandeharris.net/?nk_project=sun-runsun)

<sup>4</sup><http://art.wayne.edu/jacob-gallery/past-exhibitions.php>





Figure 1 Participant using the 7 Stories application in Santa Maria Street, Funchal, Madeira



Figure 2 7 Stories in the Deep Design collective exhibition in Detroit, United States  
Photo Credits: DetroitSE0Expert (@DetroitSE0Exprt) and Elaine L. Jacob Gallery Wayne State University



Figure 3 Lucid Peninsula Original Physical Art Installation

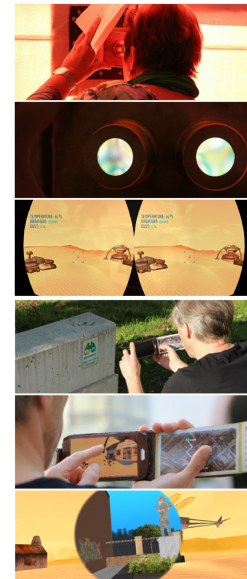


Figure 4 DreamScope: Viewer (Top) and Catcher (Down) in original art set up

## Remediation of 7 Stories

Since its completion, the project had been extensively showcased and published nationally and internationally (Dionisio, Nisi, & Leeuwen, 2010; Dionisio, Nisi, & van Leeuwen, 2011; Dionisio, 2015; Nisi, Costanza, & Dionisio, 2016). However, when the project was invited to participate in the “Deep Design – an exhibition about pace, place and personhood” collective exhibition at the Elaine L. Jacob Gallery Wayne State University, Detroit, USA<sup>4</sup>, a redesign of the experience was needed in order to make the experience a meaningful one for a public that knew nothing about Madeira Island, its culture urban spaces and aesthetics. A remediation was necessary that allowed for the exposition of the content, as well as the aesthetics of the interactions, for an enclosed space. The folk stories presented had a deep relationship with the location where they were presented, Santa Maria Street; by taking the experience off-site this relationship would be lost. In order to portray Santa Maria’s ambience and allow the user to experience the history and cultural background of Funchal’s downtown community, large posters with images of the related locations and visual markers (that unlocks dialogs and videos) were used. Similarly to the real setting, to uncover the site-specific stories, the user captures the visual marker displayed on the large posters by interacting with the mobile application. The interaction of capturing the visual markers remains the same as originally design, the adaptation focus on showing the original pathway and in giving context of the actual locations with photos. Posters are displayed along the gallery walls one per each physical location. One extra poster explains briefly how to interact in the experience and use the mobile phone. Mobile phones with the application installed were made available for visitors to use. To uncover the sto-

ries, visitors have to move along the posters capturing and visualizing the stories, as shown in Figure 2.

This remediation focused on using old mediums (posters/photos) alongside the new medium, to deliver hypermediation, using the sense of “fullness” to achieve authenticity. In this way, Madeiran folk stories were portrayed abroad and instill the curiosity about Madeira and its culture among the visitors. This art installation has given the visitors of the gallery the opportunity to “travel” to one of Madeira’s most authentic streets, meet our characters and their personal life struggles.

### Dreamscope: Locative narrative in lucid peninsula futuristic world

DreamScope is the interactive, stand-alone, self-contained portion of a larger art installation named Lucid Peninsula<sup>5</sup>. The goal of the Lucid Peninsula art installation is to immerse participants in a dreamlike, post-apocalyptic story world where changes to the Earth’s atmosphere have led to the emergence of new species, conditions, and ways of life, working as a pointer to our careless depletion of our planet’s resources. The artwork (Figure 3) was conceived as part of an EU-funded Project, led by Time’s Up arts collective<sup>6</sup>. The interactive DreamScope system was part of this installation. DreamScope is a Locative Media experience that complemented the physical installation, and reinforced the story world. DreamScope itself is composed of the Viewer and the Catcher. On one side, the DreamScope Viewer binoculars (Figure 4, Top) enable participants to see a VR representation of the Lucid Peninsula fictional world. After exploring the Lucid Peninsula through the Dream Viewer device, the audience could use specific mobile devices (DreamScope Catchers), adventure outside the gallery space

and “catch” the dreams of the inhabitants of the peninsula. The visitor goes outside the room of the physical installation and with the help of a simple map is challenged to find three different locations (a restaurant, a library and a garden) seen in the DreamScope Viewer. These sites are within walking distance of the installation. Carefully placed visual markers indicate the presence of content in the physical locations. Upon scanning the visual marker, the device loads a 360° VR environment representing the specific Lucid Peninsula location. In Figure 4 (Down), an example of the garden location can be seen. Participants can also touch the mobile device screen to create portals to see how the Lucid Peninsula world looked like before the changes in atmosphere affected the world; at the same time, audio narrations recounts dreams and memories of the inhabitants past. The Lucid Peninsula full installation was successfully exhibited in Austria and Romania, in the context of the exhibition “In-time Raume 2014” by IMA and Future Fabulators exhibition by AltArt<sup>7,8</sup>.

### Remediation of Dreamscope

DreamScope was conceived as integrating part of the Lucid Peninsula physical installation, we quickly came across the challenge of having to adapt the work to be showcased separately from the full physical narrative installation (as some of the artifacts were too big or fragile to transport, Figure 3). The difficulties in maintaining a meaningful context emerged. A first remediation was made within the scope of Creativity and Cognition (C&C) 2015 Art-Exhibition (Dionisio, Bala, Trindade, Nisi, Hanna, et al., 2015), where a recreation of the Lucid Peninsula physical installation with a limited amount of physical artifacts was done. Particular-

ly challenging was the adaptation of DreamScope Catcher to indoor space, as we no longer had the locations within walking distance to the exhibition venue; this was achieved by placing the visual markers inside the Lucid Peninsula physical installation (Figure 5). This remediation used physical artifacts to achieve hypermediation, but these artifacts are not used to authenticate the real world, but rather to authenticate the story world.

Later on, a second remediation was made to the piece in order to showcase DreamScope as a demonstration at ICIDS Art-Exhibit 2015<sup>9</sup> and in Interactive Tabletops and Surfaces in 2015 (ITS 2015) (Dionisio, Bala, Trindade, Nisi, Nunes, et al., 2015). In the first case, the venue of the exhibit was The Diesel House Museum (Figure 6). Similarly to the C&C set up, the installation setup was complemented with a limited amount of physical artifacts and with a large panoramic image of the Lucid Peninsula landscape to provide context to DreamScope Catcher. The large poster was positioned on a wall near the Viewer device; on the poster, the audience found special icons placed near the depicted locations where dream activity should have been detected (through the previous visual scanning of the landscape with the Dream Viewer). The poster served not only as a way to attract visitors to the experience but also, and more importantly, to provide a link between the locations, the visual markers and the 3D environment. This remediation again uses both physical artifacts and the poster to create a hypermediated experience, and aim at authenticity for the story world.

<sup>5</sup><https://futurefabulators.m-iti.org/projects/DreamScope/>

<sup>6</sup><https://timesup.org/LucidDreaming>

<sup>7</sup><https://futurefabulators.m-iti.org/lucid-peninsula-cluj-napoca/>

<sup>8</sup><https://futurefabulators.m-iti.org/767/>

<sup>9</sup><http://icids2015.aau.dk/exhibition/screen-shot-2015-11-14-at-06-34-47/>



Figure 5 Top: DreamScope set up at Creativity&Cognition 2017  
 Middle: Participant using the DreamScope Viewer  
 Bottom: Participant using the DreamScope Catcher



Figure 6 Setup of DreamScope installation at ICIDS Art-exhibition 2015



Figure 7 Left: Participant using the Yasmine Adventure's application in Berlin, Germany;  
 Right: 3D and 2D content of Yasmine Adventure's

### **Yasmine's adventures: Mixed reality story trail through the Mehringplatz neighborhood in Berlin**

Yasmine's Adventures (YA) is a Locative Media experience designed to engage visitors of the renowned Jewish Museum in Berlin, in getting to know the streets and multiethnic community of surrounding areas. In this work, the audience explored the neighborhood in search of Yasmine, a fictional character, whose adventures are depicted as 2D multimedia animations embedded in a 360° Virtual Reality reconstruction of the surrounding neighborhood. Community members identified attractions or potential issues, marking them as pleasing, disagreeable, or potentially transformational therefore, the issues and places highlighted by the community members served as a backdrop for the story of our Locative Media experience. Based on these points of interest (POI), a trail was designed through the neighborhood connected to the story of Yasmine. In each POI, a visual marker was placed in such a way that it is safe and accessible for the visitors to stop, capture and view the content; the audience was required to find and capture these markers with their mobile phone cameras in order to progress with the story of Yasmine (Figure 7). Once detected, the markers triggered a 3D navigable landscape, mirroring the landscape where they are viewing the content. As participants navigate that particular landscape, they unlock 2D animation clips corresponding to fragments of the story. The story was designed to be experienced sequentially.

### **Remediation of Yasmine's adventures**

As Yasmine's Adventures was completed, once again, there was a need to showcase the project indoors, for conference demonstrations and exhibitions (Dionisio, Barreto, Nisi, Nunes, Hanna, et al., 2015; Valentina, Dionisio, Hanna, Ferreira, & Nunes, n.d.). Far away from Mehringplatz, the issue was to immerse our audiences in the locational context,

create curiosity and interest in our story and the neighborhood, while being elsewhere. A similar strategy to the 7 Stories project was taken by having some of the most relevant locations of the physical streets of Mehringplatz represented through large size posters. The size posters display specific points, where the markers were originally placed: outside the Jewish museum, the playground, the construction site, and so on and allow the users at the exhibition to capture these markers, and experience a 3D environment representing the real streets of the neighborhood. The original experience and the remediation engage the participants in the 3D environment that reproduces the Mehringplatz neighborhood accurately, giving the audience the possibility of navigating the streets and stories of Berlin from a remote location. The 3D environment gains a new meaning in the remediation: while in the original, it was meant to challenge the visitor in finding the content, in the remediation, it also contributes to the creation of context alongside the photo posters (Figure 8).

### **Fragments of Laura: A locative media tour inspired by madeira's cultural and natural heritage**

Fragments of Laura (FoL) is a transmedia project inspired by the UNESCO's World Natural Heritage Laurisilva Forest of Madeira, allowing the audience to experience different historical times of Madeira's cultural and natural heritage. FoL contains a Locative Media fiction, as well as a website (Há-Vita) designed to create a bridge between the locative playable fictional story with journalistic style interviews that provide current in-depth information about the local heritage. In FoL locative tour, the narrative takes place in the 19th century and follows the life of a young woman championing the importance of the local biodiversity and the Laurisilva forest. Both the locative tour and the web platform aim to create awareness about how we have to act to preserve, protect and cherish biodiversity.

Motivated by the design of conventional location-aware multimedia stories, "Fragments of Laura" is delivered as a mobile application, which makes use of a map interface, guiding the viewers to encounter meaningful content in seven specific locations of the city of Funchal (Figure 9). Each location is associated with one of the story plot points and a natural or cultural heritage phenomena and its icon is representative of this association. Bluetooth beacons along the way unblocked the story content, point by point. Six touch points of the story are realized as 2D video animations, while one is an interactive 3D reconstruction of Laura's pharmacy/laboratory dating back to the 19th century. Additionally, 6 audio clips (distributed across the main story path) serve to fill in background details of the story, in the form of gossips between supporting characters. After each location, a small clip referencing the content of the Há-Vita platform can be viewed.

### **Remediation of Fragments of Laura**

Fragments of Laura was remediated to be shown in ICIDS 2017 art exhibition<sup>10</sup>. The original mobile application was designed to trigger the content upon the arrival of the audience at specific locations by using a combination of GPS coordinates and Bluetooth beacons. For the adaptation to be effective physical tokens, designed in laser cut, were used to encase the Bluetooth beacons. The tokens depicted the real physical building that they were representing (Figure 10). A map of the city center was used as the base for the physical tokens. The visitor of the gallery could use the mobile application to scan the tokens placed on the map and trigger the appropriate story content (2D animations, Audio Gossips and VR interactive Scene).

Alongside the map, a computer displayed the Há-vita website, providing further scientific facts about the biodiversity of the island. We believe this set up design provides our audience with a rich engaging experience of

the transmedia intervention, triggering interest about the natural capital of Madeira island while providing the means to delve deeper into it by browsing the web documentary available beside the installation.

Inspired by Virtual Reality's immersive power, and "VR is not a technology; it's a destination" (Biocca & Levy, 1995), Fragments of Laura in VR is being developed to be used in future exhibitions. The incorporation of VR allows for an aggressive remediation, as the use of the new medium absorbs the old medium and creates a new experience. This is supported by VR's power as metamedium, a medium that can encapsulate all others (Biocca & Levy, 1995). MappingFragments, building on the previous installation's use of maps, uses a Virtual Reality Head Mounted Display (HMD) to immerse the participant in the experience. The participant, by wearing a Samsung Gear VR HMD, is placed beside a multilayered topographical map, and placed in the middle of a virtual room. The goal is to recreate virtually the actual locations where the locative tour takes place. The 3D virtual reality map is then augmented with buttons placed exactly where the stories are located in the real world. When selected, the buttons unlock the story content. Participants can explore the map in two levels: "Room level" and "Map level" (Figure 11). The first, "Room level", allows the participant to walk around and over the map, getting a bird's eye view of the landscape. The second level, "Map Level", places the participant in the map itself, being able to virtually walk. Currently we are analyzing how additional media (panoramas, videos, and images) could be added to enrich the virtual world in agreement to the real world in order to promote a deeper connection with the location. This would allow for hypermediacy in the remediation, creating authenticity in the representation of the context.





Figure 8 Posters with embedded markers and Participant capturing a visual marker (left side) and interaction with the Yasmine's Adventures mobile application (right side)

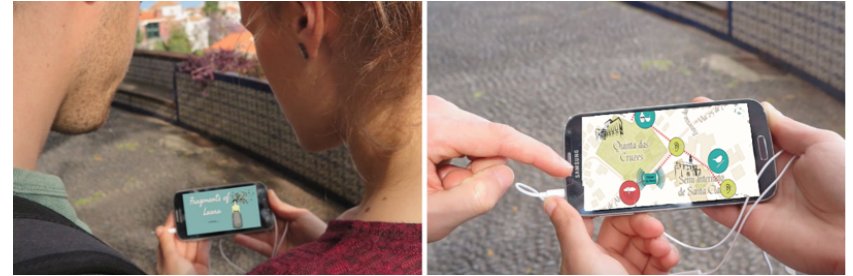


Figure 9 Participants using the Fragments of Laura application in São Pedro parish, Funchal, Madeira



Figure 10 Fragments of Laura installation at ICIDS 2017

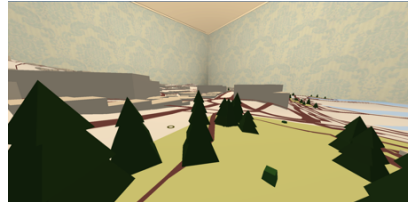
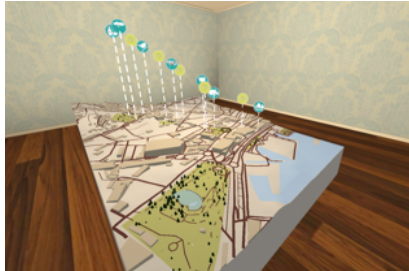


Figure 11 Fragments of Laura tour locations represented in VR; On the Right Side Room Level (Left Side) Map Level (Right Side)

## REFLECTING ON LOCATIVE REMEDIATION STRATEGIES

As artists and researchers, developing artworks in the field of Locative Media, a need to think beyond the site-specific installations has emerged; in other words, there is a need to think of ourselves as curators as well as creators. With locative technologies becoming widespread, concerns shift from the endurance of the digital artifact to the conservation and meaningful display outside the original locations.

The challenge in curating Locative Media is on how to preserve the original meaning of an experience, which is meant to be complemented by a specific physical space, its colors, atmosphere, noises and architecture. In the case of Locative Media artwork, this is quite a complex endeavor since the curator might not be familiar with the original context of the work. Most locative artworks are constructed to be mediated around a specific place and its characteristics; when the place changes, the work has to be deconstructed, remediated and still deliver the same experience for the audience. While it might not be always possible to authentically recreate the same experience elsewhere, thoughtful documentation can be already designed from the moment of the creation of the work to support the process

of remediation when needed. Therefore, the artist should be available during the curatorial process as they have first-hand knowledge of the original context; this ensures the durability of the art piece, if some unpredictable event (e.g. a flood or fire) occurs in the original location.

We applied remediation strategies to locative artwork to deal with the change of location as medium and context, as well as, the technological support framework. We consider location as medium when we use the physical characteristics of the urban environment to foster interactions (e.g., a graffiti that unlocks content; a series of GPS coordinates that guide the participant through a path). Furthermore, we consider location as a context, as the social, cultural and environmental mood where the Locative Media is placed. Each remediated artwork explored different remediation strategies applied to location and technology, resulting into different outputs of Locative Media artworks, with not only different ephemeral qualities, but also with different curating and scaling qualities.

## Strategy 1: Remediating location as a medium and as a context

In all of the presented projects, location as a medium was remediated either through: the use of average size posters with photos of the locations in the case of 7 Stories; human size posters and 3D virtual representations of the locations in the case of DreamScope, Yasmine's Adventures and MappingFragments; physical map and reactive tokens in the case of FoL (first remediation). Different approaches revealed some pros and cons. For example, the large posters offer a good sense of place and connection between the location and the available content. However, this might not be suitable for Locative Media projects with many locations, as it would require a large installation space. On the other side, accurate/detailed virtual representations of the location offer an immersive alternative to the real urban location. As a caveat, they are time-consuming to develop unless they are automatable generated (e.g. by using Google Street View or tilemap services).

The location gives context to the work itself and achieving a remediation of it might suffice, but other times, extra content needs to be crafted in order to complement the work and deliver a meaningful interaction for the audience. For example, in the case of DreamScope Catcher, the fabrication of the poster (Figure 6) not only served to show the virtual world to participants but also made connections between mediums as the poster connected the virtual locations, the visual markers and the interaction with the DreamScope Catcher. Adding the poster and placing the visual markers next to the locations allowed of a contextualization of the content, as well as, a clearer connection between mediums.

In summary, when exhibiting a Locative Media artwork indoors, we recommend the artists/curators to carefully contextualize the project and provide a clear explanation to the viewers of how to use the medium, before initiating

the interaction with the work. When artists can serve as hosts, they can directly provide the context and help participants to engage with the work when needed, but when this is not possible additional material is required. For example, in 7 Stories ("Deep Design" exhibition), an extra poster explaining the project and giving instructions was designed and placed before the artwork, explaining context, medium, and purpose of the work. This was instrumental for viewers to engage and understand the exhibit.

## Strategy 2: Remediating technology

GPS technology is one of the most used technologies for Locative Media projects that take place outdoors. However, when remediating the experience for indoor exhibition, the GPS technology, only working for outdoors spaces, must be substituted. In 7 Stories, DreamScope and Yasmine's Adventures, visual markers were used as anchors of the content. Other types of technology can also be used to achieve this. For example, the use of Bluetooth beacons can reduce one step in the interaction flow, as participants are no longer required to "capture the marker" to access the content. These differences can bring about important changes in the user experience and need to be carefully thought through. For example, in FoL, the participant only needs to approach to the physical token with their phone in order for the content to be automatically triggered. While in Yasmine's Adventures we decided to maintain the markers as triggers, as taking pictures in the neighborhood context was part of the desired experience we had designed for the viewers. Moreover, in MappingFragments, locative technologies are completely replaced by VR, making the experience easy to curate and available from basically anywhere. In this remediation, the use of VR allowed for an aggressive remediation with a deep change in the interaction between participant, location and content.

There are pros and cons in the remediation of locative artwork. On one side, we recognize the ephemeral nature of the original Locative Media artwork as creating special experience for the participants. On the other side, there is value in having a curated experience and being able to preserve it. Specifically, since Locative Media art is currently not preserved and cannot be collected, to the eyes of the art world it is hard to put a commercial value to it, as one would do for a physical item like a painting. The recognition of Locative Media artwork as collectable might be important to further develop these types of works and attract more artists to create them.

As reflecting on this topic, we should note the irony that often LAMS artwork curates content to prevent it from vanishing, such as oral history or folklore (Bilandzic & Foth, 2012; Ciolfi & McLoughlin, 2012; Kwiatek, 2012; Nisi, Oakley, & Haahr, 2006), but the artwork itself is not curated. During our endeavors in searching for strategies on how to adapt locative artworks to be exhibited and curated indoors, we came across many locative efforts but a vast majority of them could not be experienced anymore. Their essence was lost either because of technological obsolescence, loss of context or change of context. This aligns with the need for artists to preserve, curate and remediate locative artworks for future generations. While some scholars are embarking in commendable efforts to preserve and document locative media (Packer, Hargood, Howard, Papadopoulos, & Millard, 2017), we hope that the approaches described in this paper, act as a stepping stone in inspiring other creators in remediating past, present and future Locative Media artwork.

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