

Title: Open Access Interactive Storytelling Project on the *Manasamangal Kavya*

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Overview of the project:

This project seeks to design an interactive storytelling game – mingling local folklore and climate disasters – and use it to conduct qualitative ethnographic surveys, to gauge audience responses to a number of subjects, both in and outside the Sunderbans. The game aims to be a digital archive of local stories, practices and art along the Sundarbans terrain. In the process of seeking audience responses to the game (from subjects in and outside the Sundarbans), the investigators will be able to conduct a qualitative survey of audience reception, and consequent mapping of cultural attitudes at the intersections of gender, class, caste, climate vulnerability, folk religion and living practices. We envision that analyses of normative attitudes, biases, stereotypes around the Sunderbans, the folk goddess Manasa and the female protagonist Behula of *Manasamangal Kavya*, will throw light on the cultural construction of ‘natural’ or ‘wild’ spaces of the Sundarbans and the prescriptive roles women are assigned within these narratives. Popular religious folklore, like the *Manasamangal Kavya*, have the potential to be deeply subversive even as they may appear rigid, conservative and unequal. This game and the consequent study of audience responses within particular focus groups from the Sundarbans area and its heuristic opposite, Kolkata, will not only act as an intervention not only within Digital Environmental Humanities and Indianised digital pedagogy, withholding minimal/green computing strategies, but also address gender-equal normative practices and intangible heritage conservation.

Research Methodology:

- Storyboard – synthesizing folklore with contemporary, localized climate disasters and cultural topography leading to a piece of ‘interactive fiction’ that will be made freely accessible, and open to modification/addition based on initial audience reception. Interactive fiction can take the shape of choose-your-own-adventure stories or text adventures. In addition, because of the way the textual interface can be simultaneously linear and nonlinear, this allows for multiple readings of the same text, contingent on path of approach.

- Study of the implications of the game components and audience responses on discourses around gender, natural resource management (river, forests), and the emphasis on community engagement for environmental crises, political ecology and intersectional feminism
- Archive of the game's structuration and audience reception
- The interactive game will be constructed of:
 - Data structures that will act as placeholders of:
 - Composites of <GIS, art (audio, video, art), time-frame> data
 - These composites are to form the foundation of time-maps of the Sundarbans terrain – envisioned to be digital archives of the art, stories, practices in sync with the terrain
 - This would not only require data-collection and annotation but would also involve application of AI algorithms to extract patterns of data-flow across terrain and time. These patterns are envisaged to assist in stitching data composites into a digital story.
- Major research challenges:
 - Encapsulation of the affective elements of the stories in these data structures in the game – can we create an emotionally immersive experience for the player?
 - Semantic segmentation and pattern recognition of multimodal information to build story trajectories - through the narrative as well as through time
 - Constructing a digital archive of not only the past and the present, but also extrapolate patterns of the future of issues like: modulations in art presentations (e.g. techniques, use of colours, use of words, practices, use of material)
 - Mechanisms to measure the depth of interaction of the player through the game or narrative at real-time. This leads to the question of can the game be designed to evolve - without compromising on its relevance?
 - Application of green computing principles towards a time-space-compute effective system, considering the difficult environment of the Sundarbans - for which the game is primarily to be designed.

Deliverables:

- An open access interactive storytelling game (tailor made for the Indian audience).
- Qualitative ethnographic surveys of responses from within and outside Sunderbans to map distinctions in perception and identification of cultural attitudes at the intersections of gender, class, caste, climate vulnerability, folk religion and living practices.
- Academic publishing based on the data gathered through the construction of the game, gameplay, storyboarding, the surveys, and their implications for the gaps in extant models of environmental/ecological pedagogy insofar as the representation of vulnerable biospheres is concerned will involve three academic articles and one monograph.
- Organize a seminar on environmental humanities and/as digital humanities, focusing on the need for open access cultural/pedagogical resources and minimal/green computing.
- Proceeds of seminar to be published as an anthology of essays to promote public engagement. This will also offer an opportunity for brainstorming with stakeholders from different sectors (NGOs, Educators, Environmentalists, STEM participants) to explore the efficacy of such projects.
- Time-space-compute effective working multimodal data-structures capable of acting as placeholders for <GIS, art (audio, video, art), time-frame> information for the proposed game. These can be envisioned to be of use in other similar game-platform designs.
- Data compilation on affective engagement of players, to serve similar digital storytelling initiatives and enrich data for qualitative ethnographic survey.

- Measures of player interaction at real-time and methods of affective engagement of the player with this game - which could be extended to similar digital storytelling initiatives.
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