

The *Chimeria* Platform: User Empowerment through Expressing Social Group Membership Phenomena

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1. Introduction

Computational modeling of social categories can be found in a wide range of digital media works. For example, within computer role-playing games (RPGs), racial categorization is often used to style the visual appearance of a player’s avatar or trigger different canned reactions when conversing with a non-player character (NPC). In social media, users might join groups based on shared taste or categorize each other into groups such as “colleagues” or “family members” using privacy settings. However, in most such systems, category membership is determined in a top-down fashion. Members are often slotted into single, homogeneous groups, with no possibility for hybrid identities, identities that exist at the margins of groups, or identities that change over time. Taken holistically, such approaches have many limitations. These deficiencies are particularly visible when trying to accurately model the nuance of social category membership in the real world.

Our *Chimeria* platform (hereafter *Chimeria*) addresses this deficiency. It create more nuanced social categorization models in two primary ways: (1) by modeling the underlying structure of many social categorization phenomena with our *Chimeria* engine; and (2) by enabling users to build their own creative applications about social categorization, using the engine as a backbone. Drawing on theories from sociolinguistics (Polyani, 1989), cognitive science (Lakoff, 1987), and sociology of classification (Bowker and Star, 1999), the underlying engine allows for the movement of individuals within, between, and across social categories. It also allows for members to be more central to a group than others, to assimilate or naturalize in relation to a hegemonic group, and to claim membership in multiple groups. In this paper, we discuss the components of *Chimeria* and two sample applications built with it.

2. The *Chimeria* Authoring Platform

Chimeria supports authoring narratives of group membership in any social identity domain through a data-driven approach. *Chimeria* is divided into three components (Figure 2).

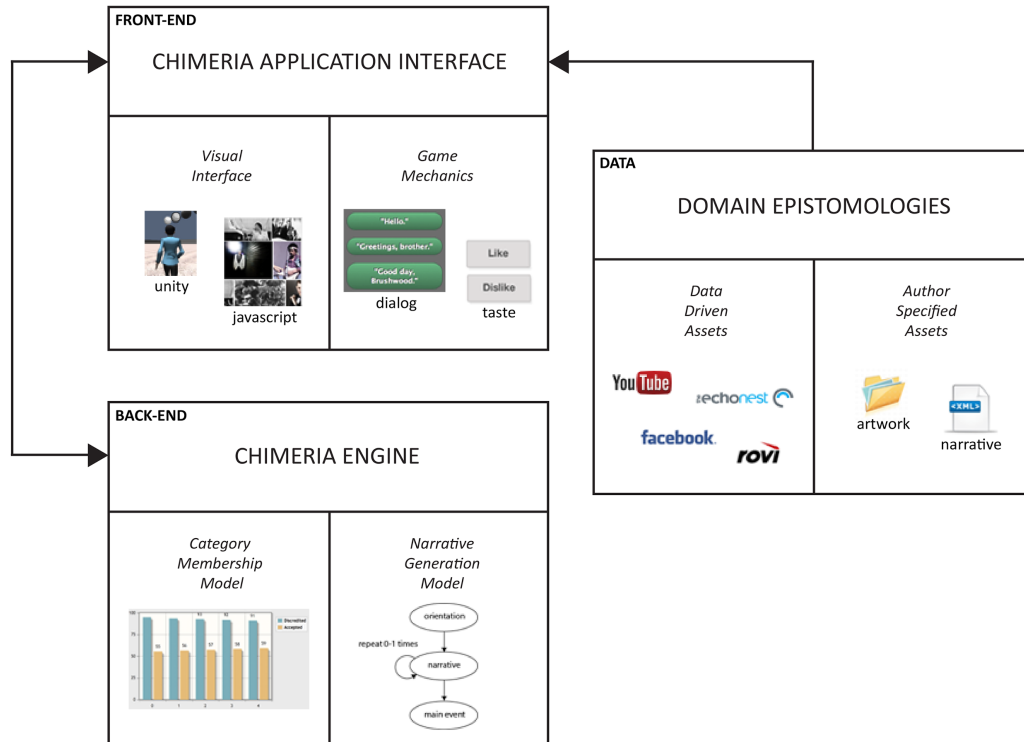


Figure 1: The Chimeria Platform

1. **Chimeria Engine:** A mathematical model of users' degrees of membership across multiple categories. It provides the functionality to calculate, modify, and simulate changes to these memberships and serves as the logical processing component of the system. It models users' category memberships as gradient values in relation to the membership values of more central members (Harrell, 2010; Bowker and Star, 1999; Lakoff, 1987). This enables more representational nuance than binary statuses of member/nonmember. Narratives processed by *Chimeria* are authored using a GUI or in the XML file format with a narrative structure as described in (Harrell et al., 2013).
2. **Chimeria Application Interface:** A visual interface for user interaction and for experiencing the narratives related to the category membership changes driven by the *Chimeria Engine*. It provides freedom and flexibility over the aesthetic and visual components of narratives. The interface can take on multiple forms (e.g., a text-only interface or a 3D virtual environment).¹ The separation between the back-end (the *Chimeria Engine*) and the front-end (*Chimeria Application Interface*) provides the flexibility to go through the same narrative trajectory in relation to membership shifts but with varying visual appearance.
3. **Chimeria Domain Epistemologies:** An "epistemology" is an ontology that describes cultural knowledge and beliefs (Harrell, 2013). In *Chimeria*, they are the knowledge representations describing the categories being modeled. The data utilized by *Chimeria*

¹ We have additionally implemented a small demo showing the applicability of *Chimeria* to a 3D game interface built in Unity.

to present these categories to users include both author-contributed (e.g., artworks or narratives) and data-driven (e.g., an API call to YouTube to query for a video) assets.

3. *Chimeria* Application Domains

To better illustrate the capabilities of the components within our system we describe two very different narratives created using *Chimeria*: 1) a fictional social networking application which models social categories in the domain of musical preferences (Harrell, 2013); and 2) a computer role-playing game (RPG) scenario which models a conversational narrative between the player and a non-playable character (NPC).

3.1 *Chimeria*: Musical Identity Social Network

In *Chimeria: Musical Identity Social Network*, the *Chimeria Engine* models category membership based upon musical preferences that are automatically constructed from a user's set of music "likes" (binary indications of positive valuation) on a social network profile. These "likes" constitute a set of musical artists from which we extrapolate, using commercially available musical classification data, moods (e.g., cheerful, gloomy, etc.), themes (e.g., adventure, rebellion, etc.) and styles (e.g., film score). This provides the context for non-binary group membership and passing (the "ability of a person to be regarded as a member of social groups other than his or her own...generally with the purpose of gaining social acceptance," (Renfrow, 2004)). Each user's set of moods, themes and styles, then impacts the generated narrative in fundamental ways. We construct a conversational narrative on a social network structured by a model of conversation from sociolinguistics (Polanyi, 1989).

The *Chimeria Application Interface* consists of a procedurally generated photowall: a dynamic collage of photos representing the user's musical taste preferences. A feed of recent updates, posts, and invitations appear in an adjacent vertical timeline (see Figure 2). The system reacts to the user by generating interaction events from computer-controlled users who make up the user's social circle within the system.

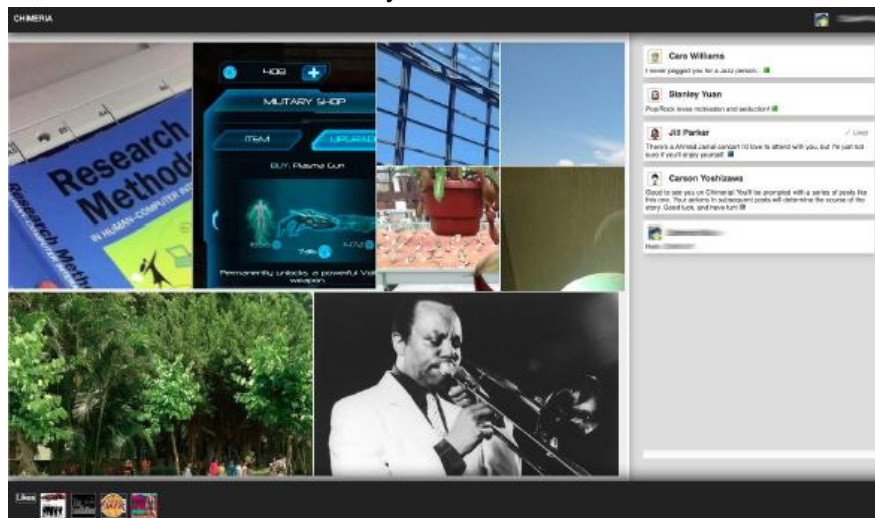


Figure 2: A screenshot of the *Chimeria: Musical Identity Social Network* application interface

Figure 3 presents a screenshot of *Chimeria: Musical Identity Social Network*. Using musical preferences from the user's Facebook music likes or by manual entry, a hybrid real/fictitious narrative experience progresses over time. A series of dynamically generated posts by the user's friends (non-player characters) comment on the user's membership within one or more musical affinity groups (i.e. "You're a raucous rock fan now?" or "Want to hear some airy jazz music?"). The user may "like," "dislike," or simply ignore these posts, resulting in group membership changes illustrated by alterations to a self-updating "photowall." Some friends might question newly discovered interests, while others might pass judgment on prior affiliations. The resulting narrative may describe passing or assimilating as a member of a new group, reinforcing a prior group affiliation, or even being marginalized in every group. Some groups are deemed oppositional, privileged, or marginalized relative to others.

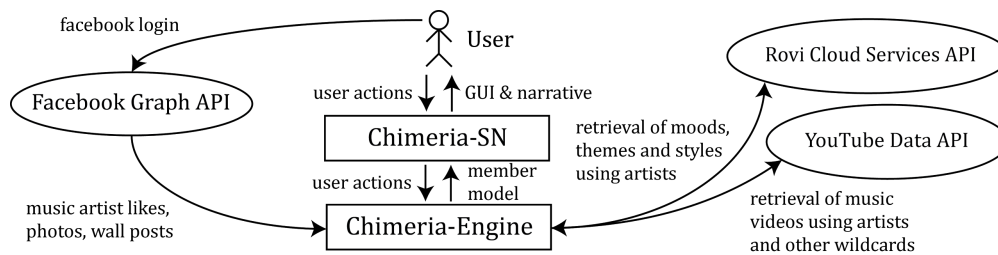


Figure 3: The Chimeria Platform Applied to Musical Identities in a Social Network

3.2 Chimeria: Gatekeeper

Chimeria: Gatekeeper models a common RPG scenario – a player trying to gain access to the inside of a castle. Within this sample application, we demonstrate the power of the *Chimeria Engine* for enhancing this scenario by modeling more complex, adaptive, and nuanced conversations between PCs and NPCs, overcoming limitations identified in other videogames (Harrell et al., 2014). Figure 4 shows a preliminary visual design from *Chimeria: Gatekeeper*.

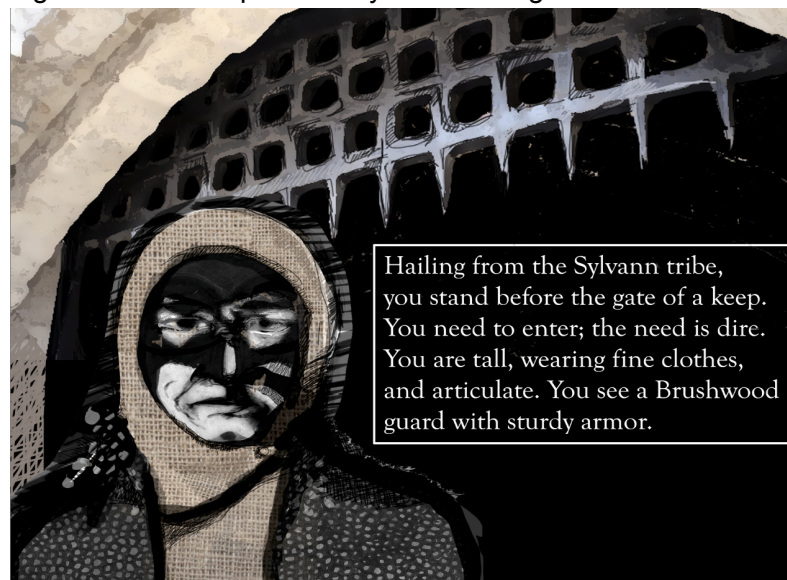


Figure 4: *Chimeria: Gatekeeper* preliminary scenario visual design

Drawing on the work of Erving Goffman (Goffman, 1963), *Chimeria: Gatekeeper* attempts to model the effect of stigma on conversation. Within the scenario, the PC is initialized to the ‘discredited’ category and the NPC to the ‘accepted’ category. The accepted category is prototypically defined as the Brushwoods race – short, plain-spoken, and wearers of rough spun clothing. The discredited category is prototypically defined as the Sylvanns race – tall, well-spoken, and wearers of fine clothing.² To gain access to the inside of the keep, the player has to convince the guard that she or he is among the accepted category, in effect “passing” as a member of the category that has been instantiated as “accepted” (Harrell et al., 2014).

User actions and responses (e.g., slouching to adopt the posture of a prototypical Brushwood or displaying fine Sylvann clothing) incrementally shift the NPCs model of the PCs membership with respect to the categories, bringing the player closer to gaining access to the keep or to being rejected. Internal thoughts of the PC emphasize trade-offs between gaining utilitarian access to the keep and the loss of self-identity that can occur in trying to pass. The guard’s responses of approval or disapproval respond accordingly to chosen actions. A transcript of a run-through of *Chimeria: Gatekeeper* is shown in Figure 5.

Using Goffman's notion of impression management, we handle alternatives to the common trajectory of intentionally passing by considering other player decisions such as **voluntary disclosure** of stigma and **slipping** (trying to pass as a member of an accepted category, but failing). The modeling of passing and social categorization membership in *Chimeria: Gatekeeper* seeks to capture the stakes and power relationships often at play in real world social interactions.

² We implement both “abstract” categories such as ‘accepted’ or ‘discredited’ and “concrete” categories that can instantiate them. This enables a great degree of flexibility for changing social dynamics within different contexts in games or different games altogether.

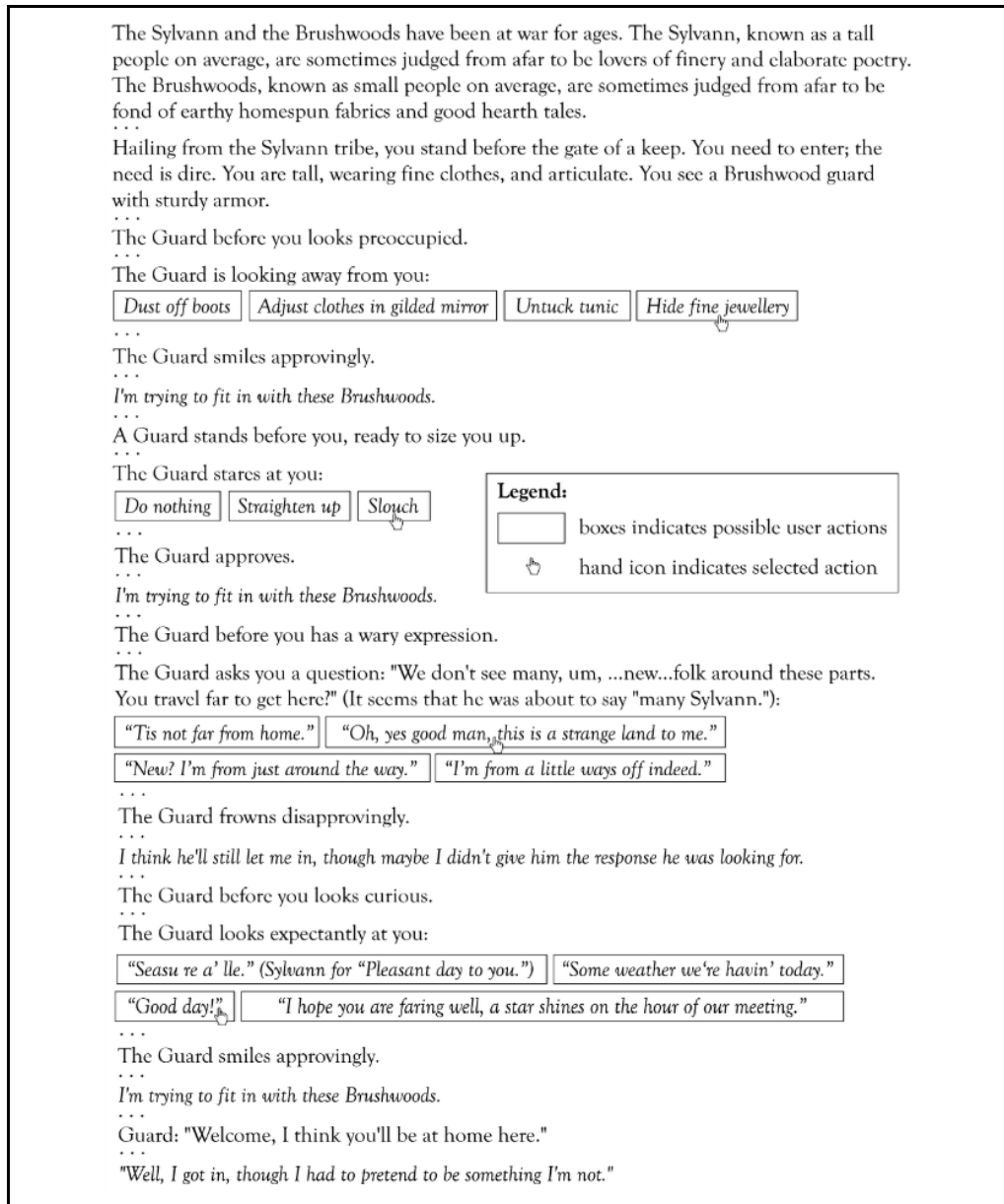


Figure 5: Chimeria: Gatekeeper sample run-through

4. Conclusion

In this proposal, we have presented *Chimeria*, a platform for creating and analyzing narratives related to social group membership. By modeling character identities in a dynamic and nuanced fashion, we explore complex identity phenomena. By modeling social identity phenomena related to categorization, we use *Chimeria* to suggest how to better critically examine and express how identities are negotiated using digital media systems.

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