

Roman Larionov

Professor Schwartz

ENC 1102-45

12 October 2015

Genres Facilitating An Augmented Reality Future

Augmented Reality as a field of study has only recently received any substantial advancement. It is only within the past four years that independent teams of researchers have banded together in an attempt to realize this brand new form of computing. To say that this period of time is exciting would be an understatement. Microsoft HoloLens, the first consumer grade augmented reality (AR) product is close to an official launch date. Will it revolutionize the world? Doubtful, as the its range of capabilities and useful applications will surely be limited so early within its lifespan. The AR field, along with the HoloLens would not be a talking point today if it were not for the diligent researchers in the private sector and academia pushing the boundaries of this technology. Researchers in AR are very sparse at the moment, but are gaining in relevance and respect with each passing year. I, myself am fortunate to be a member of the Interactive Systems and User Experiences Lab (ISUE), an academic AR research group. For the extent of this paper, the processes of this discourse community will be discussed, along with the choice of genre sets this discourse community utilizes in its attempts to achieve its various goals.

ISUE is the main discourse community of observation within this paper. It is a human computer interaction (HCI) research cluster that focuses its efforts in the augmented reality (AR) subspace. It is located in the center of the University of Central Florida (UCF) and has been home an auspicious set of previous accolades and achievements. The community contains a mixture of undergraduate and graduate students, post-doc faculty, as well as a leading research director, each with their own personal research objectives. Personal objectives might be seen as inconsequential

towards the description of a discourse community as individual members will most certainly be focused on different objects of study; while this is true, one must understand that it is not commonality of study that enables the sharing of a discourse community, but the overall commonality of purpose (Swales 220). ISUE as a collective has such overarching aspirations that help it to maintain sustainability in the long term. The overall purpose is to conduct science; members perform experiments to test novel concepts in the aim of furthering humanity's extents and capabilities. After the process of experimentation has concluded and results documented, a need for those capable to examine and review such results through a process of peer review. Using research papers as the ubiquitous genre for detailing any conclusions that have been made garners a means by which to facilitate this process. Publication of an inventive coding design, user study result, or novel technique or algorithm pertaining to the AR subspace is the final step of a project's lifecycle and encourages new members to join, reputable outsiders to award reverence to, and grow ISUE as a discourse community.

Fundamentally, ISUE is a team environment and as such requires specific forms of genres to establish a cooperative space for publications to be achieved. An assortment of genres are used to propagate efficient communication between those within as well as those outside of the discourse community. A spectrum, which ranges from instant messaging to email chains to weekly member meetings, gives members the ability to relay relevant information to other members in the appropriate manor. Whether a novice needs advice on discourse community mechanisms or an expert needs to broadcast critical news in a widespread manner, every base is covered through this spectrum. On the other hand, publications as a genre serve as the principal method of interaction with outsiders in a structured and coherent way. Both forms of genre play an important role in furthering the aims of ISUE, albeit for different purposes.

The inter member genre set of ISUE provides members with various mediums through which to promote team building and problem solving. Slack is an instant messaging tool that ISUE uses for quickly informing members of personal accomplishments and project updates as they happen. It allows for subgroups to be made, with easy entry permission management, so as to create chat rooms whose topic of conversation can be focused onto distinct subjects, such as AR or HCI. This enables someone who is in need of assistance to ask team members for help in the most direct fashion available outside of meeting face to face. The texts produced in these chat rooms can at times be terse, low-level, and contain lexis which are heavily specific to AR research based problems. Besides a way to probe for assistance, Slack also offers members the opportunity to exercise team building techniques. Members can make banter and chat light-heartedly; which helps to develop a sense of comradery. Slack can be thought of as the grunt workers hangout, as in, those who deal with the implementation and development of code are the low level undergraduate and graduate students. As a result, higher level faculty members do not use Slack for communication.

Email chains act as the primary form of genre through which senior discourse community members interface with their subordinates. This is a sparsely utilized genre and is slower to propagate throughout the discourse community than Slack, but is important nonetheless. This genre is presented in a formal and professional tone. Email is widely used in a nearly every field imaginable, so an extensive explanation for their usefulness is not entirely necessary, but within the ISUE community their purpose is very specific and holds a special role. They are the primary method for senior members to broadcast critical information to the lower level staff. Senior level members hold the main responsibility for interacting with influential and important figures from outside the ISUE discourse community. These figures can be anyone from investors, patrons, or even potential collaborators. These are people who represent a company, university, or government facility; for such an audience, email is the genre of preference. If ever a piece of information needs

to be shared, senior members simply forward the email chain to inform the rest of the discourse community. This information can include: an update about a visiting outsider, a major project guideline update, or even an alert for the arrival of a new tool or technology. Email is not optimal for every situation though, especially in the case where announcement details tend to be very intricate in nature.

Meetings are the grounded method for dealing with such instances; as a genre, they act as a checkpoint for insiders to be made aware of each other's work status as well as an introductory tool for any prospective newcomers. ISUE's meetings are a chance to congregate in a central location at a static time towards the end of each week. The prospect of recurring genre use within rhetorical situations such as these meetings, helps to establish a further sense of groundedness and permanence that gives members cause to believe in their work (Miller 156). The meetup location is in the dedicated ISUE lab and all members are encouraged to come, though it is not mandatory. The meeting consists of everybody recapping their week, venting frustrations, or sharing breakthroughs that might have arisen. Lower level members usually address senior members as their primary audience. This verbal type of communication is often times much more direct and efficient any written form can be. This is why meetings are treated as the prime time for coordinating the following week's course of action.

Since the primary objectives of the discourse community all lead to the eventual dispersal of research materials for critique and evaluation, the members of ISUE all need to be familiar with the ubiquitous genre of the AR community; that is the research paper. Scientific publications possess more value than to simply serve as a template for presenting principal findings; they offer a homogenistic language for any future audience. It is expected that someone reading a research paper ten years in the future, should be able to relate to and instinctively understand the layout, structure, and citation mechanics used today. To account for this, papers are written to be a very terse,

systematic, and scientific in nature. Since the results described within the text should be replicable, first person phrasing is avoided, as nobody can replicate being someone else. These papers are also expected to be relatively succinct. Depending on the particular conference that is judging the content of the paper, different requirements for length are set. Some accept research papers four pages in length, while others will not consider anything below eight. This is a very distinguishing aspect of scientific research papers as compared to most other genres. As example, papers in the humanities tend to not have any set length and so citations can be printed with author name and page number next to any paraphrase without any afterthought. The constraint on length within the scientific field forces texts of this genre to represent citations as hyperlinks within PDF formats. Another method of abbreviation is through the use of symbol systems, where shorthand variables (usually greek letters) are used to signify repeatedly referenced ideas. All of this is done with the goal of appeasing a governing body, whose job is to maintain a ubiquitous structure across all published entries in the genre for scientific research.

All genres within the academic establishment of ISUE serve a distinct purpose, no matter the intended audience. The reason why several genres are employed for inter member communications within ISUE is not simply to offer variety, but rather, to allow for exceedingly efficient forms of information transference given the appropriate context. Communication between discourse communities that possess similar objectives, but different mechanisms and membership patterns need a pervasive genre in order to link them together. The main genre that gives ISUE this ability is that of the scientific research paper. And since discourse communities can have a number of objectives, the means by which those objectives are thought through and achieved will always involve a communication genre that provides the least resistance towards. That is what Slack, email, and meetings provides ISUE with.

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