Acclimating Students To College Campus Using Games
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Abstract

Acclimating Students to College Campus Utilizing Games

The purpose of this project is to see if the usage of a video game given to the students at Mohawk Valley Community college can better acquaint them with the various offices and services found on campus. Students will be given access to the game and asked to complete it in a timely manner. Through qualitative analysis, participating students will be given a survey inquiring about their experience with the game and any gained familiarity with the college. This survey will be completed and handed in to the advisement department.

This project is expected to have a positive influence on students by increasing their spatial awareness of the campus for better navigational purposes, as well as giving a better understanding of the key roles and services available at each of the campus offices.
Introduction

The specific roles that the various college campus offices play for the active student body can sometimes be a confusing matter when trying to figure out where to go to for help. On the Utica Mohawk Valley Community College campus the locations consist of the Registrar’s office, Financial Aid, Advisement, Counseling, Help Center, Placement Testing, Business Office, Admissions, Disabilities, Learning Center, Health Center, Security Office, Student Activities, and Residence Life. The sheer number of offices on campus can be frustrating for a student to locate, not to mention figure out if this specific office will address the needs that they may have. Often times, students are bounced from one office to another because they either went to the wrong location, hadn’t properly filled out the necessary documentation, or just completely forgot to bring in the documentation in the first place.

The problem of seeking the proper office becomes even more difficult with new students who have never set foot on the campus before. These students must first overcome the stress of being in a big new place before going through the almost labyrinth-like process of navigating to the several offices that they must visit on that day. These new students often times don’t give themselves the necessary time to arrive early to find each of these offices, adding even more additional stress of being late on top of everything else. This particular problem of arriving late to a meeting such as the mandatory New Student Appointment, which is handled through the Advisement department, often becomes a compounded problem due to the need to push back all of the later scheduled appointments for that day, causing the possibility of making the students who were scheduled for later appointments to in turn become late themselves.

Tardiness within the college system isn’t a problem that has developed overnight, and isn’t the only problem that freshman college students face when they begin their college career.
Students also face newly gained independence along with responsibilities that they have yet to encounter until entering the college arena. This new sense of independence in conjunction with entering a brand new setting often causes a lot of stress to freshman college students (Pickhardt, 2009).

Although these issues that freshman students encounter are relatively common and not particularly new, students entering college this year will have been surrounded by computers their entire lives. It is a technology that has literally grown up and matured with them every step of the way. From the gigantic computer tower, to the laptop; cell phones, and smart phones; virtual pets like the Tamagotchi and Furby; and especially video game consoles, each new generation has become even more immersed within these interactive technologies more so than the last.

These younger generations of people are used to the rapid changes of technologies (Rossin, 2013). The quick obsolescence of hardware is something they’ve grown accustomed to. The constant exchange of cellphones, laptops and game consoles for the newest and the fastest is also reflective of the changes that are occurring within society’s way it demands its goods and information.

The demands for a system that is easy to utilize and yields the highest amount of informational value is something that students have come to expect within our educational systems. The video game generation expects an environment in which they engage with learning through hands on action, rather than the passive task of reading forms and instructions.

The purpose of this project is to examine my implementation of an online video game as an alternative method of distributing information compared to the current passive system that
requires students to read through multiple pages of documents and handbooks. The game’s effectiveness will be measured by examining any change in the student’s sense of spatial awareness of the campus, and their knowledge of the services available to them on campus.

**Research Question**

Can a simple video game that takes place in virtual game space be created to transition a player into an ARG, which would then better acclimate them to real world space?

**Definition of Terms**

*Alternate Reality Games, or ARG’s*- game play that integrates real life and online game play through a storyline that seeks to engage learners in an experience that seems real (Olbrish, 2011).

*Puppet Master*- is the person who controls the game experience, and is most likely the game designer (Olbrish, 2011).

*Curtain*- “the veil that provides the illusion that the game is playing out naturally, and when it is managed well, the curtain masks the existence of the puppetmaster” (Olbrish, 2011)

*Trailhead*- clues that lead the players into the game (Olbrish, 2011)

*Rabbit Hole*- similar to a trailhead, but singular in occurrence, making it much more difficult to find (Olbrish, 2011)

*TINAG*- “the goal in the design [of an ARG] is to create an experience in which the players don’t necessarily feel like they are playing a game” (Olbrish, 2011)
Review of Literature

From the simple game of Pong to the complex, massively multiplayer online role-playing game of World of Warcraft, the pastime that we know as games has continuously grown into complex forms of entertainment. Over the past thirty years, video games have evolved from a handful of primitive black and white pixels bouncing around a screen, to luscious virtual worlds rich in characters, backstories and lore (O’Connor, 2013). As the games evolved, we became more invested within the game space. Player’s capabilities used to be restricted to movement within a 2d world on an X and Y axis in order to collect fruit or consume a ghost. Now the gamer often enters the elaborate worlds of 3D space which requires a player to micromanage nearly all aspects of life; from hunting, cooking and consuming virtual foods, to increasing health levels, mining blocks of resources to build shelter, and even adopting virtual children and pets to look after. In fact, the more complex games have become, the more they have begun to incorporate everyday life activities, such as the rigorous menial tasks associated in the real world as “work” and “chores”, and yet people go out of their way to submit themselves to more virtual work, often at a sacrifice of the completion of real world work and chores (McGonigal, 2011).

Within the past half-decade, the idea behind the term “gamer” has become less of a classification for a subset of people, while the act of “gaming” continues to become a more universally acknowledged ritual engaged in by the majority of the populace (McGonigal, 2011). New genres and definitions have been added to the breadth of gaming such as alternate reality gaming (ARGs), casual games, and serious games.

With these advances in the categories of games, people are starting to view the media as a unique art form, one that is a fine balance of both art and science, often pooling together tens, or
even hundreds of minds with unique skillsets into one project. These unique skillsets of art and code have finally been along long enough to be studied and taught on to younger generations with increasing numbers of game design and game theory courses being offered at colleges and even high schools.

Our culture has begun to study and understand gaming, giving way to better designed games with deeper emotional attachment to virtual characters, better designed user interfaces and jaw dropping realistic graphics (Loftus, 2005). This all results in an increase of bigger and better games released each year within the commercial industry with many of them intertwining themselves within pop culture. The issue is that despite our society’s fascination with games, quality educational games are still a rarity (Zichermann, 2011).

With more students enrolling in college each year (Supiano, 2011), and younger generations growing up more technologically literate than their predecessors and fully immersed within the culture of gaming (McGonigal, 2011), a greater need for new teaching styles utilizing current technologies is required. This literature review will explore and define the new genre of alternate reality games, evaluate some of the notable projects created within this genre, and investigate the applications of alternate reality games when applied to the world of education.

Before we can discuss ARGs, it is important to understand why video games are important for education. James Paul Gee, game theorist and author of the book “What Video Games Have to Teach Us About Learning and Literacy” (2007) examines video games to better understand what affect they have on learning. His book outlines thirty-six different learning principles that are inherent within the act of engaging in the world of video games.
In chapter 4, *Learning and Identity*, Gee brings up the idea that there are three separate identities occurring at the same time when playing a game. There is the *virtual identity* of the character in the game, which contains its own virtual history, skillsets and physical limitations; there is the *real-world identity* of the player who also comes to the game with his or her own real-world history, skillsets and physical limitations; and then there is the *projective identity* in which the person must “project their own values and desires onto the virtual identity” (Gee 2007). Gee states that this is possible because of *psychosocial moratorium* “a learning space in which the learner can take risks where real-world consequences are lowered.” (Gee, 2007) It is this special place that allows for game players to feel empowered and up for the task of taking on challenges that would be extremely life threatening in the real world, or just completely impossible.

Jane McGonigal’s book, *Reality Is Broken: Why Games Make Us Better and How They Can Change the World*, explores why we prefer to tackle the problems we face in the virtual world rather than in our real lives. On top of games giving us the feeling of empowerment, “games give us clearer missions and more satisfying, hands on work” (McGonigal, 2011). Compared to games, which often allow us to hit the *start* button to examine our active quests, or to pause the game to look up a tutorial on how to accomplish our next task when things get tough, real life obstacles can be gray, with no clear way of tackling them. McGonigal states that “to see work in a satisfying way we must be able to see the results of our efforts as directly, immediately and vividly as possible”(McGonigal, 2011).

McGonigal has been exploring a new format of gaming called *alternate reality games*. It is with this new format of gaming that McGonigal truly believes the future lies in solving many of our world’s problems. As she explains “ARGs are games you play to get more out of your real
life, as opposed to games you play to escape it. ARG developers want us to participate as fully in our everyday lives as we do in our game lives” (McGonigal, 2011).

As mentioned earlier, alternate reality games are still a relatively new genre of games compared to first person shooters, action/adventure games, role playing games and even massive multiplayer online role playing games. Koreen Olbrish of eLearn Magazine states that “ARGs are games that are driven by storyline and typically supported through some type of online game portal that manages the game. Playing the game, however, requires that you interact with characters, other players and storyline elements that might be online, but may also be found in aspects of your “real” life” (Olberish, 2011). The important thing to note with alternate reality games is that they are not something that is specifically video game-centric in the sense that the players are restricted to actions only within a digital world. Instead, the physical real-world “self” assumes the role as the playable character within the plot of the game. A person engaging in an alternate reality game often retains their real world personalities, unlike games of a similar genre such as mystery dinners where each participant is given a character and role to play.

Olbrish also points out the fact that it is important to make sure one does not mistake “alternate reality games” with “augmented reality games”, another new gaming style that has emerged within the past decade. The difference between the two being “alternate reality games refer to game play that integrates real life and online game play through a storyline that seeks to engage learners in an experience that seems real; augmented reality games refer to games where there is a technology overlay on reality that contributes to play (think the first down line on televised football games)”(Olbrish, 2011). Olbrish also makes it a point to explain that augmented reality can be incorporated within alternate reality games, which can add to confusion to those new to the genres.
Alternate reality games utilize a unique set of definitions compared to all other types of gaming. Olbrish explains that the *puppetmaster* is the person who controls the game experience, and is most likely the game designer. “As part of the responsibility of managing the game play, the puppetmaster watches how players are engaging and interacting with the storyline and makes adjustments to the story, scoring, or game mechanisms as necessary to keep players focused and addressing the goals of the game” (Olbrish, 2011). The *curtain* is “the veil that provides the illusion that the game is playing out naturally, and when it is managed well, the curtain masks the existence of the puppetmaster” (Olbrish, 2011). *Trailheads* are clues that lead the players into the game. Olbrish points out that alternate reality games utilized for media and marketing often provide a lot of trailheads to attract as many people to the game as possible. She also believes that this could be successful if applied to an educational based ARG. The *rabbit hole* is similar to a trailhead, but singular in occurrence, making it much more difficult to find.

The most commonly found term, or in this case phrase, within the genre of alternate reality gaming is *TINAG*, or “This Is Not A Game”. Olbrish explains that “the goal in the design is to create an experience in which the players don’t necessarily feel like they are playing a game”… “the designer’s responsibility is to create a game experience that mirrors realistic activities as part of the game play even when the storyline makes it clear that the game is not ‘real’” (Olbrish, 2011). This design method is reinforced since, as mentioned earlier, gamers participating in an ARG maintain their real world identities.

When trying to establish the criteria that would define an educational ARG, Olbrish declares that “it is difficult to make generalizations of what ARG looks like for learning. Just as there are an unlimited number of games and rules for game play, the same is true for ARGs. Designs could range from something very simple (e.g. a scavenger hunt) to something very
complex (e.g. large scale, problem-based learning experience)” (Olbrish, 2011). Though there hasn’t been an abundance of educational ARG’s she does believe that “the storyline-driven nature of ARGs allow for the creation of engaging scenario-based learning, and with the overlay of game mechanics to drive motivation and learner engagement, ARGs create opportunities for authentic practice in realistic contexts” (Olbrish, 2011).

Tash Lee, of Futurelab, explored the world of ARGs with the article *This is Not a Game: Alternate Reality Gaming and its Potential for Learning*. In it, she contributes the first ARG being the launch of the online website of Steven Spielberg’s film *AI* in 2001. Created as a marketing campaign for the film, the game utilized a *rabbit hole* in the form of a movie credit for a “Sentient Machine Therapist”, Jeanine Salla. Upon googling this person’s name, participants found websites and references to the fictional character all dating to the year of 2142. The participants involved within the ARG were working towards trying to unravel the story of a murder mystery that took place in the future. The game designer’s, or puppet masters, didn’t anticipate such an active online community for this new genre, and they soon had to create “ever more creative and open-ended puzzles for which the Cloudmakers (participants) needed to develop their own solutions, and then the game grew organically around the solutions, accommodating and adapting to the players’ input” (Lee, 2006).

This adaption of the game to the player is very unique to the realm of ARGs. The orthodox method in which video game characters are able to navigate a world and overcome obstacles are often based on the skill level and abilities that one has gained through the act of playing the game. Lee points out that “Instead of helping an avatar to ‘learn’ skills and gain experience in order to develop, ARGs rely on knowledge that a player already possesses. Similarly, in an ARG you interact with the fictional world through everyday artifacts (e-mail,
etc.) that you use to interact with the real world – there is no special equipment, and no virtual world. The idea is that the game-play becomes integrated fully in players’ lives – both on and offline” (Lee, 2006). Unlike games that would often use feats of strength, magic, swords or a gun, ARG’s can only progress through wit.

Lee believes that video games and social software are powerful tools for learning, and that an “ARG brings these two areas together in one package” (Lee, 2006). When comparing the price to produce an ARG versus a video game, Lee argues that they are much cheaper; however, the design and development of an ARG is a ‘considerable endeavor’. She believes that the ARG also has an advantage over video games for learning since “players are their own agents and use their own experience and knowledge in playing the game, rather than playing the role of a fictional character” (Lee, 2006). Lee also mentions that ARGs “appeal equally to males and females – which isn’t the case for many other games” (Lee, 2006).

While ARG’s are becoming more commonplace, more research is being done on the social aspect of these games. Alex Moseley, an Educational Designer at the University of Leicester wrote An Alternative Reality for Higher Education? Lessons to be learned from online reality games, in which he explores the ARG, Perplex City. The game utilized an interesting form of trailheads, this time in the form of puzzle cards purchased in small packs much like Magic the Gathering and Pokemon. By collecting and solving the cards and contributing your findings to the community game forum, users were able to unravel more and more details about the location of a buried cube that contained $200,000.

Moseley found himself drawn into the game and was shocked to find how engrossed his experience had become. “I was enjoying the puzzles and seeing my score climb the leaderboard;
I was following story events closely on the discussion forums; I was even researching areas I’d previously had no interest in, in order to solve particular puzzles or clues (I’m now an expert in subjects as diverse as colour gels for stage lighting and nautical signaling flags!” (Moseley, 2008). It was because of this high level of engagement that he observed within himself and the online community that he had within this game that he had realized how important of a tool that ARGs could be in the field of education. “Here were people gulping in information and setting forth on week-long collaborative research projects, just to solve a minor clue in an online game” (Moseley, 2008).

The research that Moseley conducted on *Perplex City* was on engagement/motivation, narrative/story, problem solving/learning and research, and peer/community support. On engagement/motivation he noted that the people playing the game were average people and not “geeks who sit in front of their monitors and rarely see the light of day; nor even web-savvy individuals who flick between MSN and Facebook all day at work” (Moseley, 2008). What was interesting was the amount of time that a typical person was putting into the game, “on average, players were spending 1-2 hours a day on the game, as a definite life choice” (Moseley, 2008). Through surveying a number of participants, Moseley determined that the motivating factor for players to continue to play the game was “the combined process of solving puzzles at a range of difficulties, both individually and with communal help; with the successful submission of answers and the award of points which in turn led to a climb up the game’s very visible leaderboard” (Moseley, 2008). Moseley likens this to a similar phenomenon that occurs within the classroom, as students “are concerned firstly with completing their essay and handing it in and secondly with comparing the grade they receive to their class mates” (Moseley, 2008).
The narrative/story of an ARG is something that Moseley believes is key to their success, “an underlying story or often stories help to give players a sense of purpose for developing understanding and knowledge of the ‘alternate reality’ over time” (Moseley, 2008). He found it interesting how the events and characters within the ARG were treated as real people, once again reinforcing the primary principle that “this is not a game”.

The puzzle cards utilized in *Perplex City*, worked as trailheads into the ARG. Varying in difficulty, the participants were welcomed with another piece to the storyline and hint at where the buried treasure in the real world was located. Since the puzzles were from such a wide range of subject matter, the participants were forced to research new subjects and new skills that they often had no prior knowledge to. As Moseley points out, “this demonstrates one of the highest forms of engagement; having such an interest in an entity to expend hours of free time connecting with, understanding, and trying to solve particular challenges: not just once, but repeatedly. It is also a direct link to the kind and level of engagement departments in higher education would like their students to exhibit” (Moseley, 2008).

The final area of study that Moseley observed in *Perplex City*, was its peer/community support. As Moseley writes, “peer support was fast and effective, with questions from new and experienced players alike, receiving helpful responses from the community” (Moseley, 2008). Though the level of participation was completely up to the choice of the participant, his findings suggest that the ARG formed a community that often welcomed newcomers with open arms. The knowledge that experienced players had already gained gave them a sense of pride and ownership to their discoveries, making them more willing to teach new participants and get them up to speed on the story that was unfolding within the ARG.
Moseley acknowledges that the creation of a game like Perplex City does require a huge undertaking. “I believe that the lessons we can learn from the ARGs don’t necessarily need to be applied as a fully-fledged ARG; indeed, there will be many of you working in institutions or departments where a full ARG simply wouldn’t be possible given the political, administrative or conceptual constraints” (Moseley, 2008). Though the creation of such a large scale ARG might be out of the range of school budgets, he concludes his paper by offering a list of key features that alternate reality games offer which would be valuable if implemented in the realm of education.

This list of key features is “problem solving at varying levels (enable students to pick their own starting level and work up from there), progress and rewards (leaderboard, prizes), narrative devices (doesn’t have to be fictional: academic subjects have histories, themes, news etc.), influence on outcomes (by letting students decide or influence some aspects of their course, this helps to scaffold their path into a critical academic thinker), regular delivery of new problems/events (key to maintaining engagement), potential for large, active community (the potential is less the smaller the group and the narrower the subject interest/specialization), based on simple, existing technologies/media” (Moseley, 2008). Though this is a large list to try to incorporate within a lesson plan, Moseley believes that by utilizing just a handful of these features, education can be a much more engaging and productive experience.

Nicola Whitton, is a research fellow at the Education and Social Research Institute at Manchester Metropolitan University, and co-director for the Centre for Research in Technology, Innovation and Play for Learning as well as the co-chair of the Association for Learning Technology Games and Learning Special Interest Group. Her primary research revolves around the utilization of games and play for learning. Her paper titled Alternate Reality Games for
Developing Student Autonomy and Peer Learning (2008) analyzed the genre of ARGs and explores the ARGOSI project (Alternate Reality Games for Orientation, Socialization and Induction) which “provides an example of the use of an alternate reality game developed specifically to support students in higher education” (Whitton, 2008).

Whitton explains that “the project aimed to provide an engaging alternative way for students to acclimatize themselves to university life. By using techniques from game-based learning and design of digital narrative to stimulate curiosity, provide appropriate challenges, the project team developed a game that runs over the first eight weeks of the university term” (Whitton, 2008). Whitton describes the project as an “alternate to traditional methods of introducing students to university life, providing a context for exploring Manchester and meeting other students” (Whitton, 2008). She also makes sure to mention that the project in no way was meant to replace the already existing format of student induction, but be used to aid those students whose needs were not successfully being met.

Since it was important to realize the scope of the project in order to efficiently be able to produce the ARG, the educational content that was to be integrated was limited to just library and information skills, just one section amongst the many topics discussed during student induction. The selection of these educational topics were a good choice, as the very nature of ARGs require research and the utilization of technology to be able to efficiently participate within the game space. Like the ARGs mentioned earlier, the methods for finding new information involved email, web sites, character blogs and Facebook.

Much like Moseley’s findings, Whitton explains that there were four primary reasons for why players engaged in the game: “Completing (finishing all challenges), Competing (being first
and fastest to complete), Curiosity (finding out how the story unfolds), and Communicating (talking to and working with others)” (Whitton, 2008). Whitton also found that an incentive to increase more competitiveness, which in turn drove more engagement, was the incorporation of a leaderboard and scoring system. This mechanic in game design can be seen in some form in nearly all types of games, from first place in a board game to entering ones initials in a pinball game for attaining a high score.

Whitton warns that undertaking required for the successful implementation of an ARG is not to be underestimated. Since it uses real world tools that most people are familiar with, it is easier to create than a typical video game, but “because they rely on an engaging narrative interlinked with a robust series of challenges they still require a broad cross-section of creative skills in web development, game design, graphic design and storytelling, as well as the necessary subject expertise to ensure that challenges are appropriately mapped to learning outcomes” (Whitton, 2008). In keeping with the idea of “this is not a game”, Whitton notes that the assets for an ARG “must be plausible as they help to drive the game forward and can be time consuming to produce” (Whitton, 2008). Another point that Whitton mentions it that alternate reality games can be difficult to run if there are too many or too little participants playing. “The game needs critical mass of players in order to make meaningful collaboration possible and to allow the social network of players to develop naturally” (Whitton, 2008).

Though Whitton details the sheer amount of work required to create an ARG for education, she believes that it certainly deserves further exploration and shouldn’t be dismissed as a valuable tool. She mentions that other studies have found that ARGs do not appeal to all students; however, “if enough students who would otherwise withdraw from university are being retained due – in part –to an induction that meets their needs then ARGs would still be an
effective, if niche, alternative” (Whitton, 2008). Lastly, she acknowledges the newness of the
genre, and lack of research within the field. “If they are to be considered as an effective pedagogic
tool in the field of Higher Education, and achieve mainstream acceptance, it is important that
their effectiveness in terms of learning and student engagement is rigorously researched by the
academic community” (Whitton, 2008).

The construction of an ARG does in fact appear to require a wealth of resources,
including time and skilled developers, in order to properly function. Hansen, Bonsignore,
Ruppel, Visconti and Kraus (2012) examined this issue in the hopes of finding methods that
would allow for the design of reusable alternate reality games. One issue with the majority of
ARGs is the fact that they are “designed as one-time experiences”…which “limits the number of
potential players and reduces the return on investment of time and resources. This is particularly
true of educational ARGs, which could ideally be tailored by educators to meet the unique needs
of their students and classroom setting (e.g., length of class)” (Hansen, et al., 2012). The reason
for the majority of ARGs being a one-time experience is most likely because of their origins in
the realms of marketing. “The most prominent ARGs are not designed to be repeatable because
their primary goal is to generate heightened interest in a one-time event, such as the release of a
new album (Year Zero), game (I love bees), or movie (the Beast) or the start of a new season of a
television show (The Lost Experience)” (Hansen, et al., 2012).

Hansen, et al., created a framework for reusable ARGs, which include making the game
replayable, adaptable, and extensible. With the implementation of these design objectives,
Hansen, et al., believe that an ARG has a much stronger reason for implementation since the
time and resources devoted to its construction would give it a better chance of becoming
reusable, rather than most common one-time ARG experiences.
One key issue identified with trying to design a **replayable** ARG is the problem with spoilers. Since the genre depends on the exchange of information with participants through the use of websites and social media, a spoiler could potentially halt all interest in a player’s participation. Hansen, et al. recommend keeping the gameplay “local”, or to create an experience that would “render spoilers inconsequential” to the outcome of the game.

“A game is **adaptable** if the game can be reasonably modified to better meet the specific needs of a particular player, group of players or context (e.g., location, time)” (Hansen, et al., 2012). By designing the framework of an ARG that utilized adaptable assets and storylines, the game becomes ones again reusable. An example of this would be creating an ARG for new college students to find their classes and teacher info, by updating the course catalogs and teacher contact info, the game can maintain its relevance from semester to semester.

The last design objective of a reusable ARG is the ability to make a game **extensible**. As Hansen, et al., explains, “A game is extensible if it can be legitimately added to in a way that retains the authenticity of the original game, while extending it to do something else” (Hansen, et al., 2012). Examples of this are player created content and customizable characters. Of all of these objectives, this sounds the most difficult to achieve due to additional content that would be required to create for a game, especially when on a limited budget. Often, whole departments are created to specifically address this single aspect of the game design.

Hansen, et al., provides a list of barriers to reusability, which I believe can be applied as barriers to all ARGs. They warn that too many players can reduce the potency of the excitement found in the exploratory process commonly found in ARGs. They also believe that mixed player characteristics can be an issue (they state that different mixed ages can be a problem especially if
it was elementary students and undergraduates. This is a rather obvious barrier since the puzzles would most likely be solved by adults faster than children. By having game mechanics such as websites that house the puzzles and content of the ARG, newer or slower players are at risk of not being able to participate or keep up with the game due to the ever-changing storylines and available content to active players. Locations can also be an issue if they are not accessible at all times (an example of this would be a clue to a puzzle that is located in a classroom that is also utilized for other professors classes that are not participating in the ARG). Also, long ARGs can take too long to accomplish and cause users to lose interest. A huge issue that must be accounted for is the types of media being utilized for the ARG, designing platform specific applications can prevent some users from accessing puzzles.

Hansen, et al., discusses the idea of making an ARG cyclical and event driven. They use ARGOSI as their example, and explain how since the participants in the game were all new college students who were attending orientation. The game was able to be controlled and updated to cater to the new groups from semester to semester. Also, by utilizing and modifying a time based event that occurred at the orientation, spoilers were less likely to ruin the ARG.

The largest issue in creating a reusable ARG is making sure that all of the assets - from the websites, blogs, emails, YouTube and Facebook accounts - are maintained. As stated, “the differential survival rate of paper-based and electronic records means that ARG components will require preservation actions carefully tailored to the individual file format or media type” (Hansen, et al., 2012). The reason why we are not capable of observing previously created ARG’s is that since it is so heavily involved in trans media, once one link is broken the entire experience is ruined.
The value of incorporating ARGs in education clearly needs to be further explored. The projects that have already been utilizing the methods of ARGs are a start in the right direction, but most focused on relatively large scale projects that required years of planning to implement. There are still many questions about the implementation of ARGs within a learning environment. Is it possible to flip an ARG in which there are many puppetmasters and just one participant? Can an ARG take place within a virtual representation of a real world, which would require the user to explore and then visit the same real world locations to unlock further information about the game/subject matter? Can a simple video game that takes place in virtual game space be created to transition a player into an ARG which would then better acclimate them to real world space?

**Design**

This project will be the creation of a video game which integrates elements of ARG’s to aid students in better understanding the campus and the services available at each of the offices at the Utica branch of Mohawk Valley Community College. The game can be divided into its two primary areas, the interactive map, and the ARG. Students will be given access to the game through a link to a website where the bulk of the game will occur. An outline of the game from start to completion is detailed below.
**Game Entry and Start**

The home screen of the website housing the game will instruct the student to download and print out a campus map, which will also contain the puzzle for the alternate reality game. Once these items have printed, the student can begin the game.

The game begins in the center of the MVCC Utica campus quad. (It is important to note that Mohawk Valley Community College utilizes two campuses, Utica, and Rome, however, the decision has been made to limit this game to the Utica campus do to the fact that the primary location is in Utica. The majority of classes, academic and administrative offices, and dorm rooms are all located on this campus as well.) The quad was chosen as the start point of the game because its central location to all of the locations that will be explored during game play.

Mo the Hawk (MVCC’s school mascot) will be found in the quad, waving at the player. Mo will be a non-playable character (NPC) and serves the purpose of presenting a focal point for the player to aid in engaging with the game, and as also acts as the primary information giver
By clicking on Mo, he will introduce himself and begin the game. Mo will first welcome the student to the virtual college and explain that this space was set up to explore to get a better sense of the campus layout and the services offered to students at the various offices. Mo will then tell the student that he has lost five of his feathers all around campus and needs their help to find them. The student must explore the virtual campus to locate these feathers, but there is a catch. Each of these feathers are actually located on the real world campus. Students must explore the virtual campus to seek out the location of these virtual feathers, write down on the map where they are located and visit these areas on the real campus in search of the real feathers.

**Virtual Feathers, The Rabbit Hole into the Alternate Reality Game**

The game will incorporate aspects of alternate reality gaming by utilizing in-game, and real world “hawk feathers”. As explained above, these items will be used as a form of a scavenger hunt on both the virtual and real world campus and will act as a bridge between both
worlds and incentives for exploration. The virtual hawk feathers in game will be identified visually by a hovering, rotating and glowing model of a feather, and in the real world these feathers will exist in the forms of pieces of paper/stickers in the shape of feathers with similar design traits to that of their in-game counterparts.

The real world feathers will be positioned in fairly visible areas as to not overwhelm the student with attempting to find them. Each of the feathers will be numbered and have one of five parts of a website placed on it. The student will need to find all five of the feathers and arrange them in proper order to gain access to the website in which they will be instructed to print out a survey to be completed and brought in to the advisement department to prove their completion and pick up a prize.

**Plan of Implementation**

**Software Utilized**

- Autodesk Maya 2012
- Adobe Photoshop CS5
- Adobe Premiere CS5
- Unity 4
- Unity Playmaker

**3D**

The primary tool that will be utilized in the creation of this game will be Autodesk Maya 2012. This tool will be used to generate all of the 3D assets, from the campus architecture to Mo the Hawk and his animations. To greatly reduce asset creation time, the level of detail that will
be expressed throughout the project will be more primitive/cartoon looking than that of the hyperrealism that many 3D worlds strive for in today’s games. This not only reduces time spent on construction of 3D objects and texture work, but it also reduces the amount of visual noise that the player would experience which could become overwhelming when trying to find the locations of the feathers.

The architecture that will be created for this project will only be the buildings that all students commonly utilize and not include places like the gym and dorm rooms. This will save time on development and aid in keeping the player within the areas that contain the key offices.

Texturing

The texturing work, accomplished with Adobe Photoshop CS5, will be mirrored after Valve’s game, Team Fortress 2. This game utilizes a technique described as Non-Photorealistic Rendering, which Valve explains was inspired by technical illustrations from the 1960s (Eng, Francke & Mitchell, 2007). This form of stylization allows for the objects to be identified through their silhouettes utilizing high saturation of colors in conjunction with the color that is applied to them. The images below is an example of this method utilized by Valve’s Team Fortress 2, and My Paper Plane 3 The player gets a sense of the environment without the need
for every single stone, blade of grass and electrical outlet being included.

Figure Tean Fortress 2, Valve Corporation

My Paper Plane 3, Wavecade

**Animation**

There will be no unnecessary animations for this project such as blades of grass rippling, or waving flags, as this ads unnecessary burden to the computer and does not aid in the overall purpose of the game. Character animations will be kept to a bare minimum and only be utilized
by Mo the Hawk. Animations would include a waving, talking and possibly a flying/spinning animation that would be used when the character shows up on screen and disappears. Besides character animations, sprite/particle animations would be utilized to aid in highlighting important areas/objects of the game. These animations would be created and implemented utilizing the stock particle system within the Unity 4.0 engine.

Game Engine

The 3D content created within Maya is easily imported within the Unity gaming engine through the use of Autodesk’s proprietary FBX file format. This allows for the creation of the entire campus architecture to be modeled, textured and exported within one piece of software, saving valuable time. Once the campus is imported within the Unity engine, it can be quickly populated with additional details such as trees, bushes, benches and other props.

Using the Unity plugin called Playmaker, the virtual campus along with the interactive objects such as doors, Mo the Hawk, and feathers will be scripted. Unity already has a default first person controller built within its engine which will be utilized as the primary form of player navigation.

Alternate Reality Game Feathers

Adobe Photoshop will be utilized to create the real world feathers. These will be printed and laminated as to prevent any possible damage that could occur if they were to be rained on.

Game Hosting

The game will be hosted on a private website through Godaddy.com.
Limitations

The primary limitation of this project is time. The majority of the time will be spent on the production side of this game. Time is also a limitation for the scope of the game, as many ARG’s often can take months for completion, this game needs to be quick and easy to maintain the students attention span as well as giving allowing for the game to be completed so evaluation of the project can commence in a timely manner.

Another limitation is the amount of students that can access this game without the entire campus finding out about the location of the feathers and ruining it for new players. Having an entire campus play the game at once would also likely crash the server that the game is hosted on.

Knowing my capabilities and skillsets primarily reside within the realm of 3D art, I am limited to the capabilities of the Playmaker plugin that Unity uses for visually coding. If I were to have unlimited time and resources I would implement areas such as the gym and dorm rooms, include non-playable characters in the form of virtual students who walked around and interacted with the environment, and also would construct the Rome campus.

Study Design

Using a qualitative analysis of the surveys that will be attached to the link that students will receive via completion of the game, an examination will be performed to see if this method of learning can better equip students with knowledge about the campus and its services. A draft of the printout can be located at the end of this document.
**Assumptions**

An assumption is that all subjects surveyed will have taken the time to fully complete the game prior to answering the survey and the responses given are truthful. Another assumption is that all of the subjects have background knowledge of computer games and social networking programs.

**Play Tests**

The MVCC Virtual College Campus was administered voluntarily to students at MVCC in the Animation Lab. This site was chosen for testing because the computers were readily available and arranged in an ideal fashion in which instructions and web site addresses could be displayed to all students in the room through a large screen display hooked up to the teacher’s computer. The animation lab was also chosen due to its use of screen capturing software installed on each of the computers that allowed for the professor to view all of the monitors within the room at the same time. This made play observations much easier to perform, and less obtrusive to the student.

The volunteering students were instructed to enter the website address which was visible on the display at the front of the room. Once all students had entered the address, they were told to read the instructions to themselves, print out the “Feather Quest Form”, and begin the game when ready. These instructions changed during the second playtest group as the printer in the room ran out of toner. To fix this issue, copies of the instructions were made in another room and handed out to those who volunteered to playtest.
Students who were done finding their feathers in the virtual campus were notified that they were allowed to exit the room and start searching for the feathers in the real world campus. After noticing that there was some resistance to students going out alone, it was decided to have students that were finished to raise their hand and be sent out in small groups of 2 or 3 students at a time.

The play testing was completed when students returned to the Animation Lab and entered the snippets of the web address they had found by visiting the real world feathers. This brought them to a survey which they filled out and returned in exchange for a prize in the form of candy. An error had come up on a small number of computers dealing with Adobe Reader either not being installed, or not being up to date. This prevented a small number of students from opening up their surveys. The solution to this issue was to simply look at the web address that the students had entered, and upon confirmation of the correct address a printed survey was given to the student.

**Observations**

While observing the students play the game, a common critique was voiced about the lack of mouse sensitivity adjustment and no options for auto centering. Although all students were able to complete the game, it was clear that some students found the mouse sensitivity to be too high, making navigation more difficult. Some students also appeared to have issues navigating through stairways and some doors, often getting stuck for a second and having to re-adjust their mouse to navigate more smoothly to their destinations.

**Player Feedback**
On the survey, players were asked to comment on their experience with the MVCC Virtual Campus and to also explain any frustrations they might have encountered. A number of students had commented on the lack of options for mouse centering and sensitivity as described previously, while another commented on how the use of a “run” button would help students more familiar to these control settings get to areas on the campus more quickly. One student mentioned the issue of having the hallway textures too visually similar from one another, making it difficult to navigate, or determine exactly where the student was on campus.

The majority of students felt that they had gained a better sense of familiarity with the campus after playing the game and that they had a better sense of understanding the functions that the various offices on campus provide to the student population. Many of the students’ comments had stated, in one form of another, that a virtual campus would have been extremely helpful prior to their first visit to the college. Some students had written about how this would have been an excellent tool to use while trying to determine which college to go to, while other students also mentioned the usefulness of a game like this in classes like College Seminar (a class that all freshman are required to take in their first semester at MVCC).

**Future Plans**

Going forward with the MVCC Virtual College Campus, it has been determined that a number of adjustments need to take place in order for it to be a more user friendly experience. This can be accomplished by adding an in-game “menu” that allows for the user to quit to the main menu, along with an “options” menu that would allow for mouse sensitivity changes. Other changes would include a more standardized version of in game text fields with clearer fonts and a solid background placed behind the text, making it more legible.
The Disabilities Service office at MVCC has suggested that all text in the game have an option of being able to hear it when it appears on screen, or by pressing a button. They also stated that elevators, ramps, and areas of refuge should be clearly displayed throughout the game. Lastly, the game should have a link to the Disabilities Services office on the bottom of the screen, for those students interested in playing the game but may require some assistance.

**Conclusion**

Overall, this game received great feedback and would prove to be an asset to provide new students. The constructive criticism proved to be a helpful aspect of this test, providing feedback on the personal preferences for a variety of people. Providing this game to new college students who are unfamiliar with the campus would increase a student’s awareness of key campus locations. Integrating the game into the College Seminar curriculum would also aid students in better understanding the roles that the various offices play for student assistance.

**Timetable of Project Creation and Implementation**

<table>
<thead>
<tr>
<th>Date</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/10-3/30</td>
<td>College Campus Modeled, Textured and Working In Game</td>
</tr>
<tr>
<td>4/1-4/6</td>
<td>Mo the Hawk Modeled, Textured and Working In Game</td>
</tr>
<tr>
<td>4/7-4/13</td>
<td>Feathers and Campus Locations With Definitions Working in Game</td>
</tr>
<tr>
<td>4/14-4/20</td>
<td>Bug Fixes and Real World Feather Creation</td>
</tr>
<tr>
<td>4/22-4/25</td>
<td>Game Implementation</td>
</tr>
<tr>
<td>4/26-4/28</td>
<td>Study of Findings</td>
</tr>
<tr>
<td>4/29-4/31</td>
<td>Write up of final presentation</td>
</tr>
</tbody>
</table>
Game Location

Please visit this location to view final project:
College Quest: 
Utica Campus Map (not final version)

Utica Campus Legend

AB - Academic Building (Classrooms, Security Office)
ACC - Alumni College Center (Health Office, Student Affairs and Res Life)
JC - Jorgensen Athletic/Events Center
H - Residence Halls
IT - Information Technology Building/Theater
PH - Payne Hall (Admissions, Financial Aid, Help Desk, Placement Center, Advisement)
ST - Science and Technology Building
**Hint:** There is one feather per building!

<table>
<thead>
<tr>
<th>Feather Location 1</th>
<th>Near Room #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Name</td>
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</tbody>
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<table>
<thead>
<tr>
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<th>Near Room #</th>
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<tr>
<td>Building Name</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feather Location 3</th>
<th>Near Room #</th>
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<tr>
<td>Building Name</td>
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</table>

<table>
<thead>
<tr>
<th>Feather Location 4</th>
<th>Near Room #</th>
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<tr>
<td>Building Name</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>Feather Location 5</th>
<th>Near Room #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Name</td>
<td></td>
</tr>
</tbody>
</table>

Once all feathers have been found it’s time to search these locations on the real campus to find the pieces of a website!

| Enter the web codes in their proper order and visit the site! |
|-------------------|-----------------|
| 1                 | 2               |
| 3                 | 4               |
| 5                 | 6               |
College Quest Game Flow

Start Screen

College Quest

1. Download Map
2. Play Game

Welcome to College Quest! This is an interactive gaming experience that spans across the virtual and real MVCC Campus. If you’re a brand new student that’s never set foot on campus, or just want to better familiarize yourself with the layout and student services that MVCC offers, College Quest is for you!

Before you begin, click on the first link to download the games map. Once you’ve downloaded and printed the map, play the game!

W
A
S
D

Use WASD and Left Mouse Click for Navigation.
GAME START
Mo the hawk explains the rules of the game

COLLEGE QUEST
Welcome to Virtual MVCC! This is an open map where we can explore the campus. Maybe you’re a new student who needs to figure out where your New Student Appointment in the Advisement Department will be. Maybe you’ve just made your schedule, aren’t currently on campus, and want to locate your classrooms. College Quest can help!

Feel free to take your time and explore... see that feather over there? There are 4 more of them somewhere around campus. While you’re exploring this virtual campus, you’re bound to run into them. Use your map print out of mark down the location of these feathers. Each feather has a corresponding number so be sure to make them in the right place! From there, once you’ve arrived on the real campus, bring your marked up map with you. There will be a feather in that location on the real campus that you will need to find! Just like in the game, each feather will be a number and will contain a segment to a website link on it. Write down the website on your sheet and remember, you need all 5 feathers for the whole web address!

Once completed, go to the website and print out a brief survey about our game. Returning the survey to the advisement department will give you a prize!

I’ll be right here in the virtual campus quad to repeat these instructions if you need help.
Once you’re done exploring the campus, feel free to close the game.
Each office will have a sign outside of it which, upon clicking, informs the student about the services this particular department performs.
You’ve Found a Feather 5!
Make sure you write down the code and place it in your College Quest sheet!

W2A4

Don’t know what College Quest is? Go to www.collegequestwebsite.com to find out!

“Real World” Hawk Feather
MVCC VIRTUAL COLLEGE CAMPUS Completion Survey

Please fill out this survey and bring it in to the advisement department to receive your prize!

Answer the questions to the best of your ability. 1=Low, 10=High

1) How familiar with the campus were you prior to playing Quest for College?
   1----2----3----4----5----6----7----8----9----10

2) How familiar with the campus were you after playing Quest for College?
   1----2----3----4----5----6----7----8----9----10

3) How confident are you about being able to locate an office or classroom on your own?
   1----2----3----4----5----6----7----8----9----10

4) Do you feel that you have a better understanding of the functions that the various offices on campus serve to the student population?
   1----2----3----4----5----6----7----8----9----10

5) How frustrating was your experience in playing Quest for College?
   1----2----3----4----5----6----7----8----9----10

If you felt frustrated, please explain what areas you felt could use some improvement

6) How likely would you be to use a virtual campus like that in Quest for College to find classrooms for future semesters?
   1----2----3----4----5----6----7----8----9----10

Please comment on your experience with Quest for College being as descriptive as possible. Feel free to continue with comments onto the back of this sheet.
References


