

SOCIAL AND ETHICAL DIMENSIONS OF ELECTRONIC MEDICAL RECORDS

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SOCIAL AND ETHICAL DIMENSIONS OF

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ABSTRACT

Electronic Medical Records are a digital or computerized medical record created in an organization which delivers care as part of a health information system that allows the storage, retrieval, and modification of records. The present project explains the social and ethical dimensions of Electronic Medical Records and also the learning process for students by making a movie to identify different viewpoints.

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TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	ix
LIST OF FIGURES	x
CHAPTER 1. INTRODUCTION.....	1
1.1. Objectives.....	2
1.2. Background	2
1.3. Significance of this work.....	3
1.4. Organization of the document.....	4
CHAPTER 2. BLOOM’S TAXONOMY	5
2.1. Basic model of Bloom’s Taxonomy.....	5
2.1.1. Knowledge.....	6
2.1.2. Comprehension.....	6
2.1.3. Application	6
2.1.4. Analysis	6
2.1.5. Synthesis	7
2.1.6. Evaluation.....	7
2.2. Relating the present work to the basic model of Bloom’s Taxonomy.....	7
2.2.1. Knowledge.....	7

2.2.2. Comprehension	7
2.2.3. Application	7
2.2.4. Analysis	8
2.2.5. Synthesis	8
2.2.6. Evaluation	8
2.3. Additional work (revised taxonomy)	8
2.3.1. Remembering.....	9
2.3.2. Understanding.....	10
2.3.3. Applying	10
2.3.4. Analyzing.....	10
2.3.5. Evaluating.....	10
2.3.6. Creating	10
CHAPTER 3. XTRANORMAL SOFTWARE.....	11
3.1. Ways to make a movie	12
3.1.1. Creating an animated movie with one or two characters using Xtranormal	12
3.1.2. Creating or signing into an Xtranormal account	12
3.1.3. Signing into your account.....	14
3.1.4. Choose a collection to start making a movie	15
3.1.5. Publish the movie	23
3.1.6. Showing movie to others	25

3.2. Creating a movie using more than two characters	26
3.3. Relating the present work with taxonomy levels	39
3.3.1. Remembering the basic concepts	39
3.3.2. Understanding the working criteria	39
3.3.3. Applying the knowledge.....	39
3.3.4. Analyzing the details	40
3.3.5. Evaluating the best methods to follow	40
3.3.6. Creating an application	40
CHAPTER 4. SOCIAL AND ETHICAL DIMENSIONS	Error! Bookmark not defined.
4.1. Alternative approaches.....	43
4.1.1. Reading.....	43
4.1.2. Online research	44
4.1.3. Audio	45
4.2. How advantageous is video compared to other approaches.....	46
CHAPTER 5. DIFFERENT VIEWPOINTS OF ELECTRONIC MEDICAL RECORDS.....	48
5.1. Technology viewpoint.....	50
5.2. Patient viewpoint.....	51
5.2.1. Methodology.....	51
5.2.2. Analysis	52
5.2.3. Conclusions	54

5.3. Government involvement.....	54
5.3.1. Social and ethical analysis.....	55
5.3.2. Relevant facts	55
5.3.3. Dilemmas.....	56
5.3.4. Options.....	57
5.3.5. Values	58
5.3.6. Conclusion.....	59
5.4. What I have done to understand different viewpoints.....	59
CHAPTER 6. CONCLUSION, LIMITATIONS, AND FUTURE WORK	62
6.1. Conclusion.....	62
6.2. Limitations	62
6.3. Future work	63
REFERENCES	64

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Matrix of social and ethical interactions.....	58

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Basic model of Bloom’s Taxonomy.	6
2. The structure of the revised Bloom’s Taxonomy.	9
3. Xtranormal homepage.....	13
4. Create a movie	13
5. Sign in page.....	14
6. Create a page with your name.....	15
7. Actors.....	16
8. Sets.....	17
9. Actor 1	17
10. Actor 2	18
11. Sounds.....	18
12. Story	20
13. Adding script.....	21
14. Adding facial expressions.....	21
15. Adding a new text block	22
16. Adding Actions	22
17. Adding expressions for the second character.....	23
18. Editing the project.....	23
19. Publish movie.....	24
20. Checkout procedure	24
21. Email message	25
22. URL link	26

23. Xtranormal Search	27
24. Xtranormal desktop webpage	27
25. Xtranormal desktop setup	28
26. Download process.....	28
27. File Location	28
28. Installing the Xtranormal desktop.....	29
29. Launching the Xtranormal software	29
30. Login page	30
31. New project screen.....	30
32. Marketplace Screen.....	31
33. Installing sets	32
34. Installing the process of sets	32
35. Installing actors.....	33
36. Installing voices	33
37. Downloading the voice	34
38. The installing process for a voice pack.....	34
39. Selecting the new project	34
40. Existing sets	35
41. Screen with the set	35
42. Screen with all the installed actors.....	36
43. Screen with an actor standing	36
44. Screen with an actor sitting.....	37
45. Screen with the title	37

46. Screen with the camera options	38
47. Screen with all the dialogues	38

CHAPTER 1. INTRODUCTION

Electronic medical records are a hot topic in the healthcare industry today. There has never been a bigger push to reduce costs, improve patient experience, and go green all at the same time. Digitalizing patients' medical records aims to meet all of those expectations. The move to health information systems with electronic medical records has been ongoing for the last 15 years but has gained more support due to its inclusion in the recent economic stimulus package. The Obama administration says the government could save \$12 billion over 10 years if doctors go electronic because electronic systems help reduce duplication of tests, prevent medical errors, and prompt doctors to prescribe less-expensive drugs (Hall).

The work of this paper explores the social and ethical issues associated with electronic medical records. As a means of exploring these social and ethical issues, we have made a cartoon movie using Xtranormal software. An additional contribution of this paper is to use the movie making as a tutorial example that is useful for students interested in making a cartoon movie. In this tutorial, we have applied the learning theory as described by Bloom's Taxonomy to help in structuring the tutorial to accomplish effectiveness for student learning of the social and ethical implications as well learning the methodologies for creating the cartoon movie.

The foundation for moving towards electronic medical records is due to recent advancements in technology. Without the hardware and software that have been and still are being developed, the concept of a health information system (HIS) with electronic medical records would not be possible. That being said, it is important to examine this technology and its infrastructure to determine how feasible paperless records are.

The electronic medical record is the legal record created in hospitals and ambulatory environments that is the source of data for the Electronic Health Records. The EHR represents the ability to easily share medical information among stakeholders and to have a patient's information follow him or her through the various modalities of care sought by that individual. Stakeholders are composed of patients/consumers, health-care providers, employers, and/or payers/insurers, including the government.

Electronic medical record systems lie at the center of any computerized health information system. Without them, other modern technologies, such as decision support systems, cannot be effectively integrated into routine clinical workflow. The paperless, interoperable, multi-provider, multi-specialty, multi-discipline computerized medical record, which has been a goal for many researchers, healthcare professionals, administrators, and politicians for the past 20+ years, is about to become a reality in many western countries.

1.1. Objectives

The main objective of this paper is to help a student in making a movie, and also using the movie, a student will be able to analyze the social and ethical dimensions of a particular topic which includes (i) Identify the different viewpoints of electronic medical records, (ii) Identify social and ethical dimensions of electronic medical records, (iii) Relate the tutorial or movie to learning theory, and (iv) Provide a learning environment for students that closely aligns with the levels of the Revised Bloom's Taxonomy of Educational Objectives.

1.2. Background

The government made its first major statement about the move to electronic medical records. On February 13, 2009, Congress passed the final American Recovery and Reinvestment Act, and on February 17th, President Obama signed the bill into law. In the act, one of the major

provisions was \$19 billion allocated for the transition to electronic medical records. As part of that provision, President Obama made the declaration that all medical records be digitized by 2014 (Shia Levitt, 2009). In order to ensure that this change occurs, there are both incentives and penalties built into the act. If a healthcare organization opts not to participate in the switch to digital, organization stands to lose government payments for Medicare and Medicaid (Pelosi, 2006).

Until this point, the government has been minimally involved in the move to digital records. Although President George W. Bush declared in 2004 that medical records would be digital in 10 years, there has been little action taken until now (Childs, Dan, 2009). One of the few steps taken was the appointment of a National Coordinator for Health Information Technology. Under President Bush, that man was Dr. David Brailer. Dr. Brailer faced many challenges, including the fact that many regulations written around healthcare in the last 20 years did not consider the concept of digitized records. The question about what the government would do next was probably best said by Dr. Brailer: "HIPAA was never intended for the digital age, because the laws never anticipated the emergence of Web-based records. Congress can pass one of numerous policy proposals for change; it's just a question if they have the will to do that" (Park, Alice).

1.3. Significance of this work

The step-by-step procedure that was mentioned for an effective tutorial takes into account the famous Bloom's Taxonomy of Educational Objectives in the cognitive domain. Classroom learning and knowledge from textbooks is always necessary for students but it is not sufficient for all types of students to gain through knowledge. The regular teaching manner may not bring out the real capabilities in students with different learning capacities. Through the present

tutorial, there is an effort to provide knowledge and, at the same time, give students some space to apply the knowledge while analyzing it in their own way.

This paper aims to facilitate a learning procedure for students to understand the social and ethical dimensions of any topic. The basic idea concentrates more on understanding, analyzing, and making students think about different viewpoints for electronic medical records. As students' progress into the movie, they have a chance to apply their views and to create a brand new movie. Students obtain a clear picture about the social and ethical dimensions after going through this video and can then implement their understanding when and where required. The most interesting feature of this movie is that it gives complete freedom to the student to play around with. This movie is applicable to everyone in society; the movie can be understood even without an instructor.

1.4. Organization of the document

Chapter 1 discusses the Introduction, Objectives, Background, and significance of electronic medical records. Chapter 2 discusses Bloom's Taxonomy learning theory and styles. Chapter 3 discusses the architecture of the tutorial, and helps students understand how to create the movie, and relates the present work with Bloom's Taxonomy. Chapter 4 describes the Social and Ethical Dimensions of Electronic Medical Records as well as the alternative approaches and how this movie will try to reach the alternative approaches. Chapter 5 discusses a thorough understanding for the student to understand the different viewpoints. Chapter 6 contains the Conclusion, Limitations, and Future Work.

CHAPTER 2. BLOOM'S TAXONOMY

The taxonomy of educational objectives, often called Bloom's Taxonomy, is a classification of the different objectives that educators set for students (learning objectives). Bloom designed the taxonomy in order to help teachers and instructional designers classify instructional objectives and goals (Bloom, Benjamin, 1984). The Taxonomy relies on the idea that not all learning objectives and outcomes have equal merit. Bloom's Taxonomy is hierarchical; learning at higher levels is dependent on having attained prerequisite knowledge and skills at lower levels. There are three domains that Bloom's Taxonomy has proposed for educational objectives: cognitive, affective, and psychomotor. The cognitive domain deals with a person's ability to process and utilize information in a meaningful way. The affective domain relates to the attitudes and feelings that result from the learning process (Bloom, Benjamin, 1984). The most famous method often used in the education field is Bloom's Taxonomy for the cognitive domain because it describes the learning theory based on student mental abilities and gives teachers a clue about how the class should be designed.

2.1. Basic model of Bloom's Taxonomy

The basic architecture of the cognitive domain contains six levels. The hierarchy of learning is often represented in a triangle with the lower level of learning at the base and the higher level at the top. Bloom explained the first two levels, knowledge and comprehension, as lower-order learning skills because they require only the study or understanding of the concept. He classified the other four steps as higher-order thinking skills because they need some action or execution of ideas from user's side. Bloom's Taxonomy structure is given in Figure 1.



Figure 1. Basic model of Bloom's Taxonomy.

2.1.1. Knowledge

Knowledge is about the terminology, simple facts about the domain, criteria, principles and generalizations, and methodology (Bloom, Benjamin, 1956).

2.1.2. Comprehension

A student will understand the meaning, translation, interpolation, and interpretation of instructions and problems. A student will state a problem in one's own words (Bloom, Benjamin, 1956).

2.1.3. Application

A person uses a concept in a new situation or has an unprompted use of an abstraction. The student applies what was learned in the classroom to novel situations in the work place (Bloom, Benjamin, 1956).

2.1.4. Analysis

The student separates concepts into component parts so that its organizational structure may be understood (Bloom, Benjamin, 1956).

2.1.5. Synthesis

The student builds a structure or pattern from diverse elements. The student puts parts together to form a whole, with emphasis on creating a new meaning or structure (Bloom, Benjamin, 1956).

2.1.6. Evaluation

The student makes judgments about the value of ideas or materials (Bloom, Benjamin, 1956).

2.2. Relating the present work to the basic model of Bloom's Taxonomy

2.2.1. Knowledge

After watching this movie, a student will know the terminology, such as social and ethical dimensions; the Xtranormal software; and the methodology for how to make a movie.

2.2.2. Comprehension

Chapter 3 gives a proper understanding about how students will make the movie from beginning to end with all the screenshots. Chapter 5 helps students to understand the social and ethical dimensions, and also, they will get an idea about how to analyze the social and ethical dimensions of a particular topic.

2.2.3. Application

This step is important because students will be choosing their own topic and making a movie. This particular movie will help students learn how to make a movie using Xtranormal software. Also, Chapter 5 gives an idea about how to think from a different perspective and helps in applying what was learned in the classroom by watching this movie.

2.2.4. Analysis

Analysis part helps a student to know how to analyze the different viewpoints because the characters in this movie discuss different views. The characters try to analyze topic they talk about, so the movie gives a student a thorough understanding about how to analyze the social and ethical dimensions of the topic.

2.2.5. Synthesis

All the parts, such as writing the script, download the Xtranormal desktop, downloading all the characters, putting all the characters together, and making a movie, help students to get synthesis.

2.2.6. Evaluation

After watching the movie, a student will be able to make some evaluation about how to analyze different viewpoints.

2.3. Additional work (revised taxonomy)

As Bloom's Taxonomy started getting older, people realized that the new age of learners had different needs and capabilities therefore; there was a need to reorganize Bloom's Taxonomy. After a lot of research and expansion, Bloom's Taxonomy was modified over the years, and in 2001, another theory based on Bloom's Taxonomy, which is quite similar, was proposed (Orey, 2001). The present paper focuses more on the newer version of Bloom's Taxonomy. During the 1990s, a former student of Bloom's, Lorin Anderson, led a new assembly which met for the purpose of updating the taxonomy, hoping to add relevance for 21st-century students and teachers. The revision includes several seemingly minor, yet actually quite significant, changes. The changes occur in three broad categories: terminology, structure, and

emphasis. A group of cognitive psychologists was involved in proposing the new *Taxonomy for Learning, Teaching, and Assessing* (Anderson, L.W. & Krathwohl, D.R, 2001). The improved taxonomy is also well liked by officials in various academic backgrounds. When evaluating the methods for case assessment in law schools, teaching art classes, and simplifying the learning procedure of formulas in mathematical and engineering subjects everywhere, professors started formulating their classes based on the learning levels in Bloom's Taxonomy. This widely applied scheme filled a void and provided educators with one of the first systematic classifications for the processes of thinking and learning [5]. Figure 2 describes the six levels in the revised taxonomy. They are defined in the following sections.

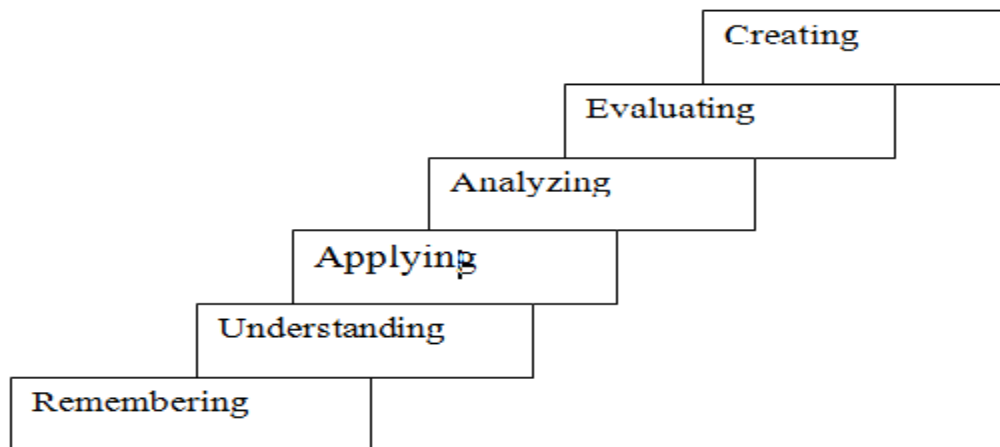


Figure 2. The structure of the revised Bloom's Taxonomy.

2.3.1. Remembering

The process of remembering is retrieving, recognizing, and recalling relevant knowledge from long-term memory. It is almost like comprehension in the original version of Bloom's Taxonomy (Orey, 2009).

2.3.2. Understanding

Students construct meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining (Orey, 2009).

2.3.3. Applying

Students carry out or use a procedure through executing or implementing the movie (Orey, 2009).

2.3.4. Analyzing

Students break material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing (Orey, 2009).

2.3.5. Evaluating

Students make judgments based on criteria and standards through checking and critiquing (Orey, 2009).

2.3.6. Creating

Students put elements together to form a coherent or functional whole. They reorganize elements into a new pattern or structure through generating, planning, or producing (Orey, 2009).

CHAPTER 3. XTRANORMAL SOFTWARE

This chapter focuses on teaching a student the step-by-step procedure for creating an Xtranormal movie and also illustrates the advantages of Xtranormal compared to other movie software. Movies are a creative way to express thoughts and ideas just like role play, creating animated movies involves analyzing and problem solving because we must understand and enact the roles of others. Furthermore, some people might find that creating movies is less confronting than engaging in role play with others because some things are easier said through the mouths of other characters. The process of writing the script for movies also forces individuals to be concise and to get the points across much more quickly and creatively than if engaging in conversation or writing an essay.

Xtranormal is an online service that lets any users create own movies. This process can be done with the utilization of script and the usage of characters and by choosing from a menu of camera angles and scenes to create a movie. Anyone can create an Xtranormal movie. No real previous experience in movie making is necessary. Xtranormal videos may also be created through an interface on the YouTube website and Xtranormal's animation software, called State, may be downloaded free and run offline.

This chapter helps a student create a cartoon movie using Xtranormal software. There are two ways to make a movie using Xtranormal. If there is only one or two character, the movie can be created using the Xtranormal home page. The other way is if we want to create a movie with more than two characters, i.e., Xtranormal desktop. There are two parts in this chapter. In the first part, we explain the step-by-step procedure to create a movie with one or two characters. In the second part, I take my movie topic, i.e., electronic medical records, and explain the entire process of making a movie with more than two characters using Xtranormal software.

Following are the advantages for the students and teachers using Xtranormal software:

- Teachers and students can make “how to” videos to share with parents and friends.
- Teachers can make online education environments more engaging by posting some assignments or activities via Xtranormal.
- Students can use Xtranormal to broadcast weekly news from their school or classroom.
- Students can produce project videos on any curriculum topic.
- Students can make debate videos about different events in history or discuss a book they have finished reading.
- Students can create animated characters who speak their conversations or explanations using target vocabulary.

3.1. Ways to make a movie

An Xtranormal movie can be created in two ways.

- Creating a movie with one or two characters
- Creating a movie with more than two characters.

3.1.1. Creating an animated movie with one or two characters using Xtranormal

This section gives a student a tutorial to make a movie with one or two characters from beginning to the end. Following are steps that need to be followed.

- How to create an Xtranormal account
- How to create an animated movie with Xtranormal.
- How to publish the movie.

3.1.2. Creating or signing into an Xtranormal account

- Open your browser.

- Go to the Xtranormal homepage (Figure 3): <http://www.xtranormal.com>.
- In the top, left-hand corner, click on the Create tab. It will take you to the page that is shown in Figure 3.

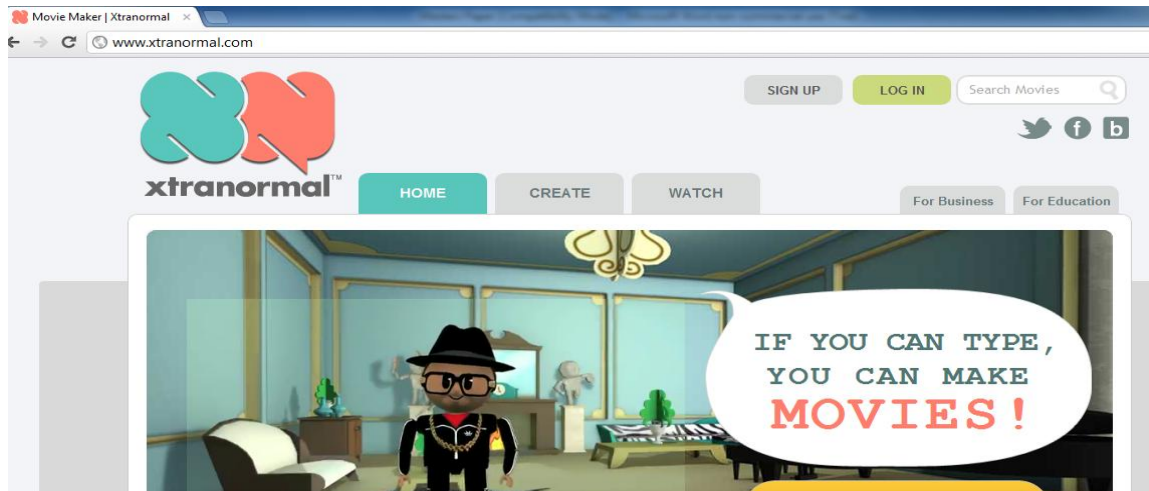


Figure 3.Xtranormal homepage.

Figure 4 is the page which will take to the page to create the actual movie. It is the actual place where a student will be creating the movie.

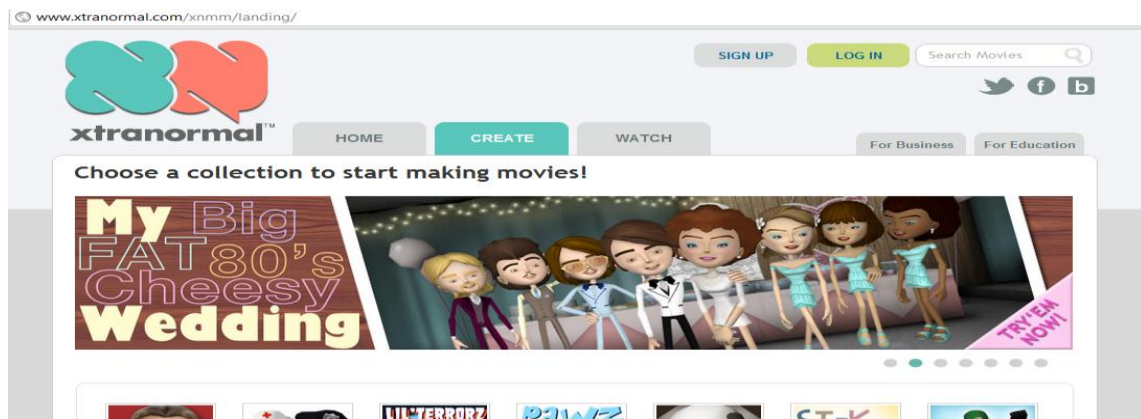


Figure 4.Create a movie.

- If you are first-time user, click on the Login button, or click on the Sign up button if you want to create an account. If you click on any of the buttons, you will go to the page that shown in Figure 5.

- You will be prompted to create a username and password for your account. Give an email address where you can be reached.
- Type the two words you see (i.e., ctiothei reason).
- Click on the Create Account button.
- Once you have signed up, the webpage will display a success message telling you that you will receive an email with instructions and an activation code for initiating your account. Figure 5 takes you to the page to login into your account or to sign up for a new account.

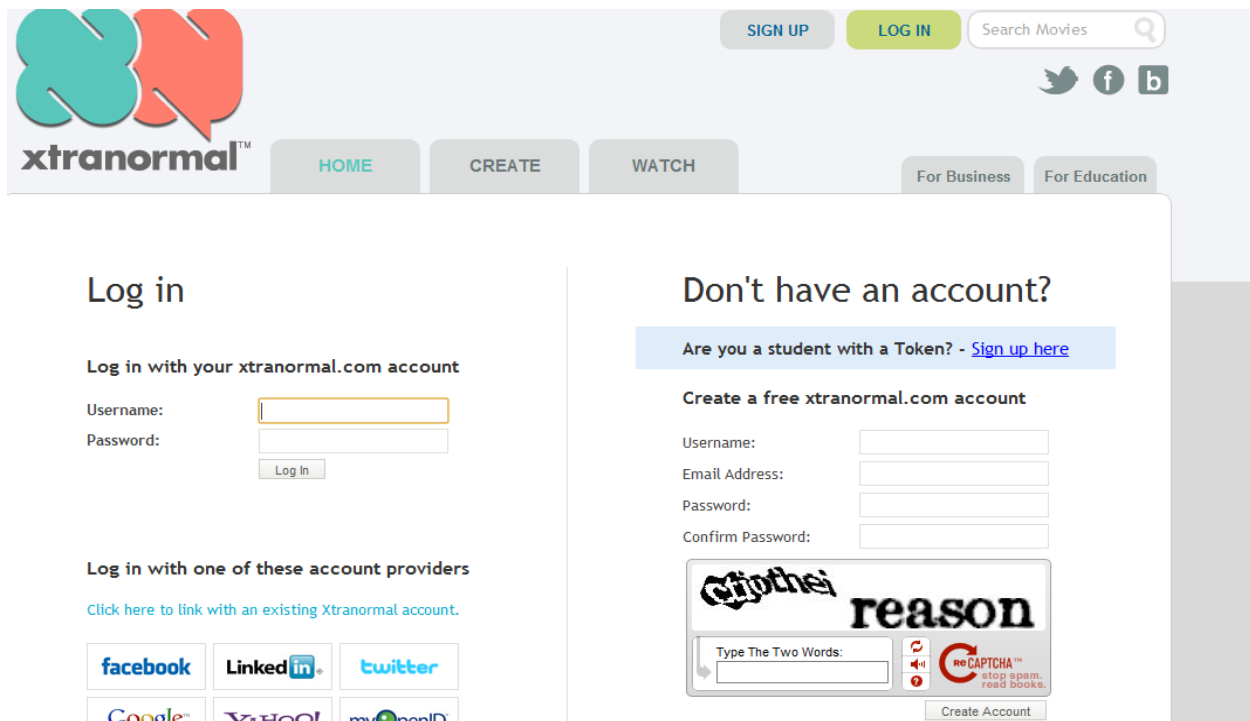


Figure 5. Sign in page.

3.1.3. Signing into your account

- Open your email account.
- Open the message from Xtranormal.

- Click the link, as directed, to activate your account.
- This action will open an Xtranormal page, prompting you to log in to your account.
- Click Log in.
- Enter your Username and Password.
- Click Submit.
- This action will take you to the homepage, but you will notice that, on the top left, instead of saying CREATE ACCOUNT, it says HI [your name]!
- Click MAKE MOVIES. Figure 6 is the page which shows that you have logged into your account and shows your name on top of the page.

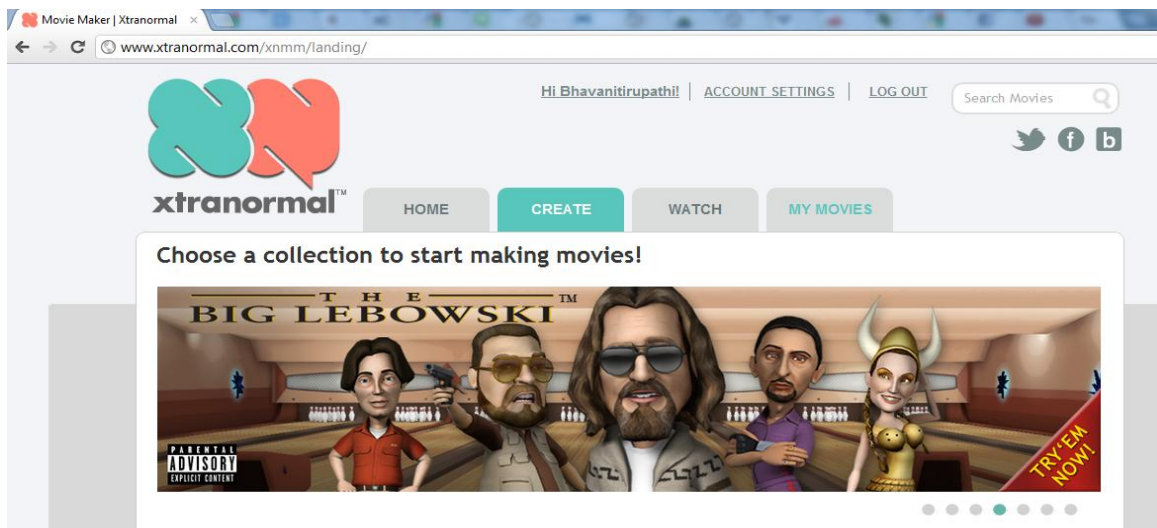


Figure 6. Create a page with your name.

3.1.4. Choose a collection to start making a movie

From here, you have an option to select either one or two characters. When you click the actor's button, it will take to the screen shown in Figure 7. You will be presented with several different showpaks; each one presents a different scene with different types of characters. You are also presented with the option of having 1 Actor or 2 Actors. Explore the different scenes by

clicking either 1 Actor or 2 Actors on a showpaks or choose the one that seems most suitable for your project.

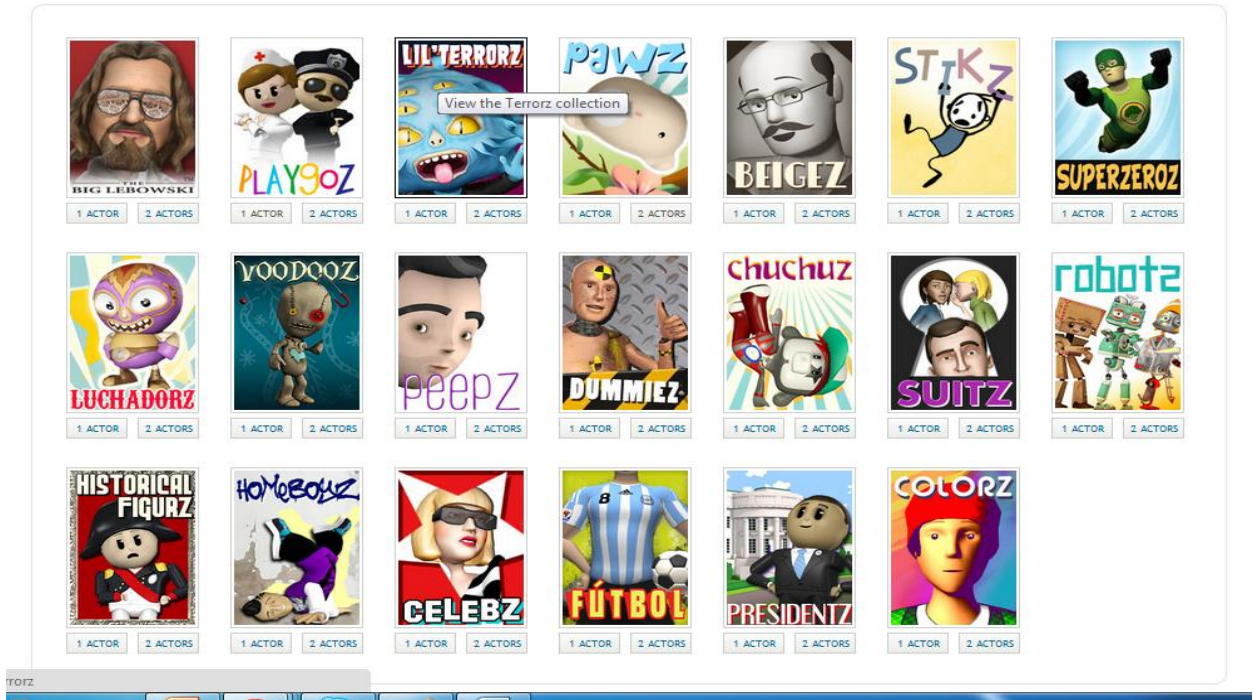


Figure 7. Actors.

The next screen will take to the page showing all the Sets, Actors, Sounds, and Story. From there, a student will be asked to choose a theme. There are 25 different themes from which to choose. It has its own character and world in which it lives. Depending on which theme you choose, you will be given different sets.

When you choose your Set, a blue frame will appear around it. Also, make sure to pay attention to the Xtranormal point toolbar because the amount of points you need to pay at the end will depend on the set chosen. Figure 8 shows the page with all the available sets that are available.

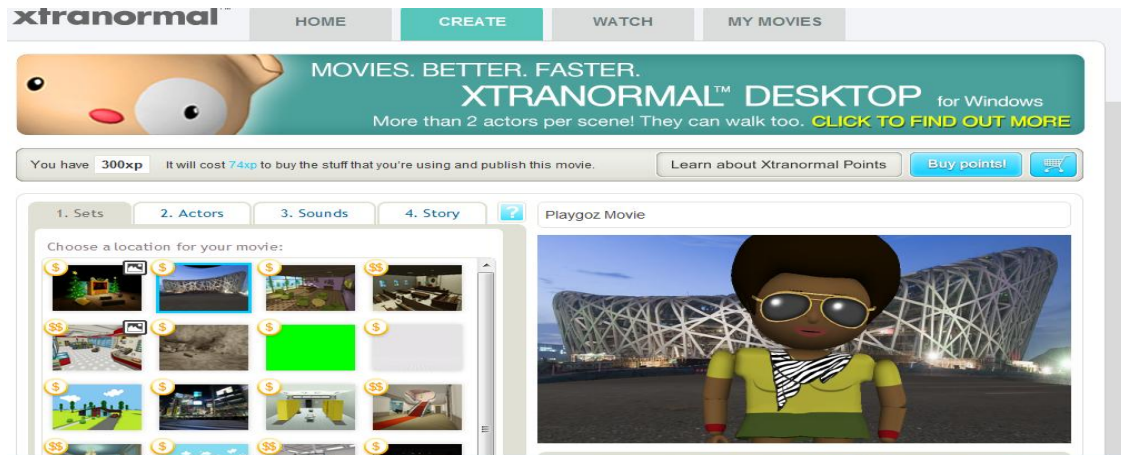


Figure 8.Sets.

Then, you can select Actor 1 and also a voice for the character. From the other tab, you can select Actor 2 and the voice for the character. Then, click on the actor's tab to preview and choose the actors you want to use in your movie. Figure 9 shows the page with all the actors that are available and out of that we can select the actor. If a movie has one actor, you have the choice of using only one actor from the options. If a movie has two actors, you can mix and match between the characters. Depending on the story, you can select the characters.

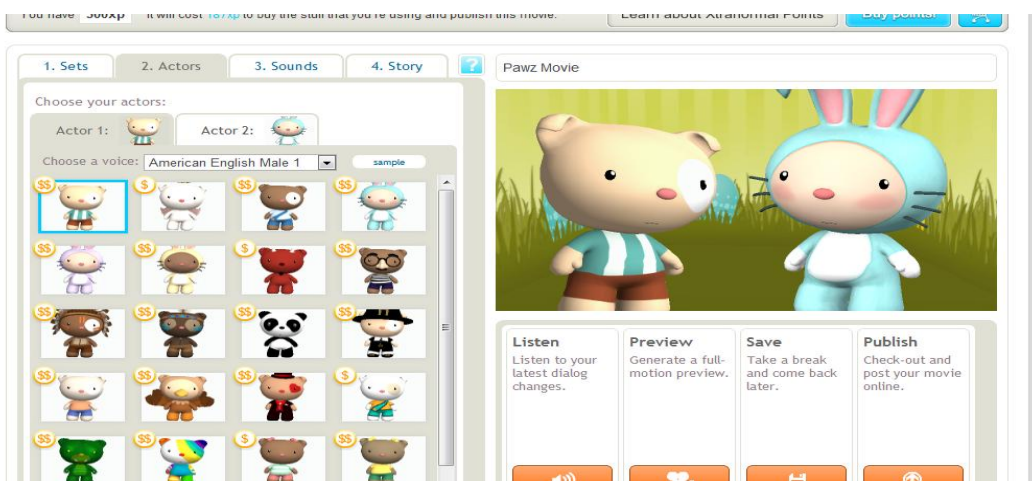


Figure 9.Actor 1.

Figure 10 shows the page with all the actors that are available and out of that we can select the actor.

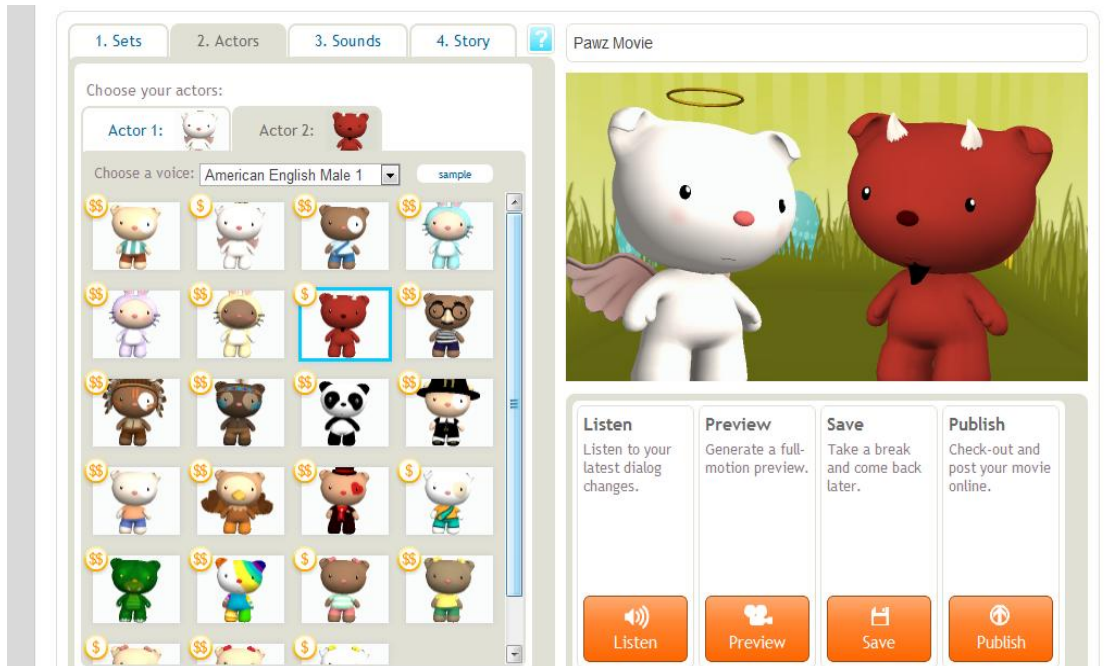


Figure 10. Actor 2.

Then, you will be given an option to choose background music and background sound from the third tab. It is shown in Figure 11. With sounds, you are able to choose live sounds to make fit to the movie with the sets and characters. Background music can also be chosen.

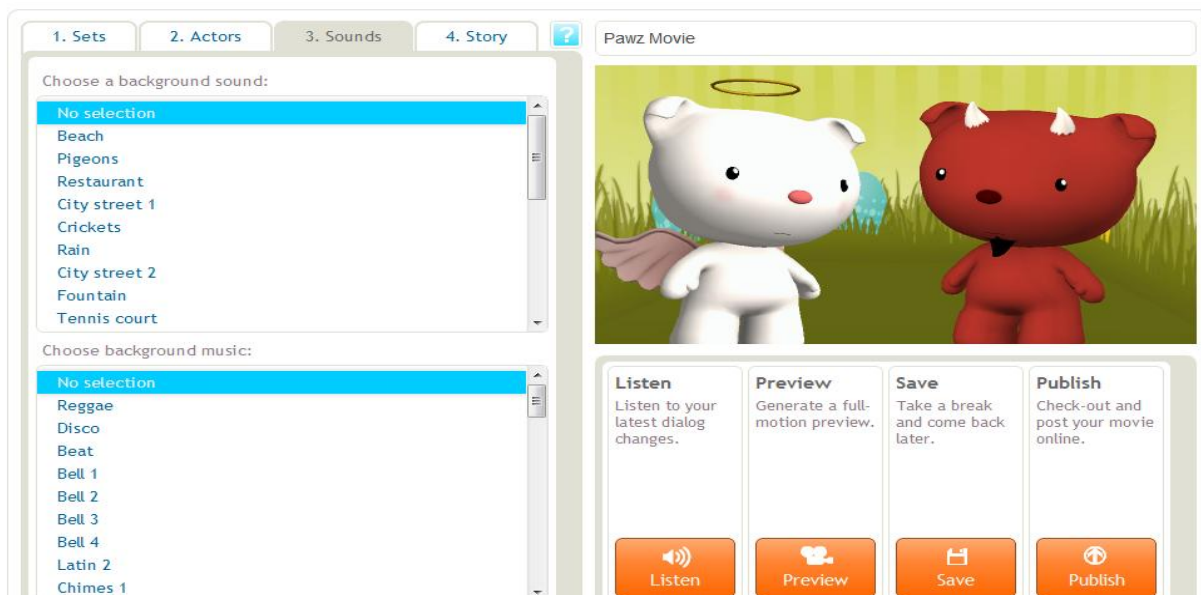


Figure 11. Sounds.

The Story tab is where you will write the movie's script. Not only do students have the capability of writing dialogue for the characters, but they also have a chance to direct the movie. On the left side of the screen, there will be options to make a movie. On the right side of the screen, you can preview your movie. Explore the options along the side and at the bottom of the left side of the screen. All the options are shown in the figure 12.

- The camera icon allows students to choose different camera angles.
- The person walking icon allows creators to choose simple animations for the characters.
- The winking smiley face icon allows the addition of expressions for the characters.
- The big eyes icon allows students to make characters look at the camera.
- The pause icon allows the creator to put in a short pause for thinking and a longer pause for when a character is stumped.
- The speaker icon allows students to put in sounds (e.g., phone ringing).
- The magicam icon creates automatic camera angles which can be a bit frustrating. When the icon is lit up and colored, it is on click it to turn it off/on.
- The change scenes icon allows users to change the movie scene in their chosen showpak.
- The music note icon allows the addition of a soundtrack and ambient noises to the movie.
- The character icon allows creators to choose different actors and change the actors' voices.

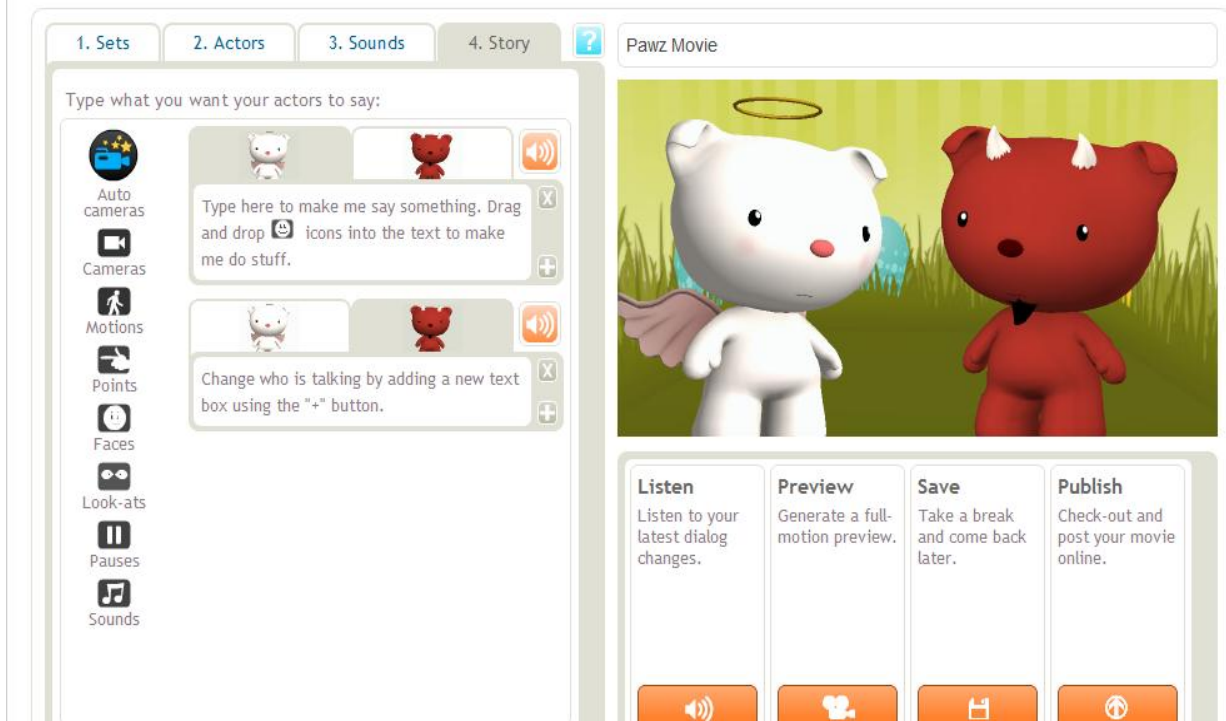


Figure 12.Story.

- Start making your movie by clicking in the Write the script field and typing in your script.
- Drag the side icons into your script to add action.
- When you drag, a pop-up box will show, providing you with options. Choose your action, and click Apply.
- To add more script (i.e., for a second actor), click the plus button on the bottom right of the script you are writing.
- Design the scene by choosing your options at the bottom of the screen.
- You can also drag the Faces button to the dialogue to change the character's facial expression. Figure 13 shows the place where a student can write the script.

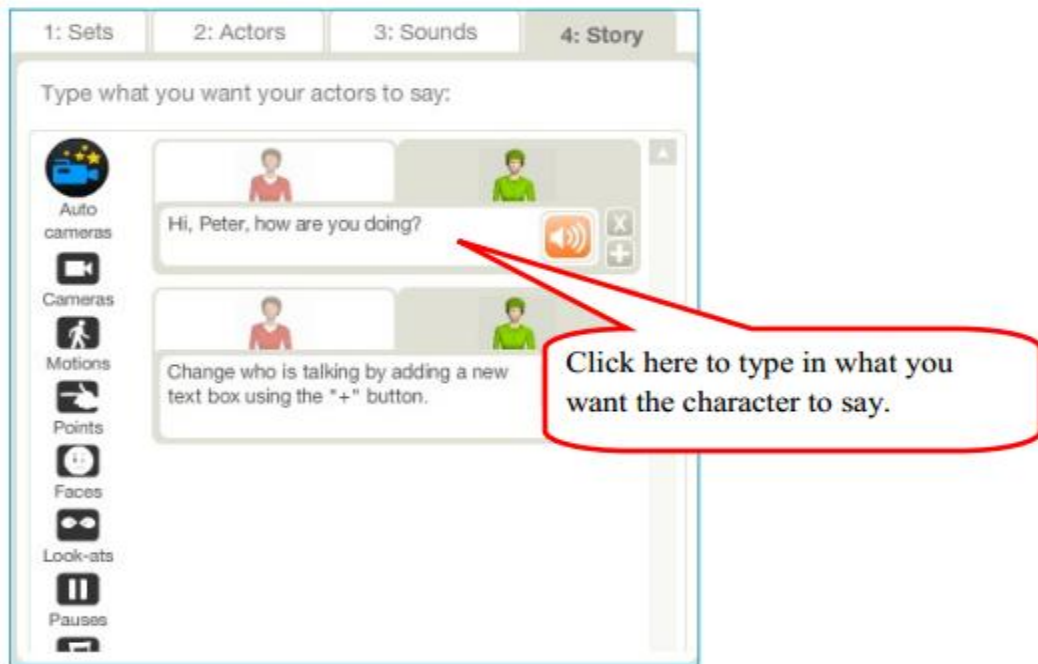


Figure 13. Adding script.

Figure 14 shows the page where a student or user can add the facial expressions to the text. If we want to show a person with happy or angry face we can show by just using the icons that are available.

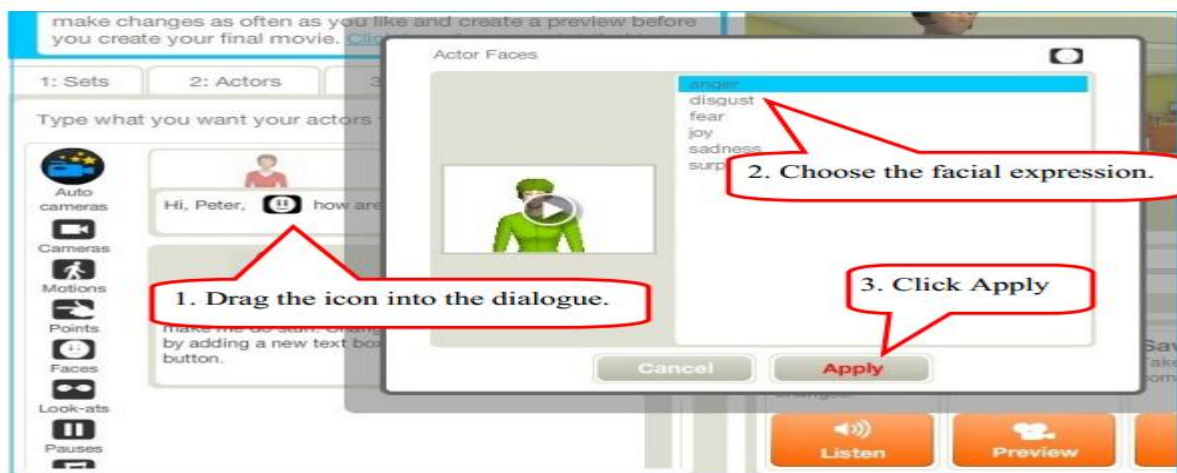


Figure 14. Adding facial expressions.

- Click on the plus button to add a text block which is show in the figure 15.



Figure 15. Adding a new text block.

- Repeat the steps above to finish your story. The method of adding actions is the same as adding facial expressions which is shown in the figure 16.

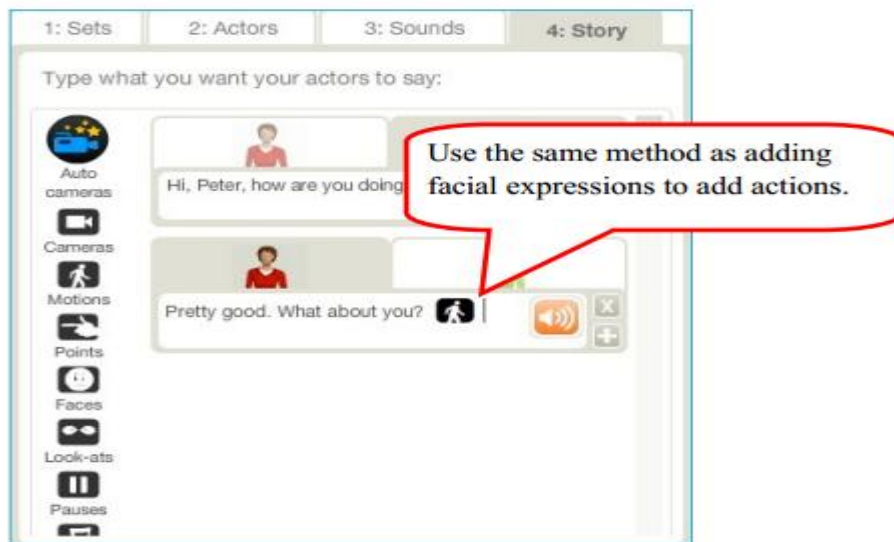


Figure 16. Adding Actions.

- Now, we have finished typing the dialogue and adding the necessary actions and facial expressions shown in the figure 17.



Figure 17. Adding expressions for the second character.

- Click the Preview button on the right side to render the movie.
- Make necessary changes, such as the starting point of the action or facial expressions.
- Then, give the movie a title, and click the Save button. Click OK when this new window pops up. Figure 18 shows the available options like listening, preview, save and publish the project.

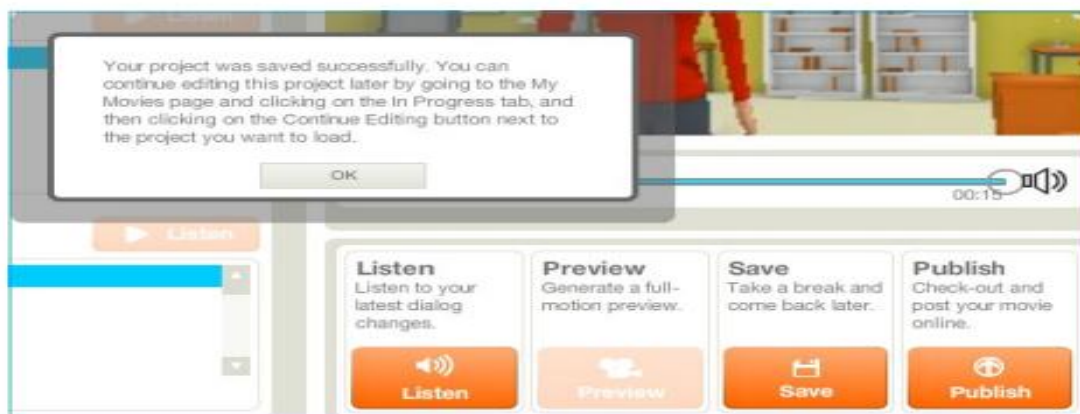


Figure 18. Editing the project.

3.1.5. Publish the movie

- Now, type in the information about your movie, and then, click the publish button.

- Xtranormal will give a summary of the movie.
- Please note the Xtranormal points needed. If everything is ok, click the Checkout button to start the movie. Figure 19 shows the points the page to publish the movie.

Publish your movie
 Generate a final-quality version of your movie to share with your friends. Note that you can keep it private in your My Movies page if you prefer.

Enter a title:

Enter a description:

Enter tags (keywords comma-separated) for your movie:

Add to Series:
 or

Content Rating:

Figure 19. Publish movie.

Figure 20 shows the page to check out procedure of the movie and the total points that are taken for the entire movie.

Shopping cart
 Your cart contains the following items:

700		Andrea	37xp
707		Joanne 01	37xp
732		Colorz-Office	75xp
1146		Publish Movie	100xp

Total points to be deducted from your account when published: **249xp**

Figure 20. Checkout procedure.

- Now, see the notification information from Xtranormal. Click on Close. If the movie is long; it might take a longer time to render. When it is done, you will receive an email from Xtranormal (Figure 21).

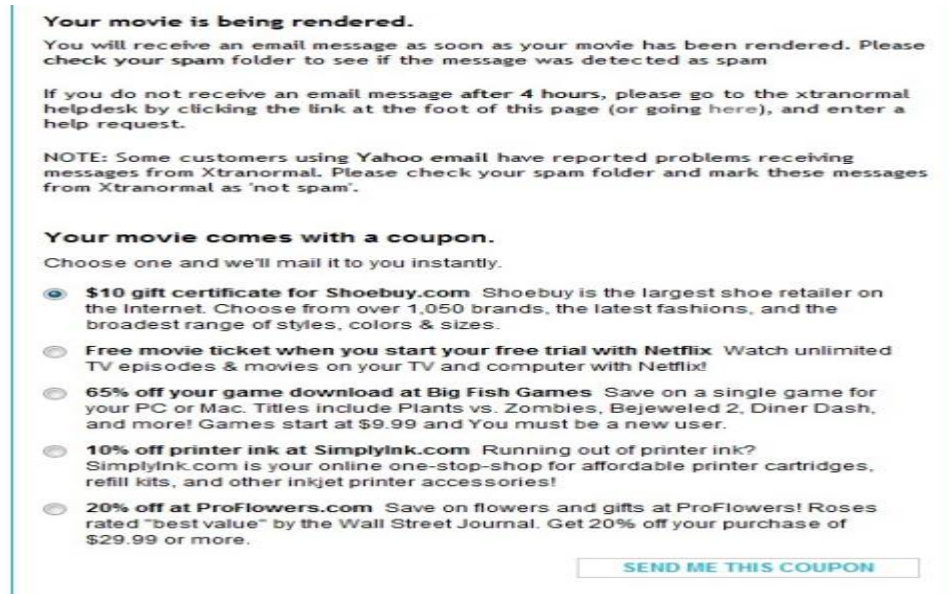


Figure 21. Email message.

- If the movie is long, it might take longer time. When it is done, you will receive a message. Click the thumbnail of the movie to open it.
- You can now share your movie either by using the URL or the embed code generated by Xtranormal.

3.1.6. Showing movie to others

There are few options to show the movie after publishing it.

- **Send the link:** Copy the URL, and send it to others.
- **Embed in a webpage:** Copy the embed code, and embed it into the webpage

- **Publish to YouTube:** Click the Publish to YouTube button

Figure 22 shows all the options to show the movie.



Figure 22.URL link.

3.2. Creating a movie using more than two characters

This section will give a step-by-step procedure to make a movie using more than two characters. Here, I took one example to analyze and to identify the social and ethical dimensions, and created a movie on electronic medical records. I took electronic medical records as an example and related while creating the movie and showing every step. The main idea is having students understand how to make a movie on their own topic after going through this entire section. I am also providing the movie link so that students can understand and learn the social and ethical dimensions as well as the process to make a movie.

- Open your browser.
- Google “Download Xtranormal Desktop.” You will get a link; go ahead and click the link shown in Figure 23.
- The link will take you to the Xtranormal desktop page where you can download the Xtranormal desktop.

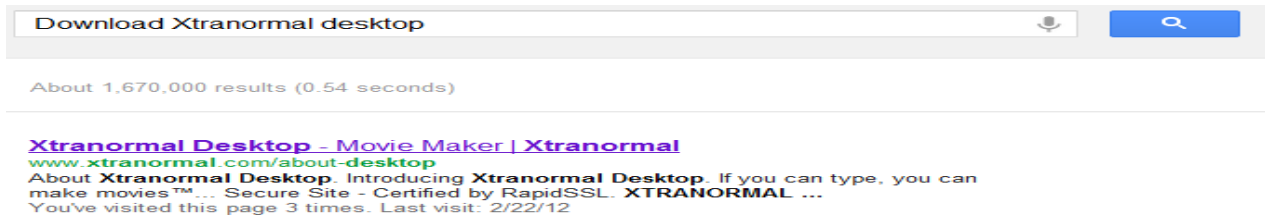


Figure 23.Xtranormal Search.

- Click on Download Xtranormal Desktop
- You will get an exe file to save. Click on save file.
- Save it to your desktop, and run the file. Click on “next” until the screen says “finish” completing the downloading process.

Figure 24 shows the home page of the Xtranormal Desktop with the option to download the software.

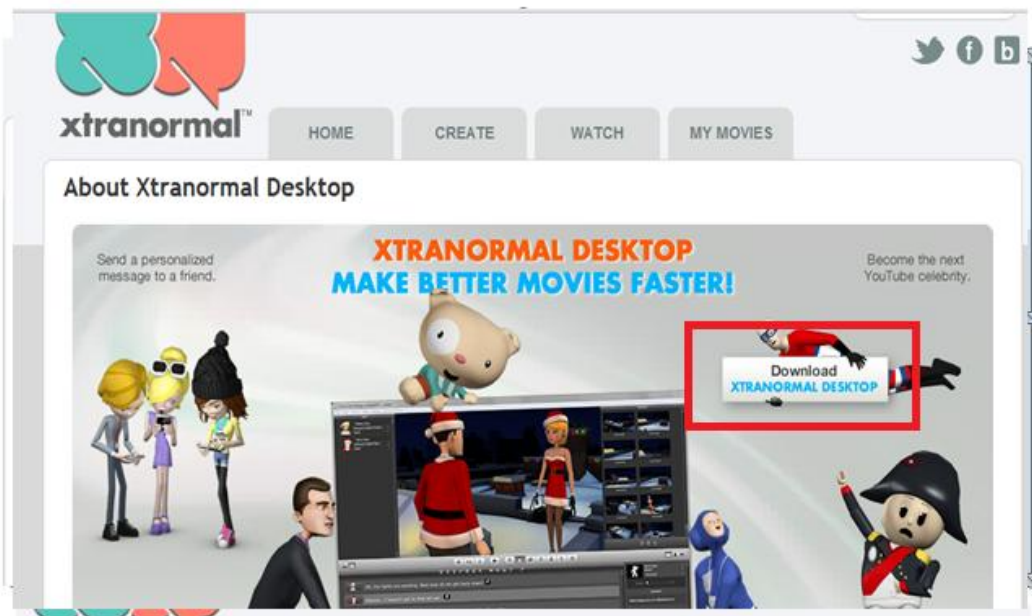


Figure 24.Xtranormal desktop webpage.

Figure 25 shows the process how to start downloading and saving the file to the desktop.

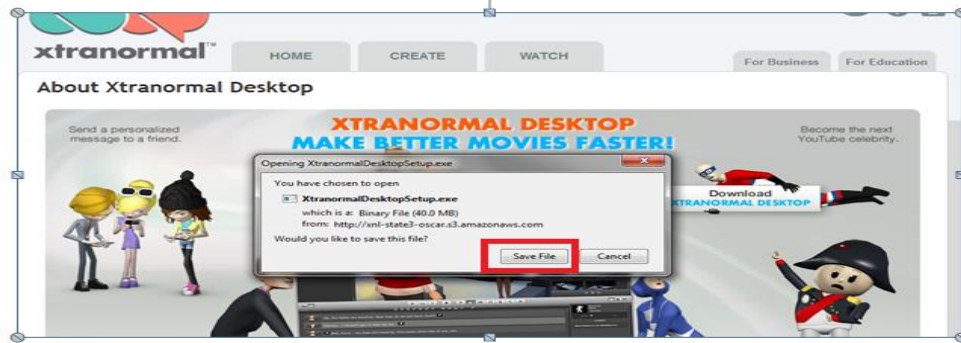


Figure 25.Xtranormal desktop setup.

Figure 26 shows the process to run the Xtranormal desktop software.

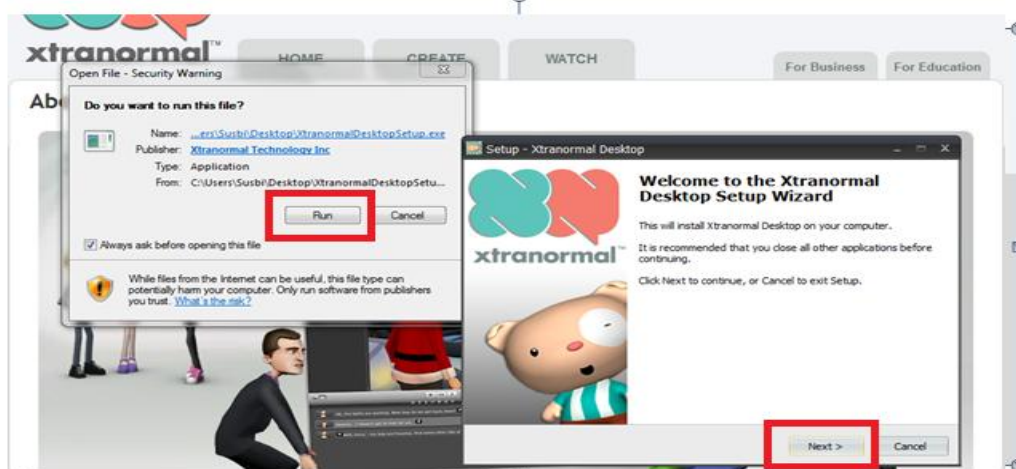


Figure 26.Download process.

Figure 27 shows the location to save the file to the desktop.

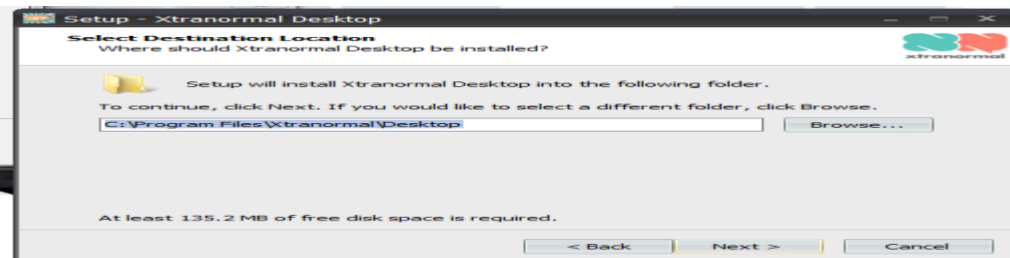


Figure 27.File location.

Figure 28 shows the installing screenshot of the Xtranormal desktop file.

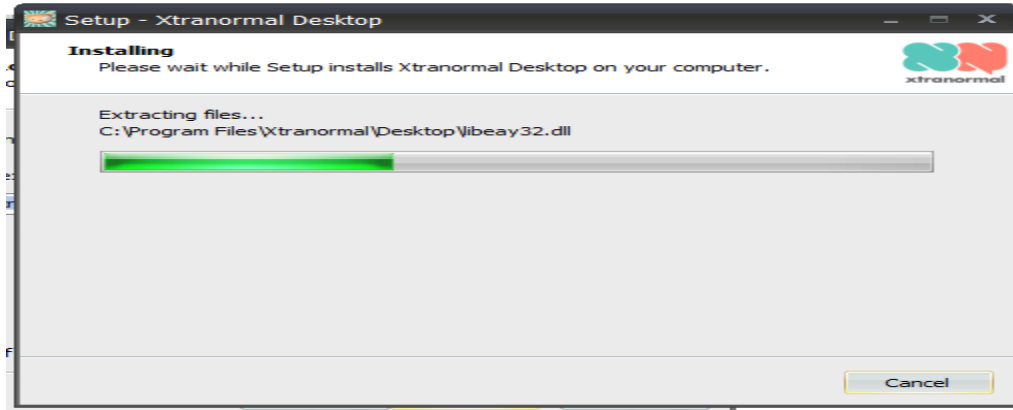


Figure 28. Installing the Xtranormal desktop.

Figure 29 shows the last step of the downloading procedure of the Xtranormal software

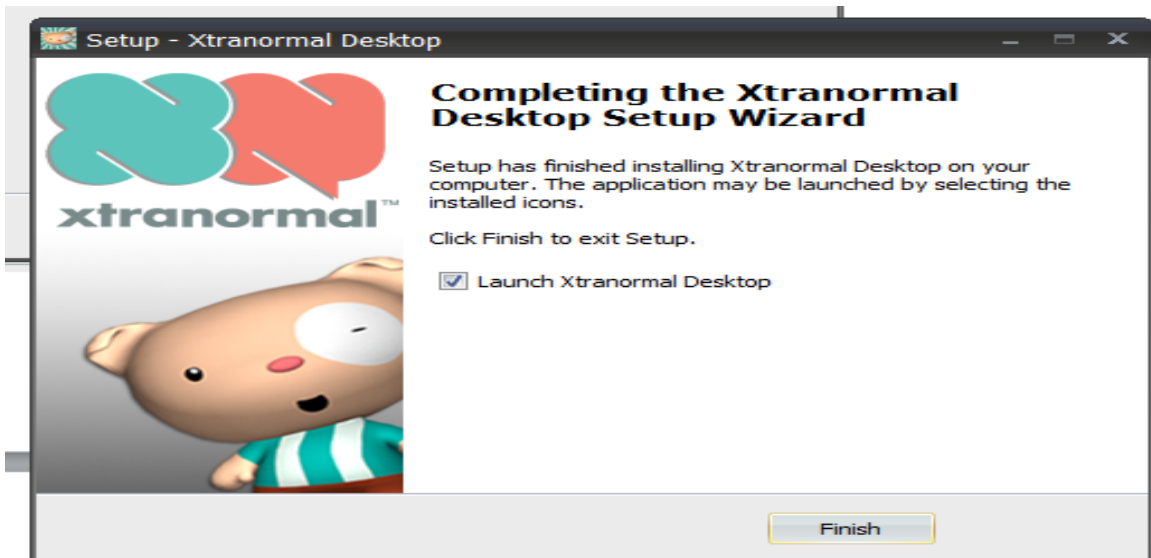


Figure 29. Launching the Xtranormal software.

The next screen will show you the Xtranormal desktop beta or Windows. It will ask for your username and password. Give your username and password, and click on sign in which is shown in the figure 30.

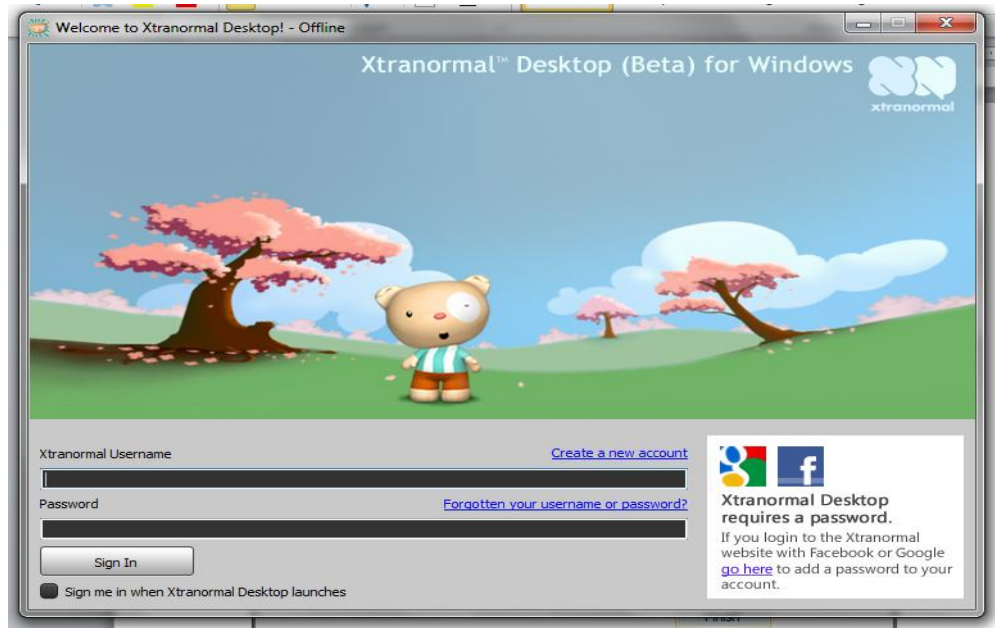


Figure 30.Login page.

Figure 31 shows the page to create a new project, open the existing project and the market place.



Figure 31.New project screen.

The above screen will show you the recent projects or will ask you to choose a new project. Because students will be creating new projects, they will be chosen a new project. The next screen shows the marketplace option to select. I have chosen marketplace and went there to install the characters and sets. To make this particular movie, I thought a conference room or

board room movie set would be more suitable and chose the characters that best fit this particular movie. I chose six characters and named them Head of the department, Doctor, Hospital Administrator, Technical Person, and two patients. The entire process for how I created the movie is captured in the screenshots and also explained after every screenshot. Figure 32 shows the option to go the market place and select the required characters and sets for the movie.



Figure 32. Marketplace screen.

There are so many categories; you can go in to select the Sets, Actors, and Voices. From the left side the screen, there collection with different categories, such as robotz, suitz, superzeroz, Terrorz, etc. I chose the set and characters from the suitz category which is shown in the figure 33.

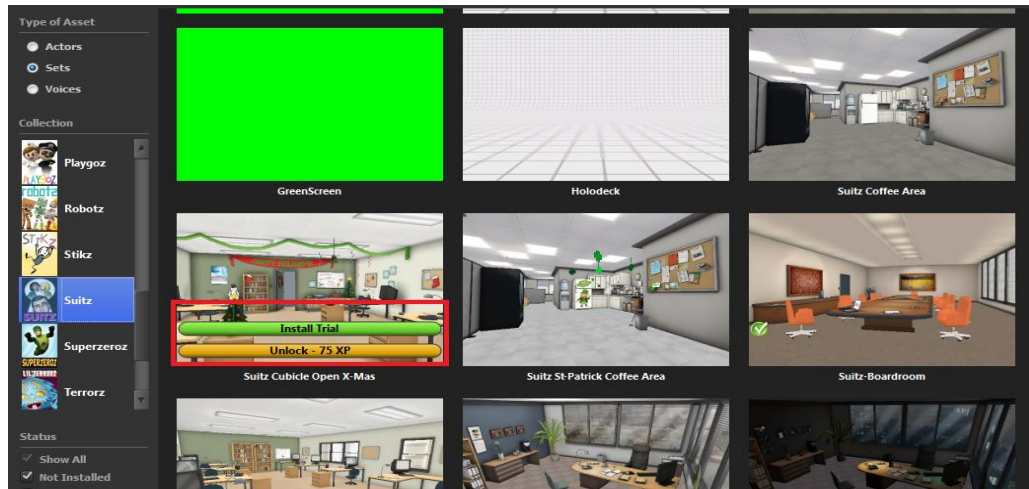


Figure 33. Installing sets.

Figure 34 shows all the available sets and installing procedure of the sets.

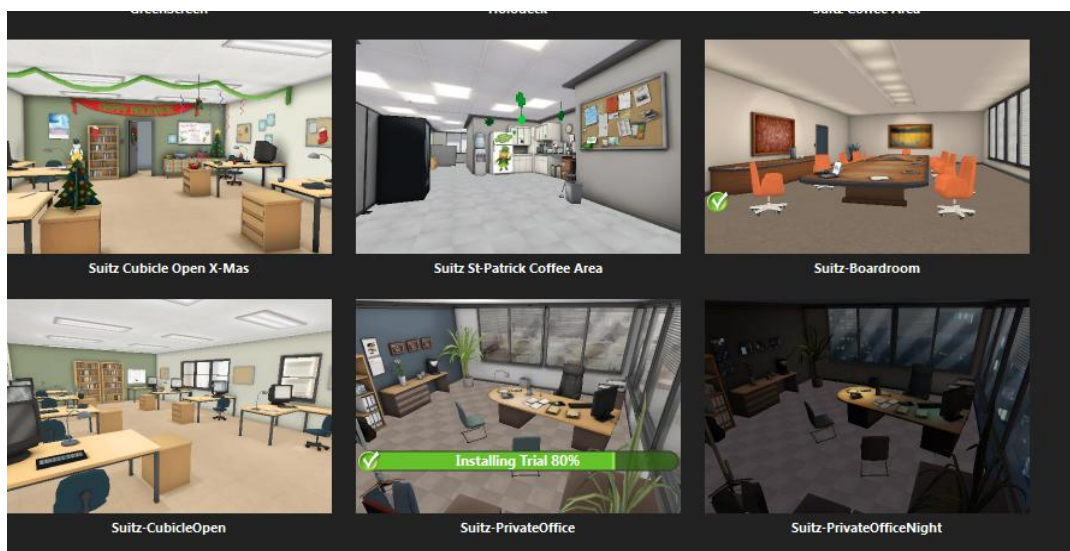


Figure 34. Installing the process of sets.

After selecting the sets, go to the actors, which are right above the sets, and see which characters will best suit your movie. I chose a few characters from the suits category to create the movie. Clicking on a character will give the option to install the character which shows on the Install Screen which is shown in the figure 35. When you create a movie, try to download all the characters needed for your movie.

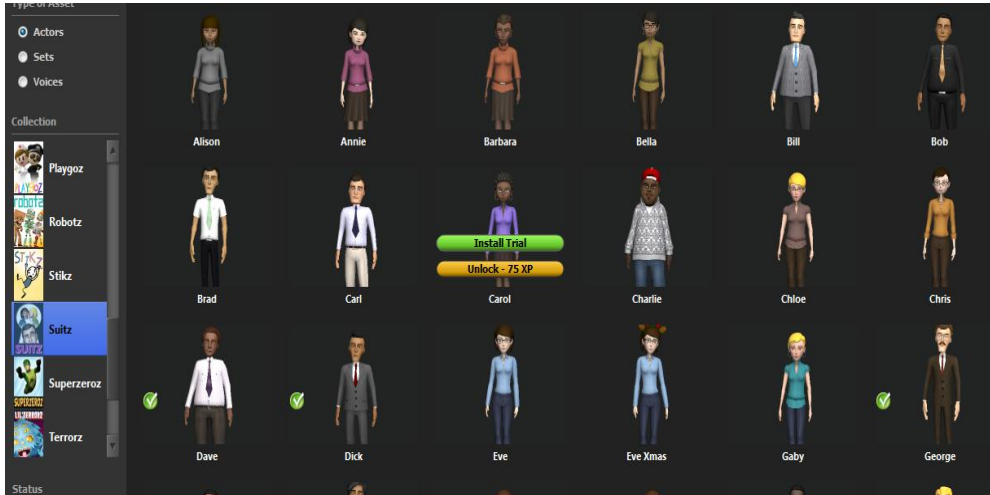


Figure 35. Installing actors.

On the left-most corner below the sets and actors of the same screen, you will see a voice option, from where you can select the characters' voices. Figure 36 shows the available voice options to download. The screen has both female and male voices with all the country accents; there are also different languages for some countries. For my movie, I selected both U.S. female and male voices along with a UK male voice, downloading all the voices.



Figure 36. Installing voices.

Figure 37 shows the downloading procedure and also the voices that are already downloaded.



Figure 37. Downloading the voice.

Figure 38 shows the installing process of voice pak after downloading the voice, voice paks will be installed.

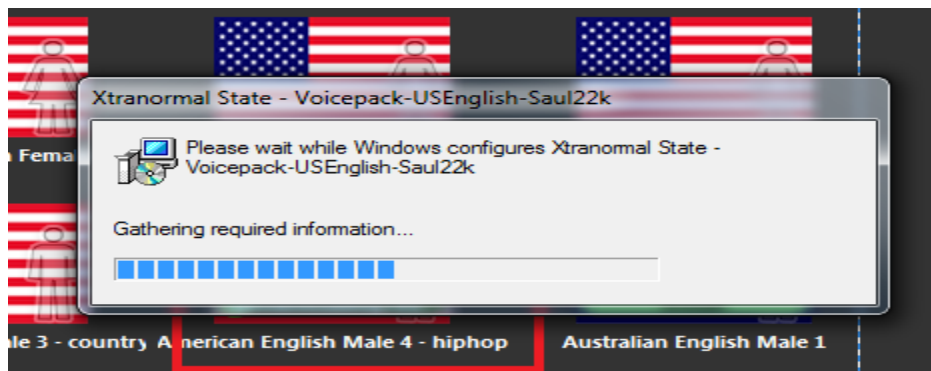


Figure 38. The installing process for a voice pack.

Figure 39 shows the screen to select the new project.



Figure 39. Selecting the new project.

The next screen shows all the sets I have selected and downloaded thus far. From those sets, we can select the set we are going to use to create the movie. Because I created a movie where all the characters will be discussing an issue, such as a case study, I chose Board room which is shown in the page 40.

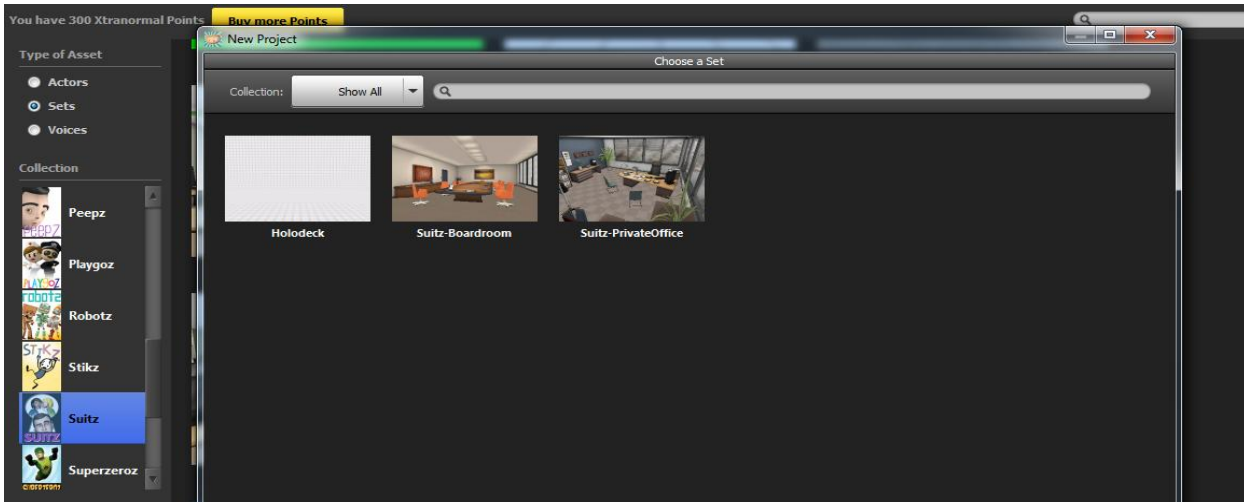


Figure 40.Existing sets.

After clicking on the set, it will automatically show the sets. Figure 40 is what appears after selecting the set. A lot of features that are displayed at the bottom of the screen. They are the key options to create a movie. Figure 41 is the screen after selecting the set.

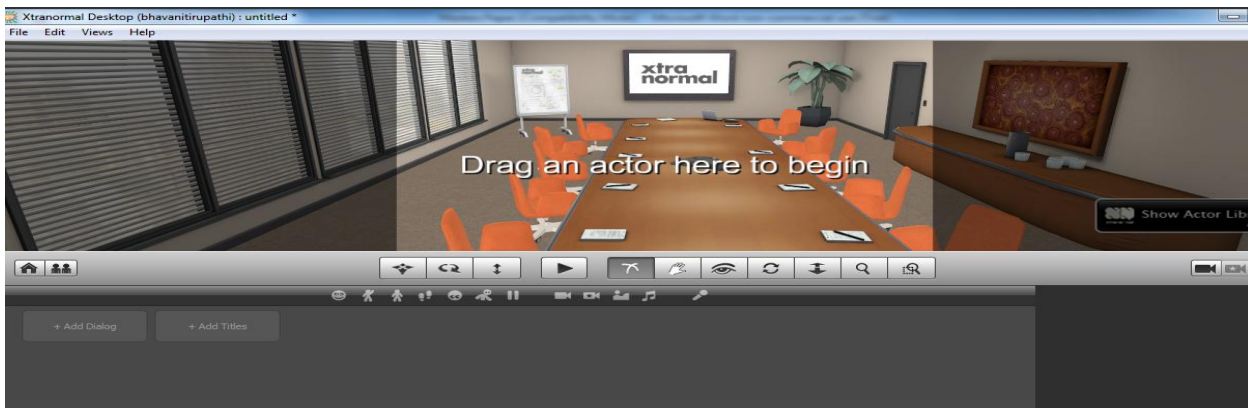


Figure 41.Screen with the set.

On the right side, you can see all the actors we installed. Select the character and drag an actor to the screen, i.e. to the Board room, and then adjust the character using the move button (1st button). There is an option to make a character either sit or stand. I wanted all the characters to sit and discuss the topic as in a conference room, so I made all the characters sit which is shown in Figures 42, figure 43 and figure 44.

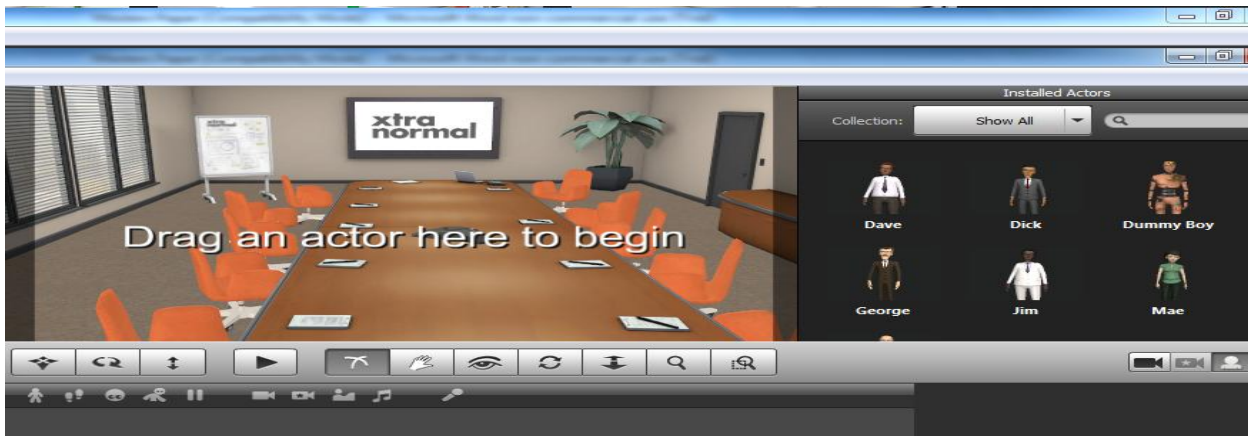


Figure 42. Screen with all the installed actors.

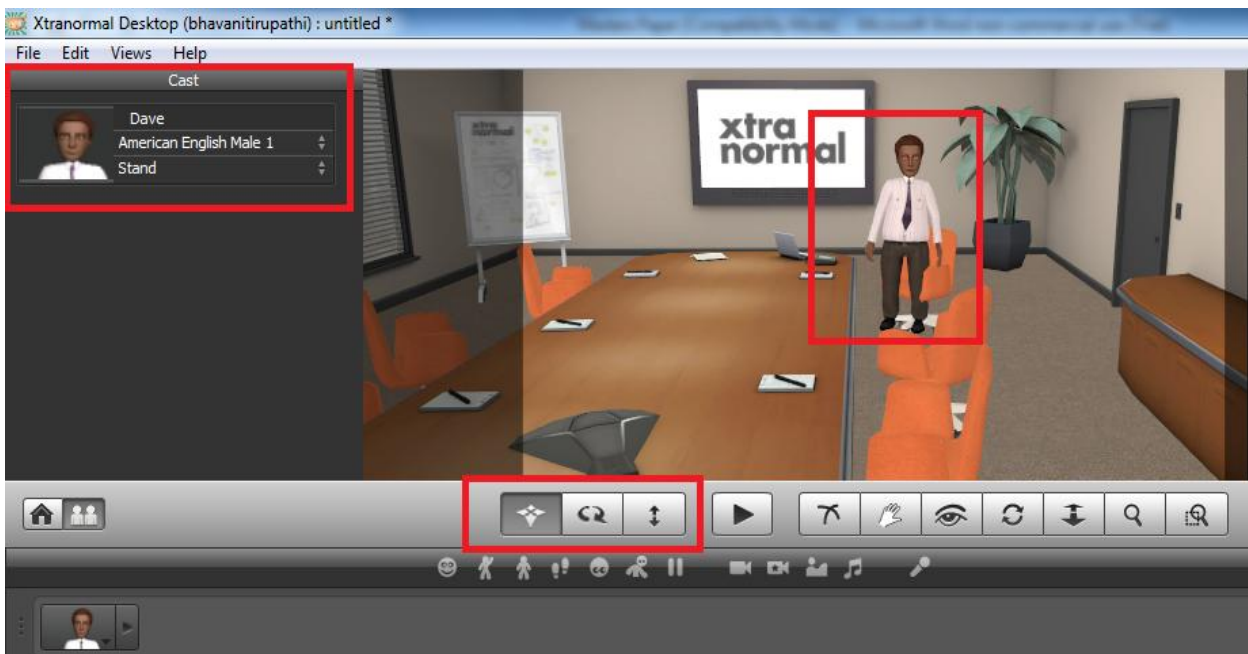


Figure 43. Screen with an actor standing.

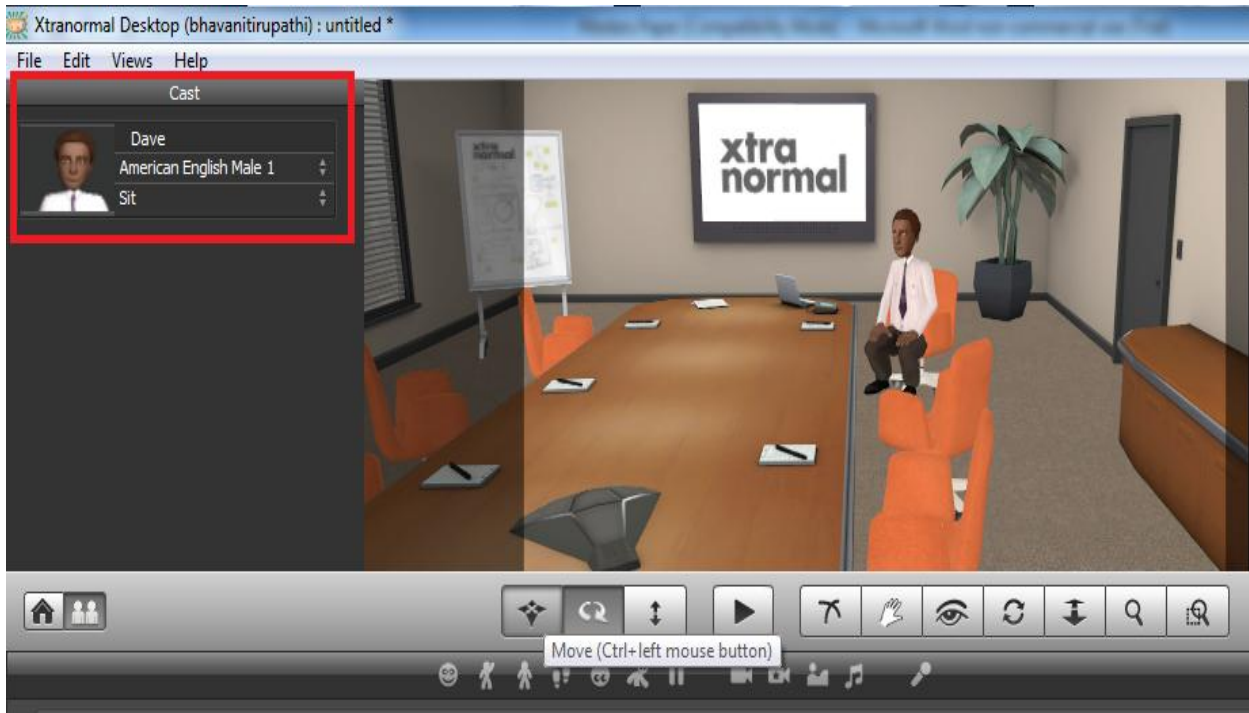


Figure 44. Screen with an actor sitting.

Figure 45 shows the screen with the title and place to write the script.



Figure 45. Screen with the title.

Try to adjust all the characters in the room using the move and rotate buttons. Once the set is ready with the characters, you can go ahead and select the cameras from the right side of

the screen. There are different angles and cameras. We can select and change the cameras for every scene or for one dialogue. If you want to make a character speak with a smile or with an angry face, we can select from the options that are shown. We just need to type the script and use all the features according to the script, emotions, and drama which is shown in the figure 46.



Figure 46.Screen with the camera options.

Figure 47 shows the screen with all the dialogues that are written to make the movie.

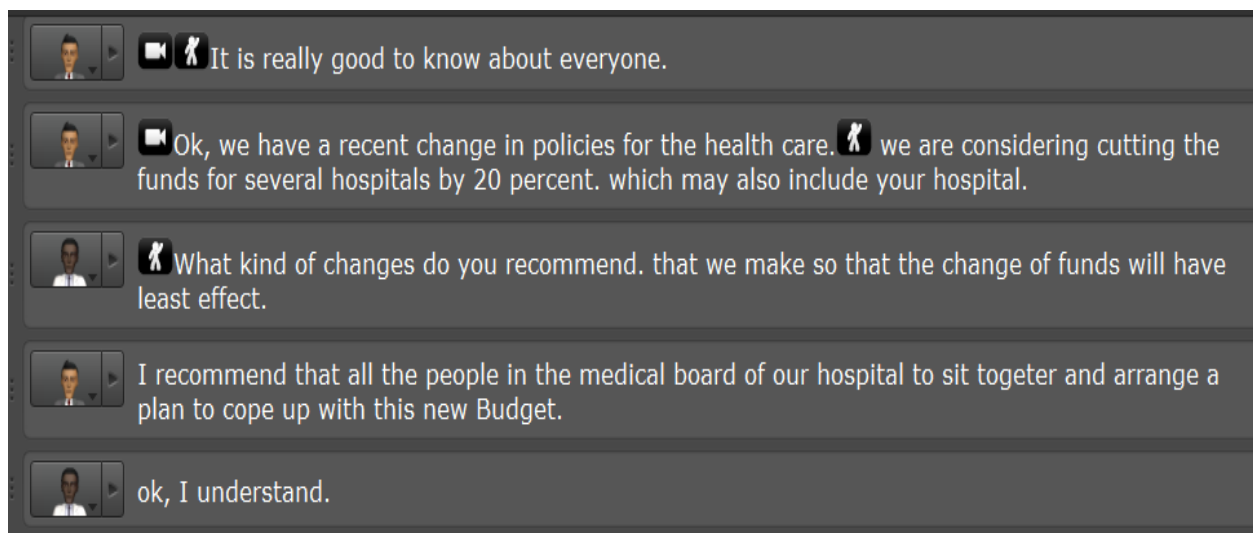


Figure 47.Screen with all the dialogues.

<http://www.youtube.com/watch?v=QPNEG-0i6Kc>

3.3. Relating the present work with taxonomy levels

Here, I relate the movie to the taxonomy levels.

3.3.1. Remembering the basic concepts

The users are asked to know the social and ethical dimensions for their chosen topic. Occasionally, there are notes provided about a specific topic, and the information was kept precise because the concentration is more on the steps of understanding, applying, analyzing, and creating. In the initial task, a student is asked to watch the video and recollect its basic idea. While making the movie remembering step plays a major role to remember all the important aspects like website of the Xtranormal.

3.3.2. Understanding the working criteria

As the movie goes on, there is a chance that students can understand the social, ethical dimensions as well as different viewpoints of the digital medical records. This paper provides hands-on exercises, where the students create a movie with their own topic and identify different viewpoints, such as the social, ethical, political dimensions of the topic. This movie is created primarily with Xtranormal software. For better understanding, there are different characters which will give a sense of drama with their dialogues and actions. This movie gives the basic understanding of social and ethical dimensions.

3.3.3. Applying the knowledge

As mentioned in 3.3.2, an Xtranormal movie was created to tell students how to create a movie. As in mathematics, there is a formula, and different variables can be given to students so that they can apply the values and see the results for various instances. After understanding the

social and ethical dimensions movie will give a proper understanding how to apply the knowledge that was learned by watching the movie.

3.3.4. Analyzing the details

While the students are creating or watching a movie, they can analyze the different viewpoints that are discussed in the movie's characters. As the characters are speaking about the advantages and disadvantages of digitizing medical records, it will give a proper idea about how to analyze the social and ethical issues for students' chosen topics.

3.3.5. Evaluating the best methods to follow

As the movie has some actions in the discussion, a student can evaluate the topic and assess how to select a suitable character for the movie, suitable sets, correct actions, dialogues, and how the characters will discuss different viewpoints.

3.3.6. Creating an application

After the movie is done, the students are asked to create a new movie, with different viewpoints, from their understanding and experience. The content given in all the steps can provide the necessary background for this creative step.

After walking through this entire chapter, a student will be able to make a movie. This tutorial will help a student with how to create the movie from beginning to the end, such as writing the script downloading the Xtranormal software; creating an account; going to the marketplace; installing all the characters, sets, and voices; selecting the cameras and writing the dialogue; putting in some expressions and actions for the characters; and publishing the movie. In this chapter, every minute step was included to make the student feel comfortable understanding and creating their own movie. The student's learning process will be very easy after studying this

chapter. The movie can be used to help students understand different viewpoints for electronic medical records. People in this movie discuss one particular topic or issue, and discuss various aspects of the particular topic. After watching this movie, any student can understand and analyze various issues related to electronic medical records.

CHAPTER 4. SOCIAL AND ETHICAL DIMENSIONS

People are shifting many activities to the internet and also, many social networking websites have given them the ability to control and define their online presence. Many patients might desire a level of control over their records.

To begin the social and ethical analysis for medical facilities, it is necessary to determine the affected parties. The first group of individuals directly affected would be those facility administrators. Chief Executive Officers (CEOs), Chief Financial Officers (CFOs), and Chief Information Officers (CIOs) have the final say on whether some action is taken or if equipment is purchased. Almost every employee within a healthcare organization is affected by using electronic medical records. Doctors, nurses, lab technicians, specialists, pharmacists, and cooks will all be either entering or reading data, thus being the primary users of such a digital system. Lastly, a group that may be more indirectly involved is insurance companies. They may need to examine a patient's record when putting together an insurance plan or justifying the payment of claims. Also indirectly involved are government entities which support digital records and may help fund projects.

There are many relevant facts that can be tied to each stakeholder. Issues dealing with the cost and funding for a project all need to pass through the administration group of stakeholders. If there is no support from top management on moving to digital records, very little progress may be made. Long-term planning and funding also need to be in place, and those processes go through administration. The administration would also be responsible for setting policies, enforcing penalties, and making sure standards (set by the government) are met. Ultimately, the primary users must be satisfied and convinced that digital records are worthwhile. Systems need to be reliable and dependable so that users are not frustrated and can appreciate the benefits of

digital health records. Compatibility issues must be resolved so that all systems can integrate as intended. Data must be secure and proper policy must be in place. All users with access to digital records do not need to see the same thing, e.g. What a doctor can view versus what an insurance company can view. In all, a lot of facts must be examined before integrating digital records into a healthcare facility.

4.1. Alternative approaches

People have different types of learning because of their abilities. Some people can learn visualization; some people can read and visualize themselves. For those who have interpretation skills, reading is the best way to learn. By researching the reading materials, they will have the basic data and they can analyze the data in their own way which will provide an additional advantage of adding analysis to the facts. There are various alternative approaches for tutoring about social and ethical issues, such as referring to a book, online research, listening to audio tutorials, group discussions, etc.

4.1.1. Reading

When you read a book, your imagination has visual limits. When seeing a film, a person does not have visual limits because every scene is presented on the screen. While reading literature, some people let their imaginations go too far, especially with novels. If the person has enough time through book reading, he will have vast data to read. A person can go through an unlimited amount of information where there is time available, and good interpretation can be done by a person. Reading a book opens someone else's point of view and experience to the person who is reading. It can give an opportunity to see common things from a new perspective that allows living more consciously. A book may educate through factual content and even compel constructive acts. It can give something to say that is interesting to others. It, at least,

passes time in a manner that maintains or improves reading speed when a person may really benefit from it. In order to know the social and ethical dimensions of electronic medical records, reading could be one of the alternative approaches.

4.1.1.1. Advantages of reading a book

- Reading is an active mental process, unlike TV; by reading, a person can think more and become smarter.
- Books provide information that goes deeper than classroom discussion.
- Reading requires focusing on what you are doing for long periods. Unlike magazines, Internet posts, or e-mails that might contain small chunks of information, books tell the entire story. Concentration is very important for every sentence.
- Books are portable. They can be taken almost anywhere. As such, a student can learn almost anywhere, too.
- By reading more books and being exposed to new and more complete information, anyone can come up with more creative ideas.

4.1.2. Online research

Online research is simply research that you do online. In this case, research means searching for published and, sometimes, unpublished material on a particular topic. It is sometimes called “searching the literature.” Online research is like “on-ground” research. The requirements are the same: accuracy, honesty, and scholarship. Many of the methods are the same: database searching is practically required for all library research these days. However, pure online research does require some modifications, especially if you have no access to a physical library that meets your needs. Online research may also be complicated by collaboration

with colleagues with whom you cannot physically meet. Luckily, there are many tools that can help, and more are being created daily (MSNBC, 2009).

The Internet is a great tool for finding primary sources for research papers, essays, and other class projects. The key to locating relevant references is to know how to search for information. A student can easily learn and do their projects and homework using online research. Students can not only communicate, but also can gain from others' knowledge, experiences, ideas, and solutions.

The most important advantage of using the Internet for research is that it is easy to get information. In most cases, online researchers can search to find secondary sources to support their endeavor. The other advantage of online studies is that you can record how long the subject is taking part in the study, so you can identify the average length of participation time and also identify those subjects who take an extraordinary amount of time to finish the study.

Because unlimited data are available, it will be difficult for a student to understand the main idea of the project. All forms of data, such as visual, text, and images, available online, so there is a chance to get incorrect results, and a student may become confused.

4.1.3. Audio

Using audio teaching aids in the classroom can improve student performance. Hearing skills are better than reading skills. Books on tape, along with other audio learning devices, are fast gaining popularity within the education field. Other benefits for using audio materials not only in schools, but also in homes and other places, are that it is generally less expensive to offer tapes, audio books, and other audio learning supplies for the class to share. Money is saved simply because individual books are not required. Plus, the teacher will be able to do much more with his or her time while the class listens to audio lessons. It is common knowledge that

children love to have books read to them. Audio books and learning are a great method to expose them to literature apart from conventional fairy tales (MSNBC, 2009). Audio can be beneficial for blind people who cannot read books. It is very beneficial to people who are doing mechanical work like driving. Time can also be saved with audio learning

4.2. How advantageous is video compared to other approaches

Videos can be an effective teaching aid in the classroom for any discipline. These days, students live in the multimedia world and appreciate variety in their learning. While watching a video, a student will find a mixture of text, images, sound, and video more interesting than chalk and talk. A student can gain more opportunities for higher-level thinking when producing their own digital video clips. It is very useful and easy for a student to understand the concept. Students find video motivational and enjoy greater control over their own learning.

The main advantage with the approach of creating a video is that a student will be exposed to play the way they intended it to be, and the actors will be pulling a student into a drama, rather than forcing students to create it in their own mind with their own imagination. Watching is usually a far more emotional experience, making a student understand more easily than just reading the script. The best advantage of watching is being able to see facial expressions, to see body language, and to hear voices so that a student knows where to stress and what the important topic is. Seeing the video will definitely help the student understand the mood and emotion of what is being said or played out. There is also the "energy" one gets from watching a live performance that you just cannot get from reading (MSNBC, 2009).

The main reason I choose this approach is as follows:

- To provide a better point of view through different characters visualization
- To make a student understand the situation where these social and ethical issues are

discussed.

- Through the video, situations could be clearly demonstrated and let a student know how different people will react to the situation.
- Students can go into the character and imagine themselves as any of the character.
- Video is the strongest medium because it has sound, pictures, action, drama, and movements to affect the audience in every possible way.
- All the above approaches have some limitations, whereas this approach has watching; hearing; and, by providing material to a student; reading improvement as well. Video is a perfect media for everyone.
- Through video, the message will be communicated correctly. A student cannot deviate from the main idea of the movie.
- There is no need for spending a lot of time doing research to understand how to analyze the social and ethical issues.

I would like to give a small example of my situation when I did this project. I took the same course and got a chance to work on the social and ethical issues of a topic. I remember spending a lot of time researching and understanding the topic. We read so many articles and gathered the information to do this particular project, so I felt a video it would definitely help every student understand the project very well.

CHAPTER 5. DIFFERENT VIEWPOINTS OF ELECTRONIC MEDICAL RECORDS

In this movie, all the characters discuss the issue of digitizing medical records. Every character will discuss his or her viewpoint, either the positive and negative side, and the experiences they have had. One patient explains the bad experiences of having electronic medical records and the other patient discusses the problems she faced because of a lack of electronic medical records. A doctor, hospital administrator, and head of the hospital listen to the other viewpoints and further discuss the topic. The technical person will be talking about his or her viewpoint because he or she is the main person to perform this particular work. Every character in the movie will discuss the social and ethical dimensions of electronic medical records and give their viewpoints.

Many dilemmas can be derived from relevant facts. The first major dilemma is, of course, funding. Implementing a system to manage electronic records is very costly and there is very little return on investment. According to the Associated Press in a March 25, 2009, article, “About three-quarters of hospitals without a computerized system said lack of capital was a barrier, 44 percent cited maintenance costs and 36 percent cited doctor resistance” (MSNBC, 2009). Because there is no direct financial return, these projects are a little less appealing. Whether it is the initial startup costs or the ongoing costs for support, maintenance, hardware replacement, and licensing, electronic records come with a hefty financial burden.

Another dilemma comes in the form of the data security. Patients need the assurance of knowing that their data are secure and their identity is safe. The security issues come from internal and external threats. Internally, the issue is all about controlling who sees what information. Doctors need to see all available information, but only for their patients. Lab technicians may not need to view any patient data, only entering test results. The same goes for

pharmacists and insurance companies; there is only a certain amount of information to which they need access. External threats come from outside the healthcare organizations. Hackers would be the primary group, but issues could also be raised if a doctor or nurse has a laptop or mobile device stolen. Extra steps need to be in place to see that data and access to them do not fall into the wrong hands.

A final dilemma is the issue of compatibility. Medical facilities currently have some sort of health information system in place to manage practices. The goal of moving to digital records is that facilities, no matter where in the United States, will be able to access a patient's record. Many systems already in place are proprietary, which is good for security purposes, but will make it challenging to integrate all the systems. Now, it is time to look at the options. For the cost dilemma, one option is to not fund the move to digital records. Another option would be to allocate funding towards digital records and to purchase the hardware and software needed. A more neutral option is to partially fund a project, so it fits within the organization's budget and then plan to obtain funds from the government through the healthcare reform part of the recent stimulus (Fox, 2009). Options for security are quite simple for the internal control. An option is to have a strong policy in place to make sure the right people obtain the correct data. These policies could be authenticated in more than one way. A user may have to, first, swipe an identification card and then type a password. To control external security, measures may need to be taken so that devices with sensitive data cannot leave the building. A closed network, similar to a VPN, may need to be established between facilities so that, when data are transferred, they are separated from any public Internet pipeline. According to Alice Park of *Time* magazine, "a group of hospitals in Iowa hopes to use a 3,600-mile fiber-optic data network, purchased by the Iowa Health System, to become the first state to go totally paper-free in health care" (Park,

Alice). Finally, one option for the compatibility dilemma would be to move to digital records at each facility and use whatever structure is currently in place. The option would be to develop a standard structure, such as a relational database, that all the hospital's systems could read.

The final steps in social and ethical analysis are to identify the values and prioritize them to form a decision. In terms of funding the costs of digital records, the recent stimulus package and healthcare reform may provide relief in this area. Medical facilities should not be expected to foot the entire bill for digital records. The taxpayers, ultimately the patients, will benefit from digital records, so it is fair that some funds come from the government as well. Security, as discussed, needs to be tough. Standards need to be set, and then, a third party should test each system through penetration testing. Meeting these high standards will also assure patients that the proper technology security is being utilized to protect them. Compatibility issues still need to be examined further. Under the Obama administration's current plan, the goal is to, first; get all citizens a digital medical record by 2012. While this is reasonable, it is important to structure the records similarly so that all systems can operate uniformly.

5.1. Technology viewpoint

Considering how vital the technology infrastructure is for moving to digital medical records, the dilemmas that come with it are manageable. In the beginning of health information systems, security was of greatest concern. Policy, closed networks, firewalls, and private and public key authentication have all been implemented to address security. The latest issue was funding; with government healthcare reform, funds are becoming available to help facilities implement systems. Now, the most pressing issue is compatibility. Even with different systems in place, future technology aims to read all types of data and translate them so that they can be utilized by any of the different systems (ODEO).

5.2. Patient viewpoint

The patient care portion of this project deals with how the inclusion of patient care in an online database will make it easy for doctors to see a patients history and previous health levels to better serve his or her needs. The focus on digitizing patient care will be on how it affects doctors and patients alike, but those individuals are not the only parties who will be affected. Other companies that are dependent on the medical industry will also be affected; insurance companies and the Centers for Disease Control would also benefit enormously if these records were made and kept up to date. The ethical issues with this are that, while it helps make it so that doctors can easily see patient history, so can anyone else with access to the database. The final and most important point is that, if the patient care has been recorded in detail, it will be easy for any doctor, not just the patient's doctor, to help diagnose the problem and help him or her get well (MSNBC, 2009).

5.2.1. Methodology

Research on the subject of patient care was done mainly on the Internet. Reading articles and looking at previous surveys and opinions on the matter to try and cover all the views on the issue Electronic medical records have been in the news a lot lately, so information on is readily available. This issue, much like several other issues, was a hot topic during the 2008 presidential election, so I was able to view several YouTube videos with points from various candidates to get a feel for the basic stances on the issue. One of the big ethical issues in regards to patient care that I found was the fear that, if doctors already have a medical record for the person, then they will spend less time with the patient.

While spending less time at the doctor's office is something that everyone would like, it would make it much easier for the doctor to miss something that, if he or she spent some time actually talking with the person, he or she would catch in no time.

5.2.2. Analysis

In regards to patient care, there are several parties affected by digitizing medical records. The patients are the most obvious ones affected because they are the ones who need to provide the information and are the ones who, in the end, will be receiving the bulk incentives or negative effects. Doctors also have a stake because they are the ones who will either have to dictate or actually record information for the records. Insurance companies have a high stake in this issue and stand to gain the most from having digital medical records required by the government. The reason why they would gain the most is because they would have a detailed history of the patients, and every time that something happens to that person, they would have a record of it. Also, for future generations, they would be able to predict possible illnesses the person could get and would be able to require preventive treatment for that person. The Centers for Disease Control would benefit from this also because it would be able to analyze the records for trends, and would, thus, be able to see if there is anything common in the past of the patients who had the disease so that it could make links to what causes the diseases (Hall, Mimi, 2009).

The facts regarding the issue of the effects of digitizing medical records with respect to patient care is that a patient's full medical history will be stored in a database. This information could potentially be very valuable to a company that is trying to advertise to people with certain medical conditions, and these conditions could be things that people do not necessarily want others to know about them. Digital medical records would also make the information much easier and coherent for a doctor to read so that he or she can easily diagnose the patient's

problems.

- **Digitizing records reduces the amount of time a doctor spends with a patient:** The argument here is that, if a doctor has all this information in a database, then he or she will not need to spend as much time talking with a patient. According to Francis Collins, director of the National Human Genome Research Institute, the average length of a doctor visit has been declining from 25 minutes to 19 minutes. It is also stated that a doctor only waits 24 seconds into patients' talking before interrupting them and redirecting the conversation. Whether this is because the doctor already has most of the information he or she needs or if it is because there is a shortage of doctors is still to be determined.
- **Digitizing records increases a doctor's ability to diagnose a patient:** The argument here is that, if a doctor has easy digital access to a patient's medical records, he or she will easily be able to help treat the patient and will not need to ask irrelevant questions. If a record of medical history is kept for a patient, then there is no need for the patient repeatedly fills out the forms.
- **Digitizing records will increase the amount and quality of care a patient will receive:** If a digital record is kept about what kind of treatment and problems a person has had in the past, it may be easier for doctors to see trends and to predict problems that the patient may have in the future. With this, it will be easier for doctors to diagnose a problem in the early stages so that they can start treating it right away (Google, 2009).
- **Digitizing will hurt private practice:** A big argument that doctors have against digitizing medical records is that it will benefit insurance companies and public healthcare while not really helping medical facilities. Doctors have no real incentive to

incorporate new, expensive technologies and procedures that will not help them save that much money.

5.2.3. Conclusions

While there is valid reason for doctors to not want to spend the capital to start digitizing these records, there is clearly a public benefit to have them digitized. Whether the doctors or some other organizations are the ones who need to digitize them is a question that is beyond the scope of this paper. Having a digital record of all previous medical history and diagnoses is a benefit to anyone who has ever had to go to a doctor and to society as a whole. It is my opinion that focusing on the privacy issues in regards to electronic medical records on such a small, negative part of something that will benefit everyone in the world.

5.3. Government involvement

Government and regulation must play a large part in the digitization of medical records. The amount of sensitive information that will need to be put into digital form is astounding. Questions arise about how to keep the data safe and what will be done to ensure that all institutions use the proper safeguards. This is where the government needs to step in with regulations that give hospitals and doctors rules to follow. The question about who should pay for the digital move is also raised. President Obama has already allocated \$19 billion in the recent stimulus package to accelerate the use of computerized medical records in doctors' offices. This action is a huge investment by the government for a project that is expected to cost the nation's healthcare institutions approximately \$75-100 billion (Goldman, David, 2009) This section will focus on how that money is being spent and what future role government will play in the switch to computerized records.

5.3.1. Social and ethical analysis

Several parties are involved when looking at the issue of digitizing medical records from a government-involvement perspective. The first group of individuals is those people who are in the position to make this type of decisions, our elected lawmakers. The lawmakers have to write the laws that govern our new digital healthcare system. Because this is such a touchy subject area, they could end up spending a large portion of time developing regulations that fit what people want. The second major group of people affected by government involvement is, of course, the citizens of the United States. There is one citizen who has never been to the doctor or never has a chance of needing to see a doctor, meaning that how healthcare institutions house our personal information and the way that they administer services directly affects us all. Finally, healthcare institutions are greatly impacted by government involvement in both positive and negative ways. Too much regulation could stifle the industry while too little could lead to thousands of disparate systems unable to “talk” to each other.

5.3.2. Relevant facts

The government has made its first major statement about the move to digital medical records. On February 13, 2009, Congress passed the final American Recovery and Reinvestment Act, and on February 17, President Obama signed the bill into law (Pelosi, Nancy). In the act, one of the major provisions was \$19 billion allocated for the transition to digital medical records. (Wikipedia.2009). As part of that provision, President Obama made the declaration that all medical records be digitized by 2014. In order to ensure electronic records occur, there are both incentives and penalties built into the act. If a healthcare organization opts not to participate in the switch to digital, it stands to lose government payments for Medicare and Medicaid (Pelosi, Nancy).

Until this point, the government has been minimally involved in the move to digital. Although President George W. Bush declared in 2004 that medical records would be digital in 10 years, there has been little action taken until now. One of the few steps taken was the appointment of a National Coordinator for Health Information Technology (Childs Dan, 2009). Under President Bush, that man was Dr. David Brailer. Dr. Brailer faced many challenges, including the fact that many regulations written around healthcare in the last 20 years did not consider the concept of digitized records. The question of what the government will do next is probably best said by Dr. Brailer: "HIPAA was never intended for the digital age, because the laws never anticipated the emergence of Web-based records. Congress can pass one of numerous policy proposals for change; it's just a question if they have the will to do that" (Shia Levitt, 2009).

5.3.3. Dilemmas

After researching the role of government in the move to digital records, it appears that there are three key areas that must be addressed:

- **Funding:** who will pay for the heavy upfront costs of moving to digital medical records? Thus far, the government has invested \$19 billion, but that amount is still quite short of the estimated \$100 billion experts say the change will cost (Shia Levitt, 2009). If the government gets involved in funding more institutions, what rules must it put in place to ensure its funds are put to proper use? The stimulus package already has specific guidelines built in to ensure that proper standards are followed, but are they strict enough?
- **Privacy:** who will be responsible for the protection of the medical records once they are digital? A question is raised about if the government should have a role in keeping a

central database to ensure that all institutions have access to patient data in the case of an emergency. This raises the question of allowing people to opt-in or out. Does the government have a right to mandate nationwide registration to increase the overall quality of life? If the responsibility is put on the shoulders of individual healthcare organizations, what repercussions should they face for failures or leaks of information? The question is raised about whether the government should have laws in place to mandate certain levels of security and penalties for those who do not properly follow those laws (Goldman, David, 2009).

- **Nationalized healthcare:** with such massive investments in the change to digital records, the ongoing question about whether to nationalize our healthcare system is again raised. If all hospitals in the country were under government control, the switch to digital would be much more controlled and programmatic. Having individual clinics and hospitals owned by private citizens opens the process to many resistors and factors that are hard to initially see. Nationalized healthcare would make these factors non-existent but also go against the things on which this country was founded. Healthcare is one of our largest industries and is a huge part of our capitalist system.

5.3.4. Options

The government really has three options at this point:

- Take a hands-on approach and propose lengthy legislation regulating the healthcare industry and its move to digital records. This would ensure that records are kept safe and that the move is done in a timely fashion. Quality in patient care everywhere would increase as a uniform system allows for an easy transfer of information. Doctors would know patient history in a fraction of the time it takes today.

- Take a hands-off approach and let healthcare providers fend for themselves in making the switch. This would follow our capitalist system more closely and allow organizations to differentiate themselves based on the levels of service provided. On the other hand, this could negatively impact patient care as organizations would not be able to easily share data. Take a combined approach with some legislation to ensure that records are kept safe allowing hospitals to decide how to best approach the transition.

5.3.5. Values

Table 1. Matrix of social and ethical interactions.

	Quality of Life	Use of Power	Risks and Responsibility	Property Rights	Privacy	Equity and Access	Honesty and Deception
Individuals	High	Low	High	Low	High	High	Low
Communities and Groups	High	Medium	Medium	Low	Low	High	Low
Organizations	High	High	High	Medium	High	High	Low
Cultures	High	Low	Low	Low	Low	Medium	Low
Institutional Sectors	High	High	High	High	High	High	Low
Nations	High	High	High	High	High	High	Low
Global	Low	Low	Low	Low	Low	Low	Low

5.3.6. Conclusion

The government cannot take a backseat in the process of computerizing medical records. There are many things that need to be controlled and regulated to make sure that patient information is safe and that all hospitals are on the same level to allow the sharing of information. Without a uniform platform or basic rules, institutions will not be able to “talk” to each other, and the point of digital records will be lost. All of that said, the government has a fine line to walk. Government should not jump headfirst and tell institutions what to do. The more involved it becomes, the closer we march to a nationalized healthcare system. While some people view that as a positive, it is my belief that a nationalized healthcare system would be going against the things on which our country was founded. We were started as a capitalist country with a free and open market. The more industries the government regulates and controls, the more risk we run of turning into something our forefathers did not intend.

5.4. What I have done to understand different viewpoints

The main objective of this paper is to help a student in making a movie, and also using the movie, a student will be able to analyze the social and ethical dimensions of a particular topic which includes (i) Identify social and ethical dimensions of electronic medical records, (ii) Creating a movie to understand the social and ethical dimensions of electronic medical records, and (iv) Provide a tutorial to the students to understand the learning environment for students.

In order to achieve first objective to identify the different viewpoints of electronic medical records I have read so many articles, papers, and material online how the electronic medical records affect different groups in the society. In order to achieve the second objective i.e., making a movie to understand the social and ethical dimensions of the electronic medical records I explained what is have done to understand. Before you start making the movie, it is important

to select a particular topic on which you want to work. After selecting the movie, the most important step is doing some ground work about the topic. For electronic medical records, I searched online for the information; I found articles, opinions on the forums, blogs, and videos to understand the importance of electronic medical records. After getting some idea about the topic, the next step is writing the movie script. Because the script is the main element for the movie, what is written is really important.

While creating the movie, the main motive was to let the student who is watching the movie relate to a character in the movie. For this, I took six characters: the head of the department, doctor, hospital administrator, technical developer, and two patients; they discuss different viewpoints. I thought this movie should give have a dramatic feel to the student, so one patient talks about the bad things that happened because of the electronic medical records, and the other patient, who suffered a lot without proper medical records, Characters in the movie discuss the main issues, such as how the discussion will affect the quality of life for a particular person, how government can use the power, the risks and responsibilities related to electronic medical records, how it will affect the privacy of the patients (Because privacy is very important, proper care should be taken, consider those as property rights, who should be given equity and access for the particular records?), and honesty and deception. Apart from that, while writing the script, social dimensions also take a very important role, such as whom it will affect (e.g., individual patients; communities; groups; and organizations, such as insurance companies, nations, and globally).

All characters discussing different viewpoints, so any student can relate to any character to analyze the social and ethical dimensions. One student can think from privacy viewpoint, such as how will affect anyone's privacy, because one patient in this movie discusses that, because of

the electronic medical records, his records will be exchanged with another patient's, and he will be given wrong medication. He will be discussing his privacy, so one of the students can relate to the patient and think about the privacy viewpoint. The other patient discusses that she went to a hospital with a person who did not know anything about her health conditions. She had to spend a lot of money and time in the hospital because no one knew about her health conditions, and the doctors had to do all the tests; she felt it was a waste of time and money. She feels that, if the electronic records were there, her work would be so easy. The technical person is the one who discusses the negative part of digitizing medical records and also the proper steps that need to be taken to maintain privacy, so a student can easily relate to the technical person and think about the technical viewpoint of electronic medical records. The head of the hospital talks about the HIPPA rules and the budgets, so one of the students can think about government viewpoint, such as the role the government must or will play. The doctor and hospital administrator talk about both the advantages and disadvantages of making the records digitized as well as how it will impact patient care, so it is one of the viewpoints. After watching this entire movie, a student can relate to the characters and think from different viewpoints.

In order to achieve the third objective which is providing a tutorial to the students how to create the movie I provided a step by step procedure to understand how to create the movie from beginning to the end like from downloading the software to the end like creating the project. I took an example of electronic medical records and identified the social and ethical dimensions of the topic and showed the entire process to the students.

CHAPTER 6. CONCLUSION, LIMITATIONS, AND FUTURE WORK

The steps in the tutorial contain individual tasks in order to provide very well guided, where student needs to put little effort on learning. This work would be a good start for teachers to use in class to help students understand how to create a movie with different viewpoints. This paper was inspired by Bloom's Taxonomy and made an effort to accommodate all levels of learning. The steps could be further improved by removing existing limitations.

6.1. Conclusion

The present tutorial for learning theory and creating a movie is a task-oriented learning procedure which follows the Bloom's Taxonomy levels very closely. Bloom's Taxonomy levels are adopted to match students' skill levels. It can be easily understood and could be followed by any student who watches the movie. Finally, at the end of the project, a student should be able to identify the different viewpoints as well as the social and ethical dimensions of the topic. This project will be useful for students doing class projects.

6.2. Limitations

Although the results for the movie are promising, there are some limitations. This procedure might not be suitable for users who do not have an interest in spending time watching the video. The software used in designing the movie is available for students, but they will have to buy software to publish the movie. The software has no flexibility to make characters walk and to increase the volume for different scenes. It will not let a student have many features in the movie.

6.3. Future work

There is always room for improvement. Some possible enhancements are discussed below. The taxonomy levels are applied to individual tasks in each step, but each task follows only two or three levels in the taxonomy. These tasks can be improvised so that they follow all levels in the taxonomy. More information can be included for the basic levels of the taxonomy. The Xtranormal software has lot of limitations, and there is no flexibility in making the movie. In the future, there may be some other software that can be used to create the movie. To get more of a movie feel, there should be a possibility to change the sets. All these mitigations can be included so that a more visual video is created.

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