CMPT 475 Assignment 1

Junchen Li

301385486

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Top 20 User Stories List

ID	User Story	Estimate (weeks)	Traceability
1	As a conference speaker, I want to be able to render the 3D model in all directions, so I can display the model more intuitively and make it easier for other participants to understand.	3	Interviewee 1 Story 1 Interviewee 2 Story 3 Interviewee 3 Story 2 Interviewee 4 Story 1
2	As a virtual meeting attendee, I want to customize the appearance and voice of the virtual characters, so I can be more involved in meetings.	1.5	Interviewee 1 Story 7 Interviewee 2 Story 5 Interviewee 3 Story 3 Interviewee 4 Story 7
3	As a virtual meeting attendee, I want to view my writing only through myself biometric authentication, so I can ensure the security and privacy of attending meetings.	2	Interviewee 1 Story 4 Interviewee 2 Story 8 Interviewee 3 Story 7 Interviewee 4 Story 12
4	As a virtual meeting attendee, I want to record the meeting while I'm in the meeting and play it back from a different perspective, so I can give a more complete experience when reviewing meetings for people who didn't show up.	3	Interviewee 1 Story 10 Interviewee 2 Story 15 Interviewee 3 Story 12 Interviewee 4 Story 4
5	As a virtual meeting attendee, I want to modify the effect of meeting scene (background), so I can relieve my aesthetic fatigue from a long meeting and bring a different mood to all the participants.	1	Interviewee 2 Story 2 Interviewee 3 Story 1 Interviewee 4 Story 2
6	As a virtual meeting attendee, I want to my virtual character could interact with other virtual character (pass file), so I can have a more relaxed and complete meeting experience.	3	Interviewee 1 Story 9 Interviewee 3 Story 5 Interviewee 4 Story 3
7	As a virtual meeting attendee, I want to be able to perform operations linked to reality in virtual meetings, (such as printing files, Uber, or make video	2.5	Interviewee 1 Story 3 Interviewee 3 Story 6 Interviewee 4 Story 10

	calls by using virtual characters), so I can get more done in virtual meetings without feeling disconnected from reality.		
8	As a virtual meeting attendee, I want to translate other people's language into an understandable language in real time and render them according to their gender's voice, so I can communicate with people all over the world without reading subtitles	2	Interviewee 1 Story 5 Interviewee 3 Story 9 Interviewee 4 Story 8
9	As a virtual meeting attendee, I want to adding the friends after the office meeting, so I can expand my social hub and chat with each other in a more interesting way.	1.5	Interviewee 1 Story 15 Interviewee 2 Story 4 Interviewee 4 Story 6
10	As a virtual meeting attendee, I want to have a virtual assistant, so I can quickly learn how to use Metaverse meetings app and can do some simple tasks for me.	3	Interviewee 2 Story 11 Interviewee 3 Story 4 Interviewee 4 Story 13
11	As a virtual meeting moderator, I want to be able to mute a participant at any time in exceptional circumstances, so I can make sure the progress not be delay and atmosphere of the meeting will not be broken	0.5	Interviewee 1 Story 13 Interviewee 2 Story 7 Interviewee 4 Story 11
12	As a virtual meeting host, I want to form some small group entertainments, so I can better increase the cohesion of the team	2	Interviewee 2 Story 10 Interviewee 3 Story 13 Interviewee 4 Story 9
13	As a virtual meeting host, I want to see each participant's specific information displayed on a sign, so I can more easily understand the context of the participants and improve the overall efficiency of the meeting.	0.5	Interviewee 1 Story 12 Interviewee 3 Story 16 Interviewee 4 Story 11
14	As a virtual meeting note recorder, I want the system to record any lines of each member during the meeting and upload to the cloud, so I can view the full meeting minutes after the meeting.	2	Interviewee 1 Story 6 Interviewee 2 Story 6

15	As a virtual meeting moderator, I want some decisions can be decided by voting, so I can make sure the participants are on the same page and ensure the effectiveness of the meeting.	0.5	Interviewee 1 Story 14 Interviewee 2 Story 1
16	As a virtual meeting attendee, I want my virtual character can have more facial reactions, so I can show the real mood through more facial details when communicating with other users	1.5	Interviewee 1 Story 11 Interviewee 3 Story 8
17	As a virtual meeting host, I want to control the overall time of the meeting through a timer, so I can ensure the highest efficiency of each participant.	0.5	Interviewee 2 Story 12 Interviewee 3 Story 14
18	As a virtual meeting moderator, I want some swear words can be blocked, so I can make sure the overall meeting is disciplined.	1	Interviewee 2 Story 14
19	As a virtual meeting host, I want to use virtual currency as a participation reward system, so I can encourage participants to be more involved in the meetings.	3	Interviewee 4 Story 14
20	As a virtual meeting attendee, I want to be able to zoom in and out of images with certain hand gestures, so I can manipulate and observe information I need freely.	2	Interviewee 3 Story 15

Appendix A Data Sorting

Red: Four interviewees have the same request

Greed: Three interviewees have the same request

Blue: Two interviewees have the same request

Black: Only one interviewee has the request

The sorting method is to put the User Stories with the same number of requests together to calculate "average ordering" then compare and sort. For example, the User Story requested by 4 people with the lowest score is placed at the top of the list, and the User Story mentioned by only one person with the height sore is placed at the end of the list.

Note: "P1 S1" means "Interviewee one User Story one"

Descriptions					Calculation Process	Order
3D modeling	P1 S1	P2 S3	P3 S2	P4 S1	(1+3+2+1)/4 =1.75	①
Personalize	P1 S7	P2 S5	P3 S3	P4 S7	(7+5+3+7)/4 = 5.5	②
Change background	P2 S2		P3 S1	P4 S2	(2+1+2)/3 = 1.6	⑤
Reality linkage	P1 S3		P3 S6	P4 S10	(3+6+10)/3 = 6.3	⑦
Record meeting	P1 S10	P2 S15	P3 S12	P4 S4	(10+15+12+4)/4 = 10.25	④
Real-time translation	P1 S5		P3 S9	P4 S8	(5+9+8)/3 = 7.3	⑧
Entertainment		P2 S10	P3 S13	P4 S9	(10+13+9)/3 = 10.6	⑫
Safety	P1 S4	P2 S8	P3 S7	P4 S12	(4+8+7+12)/4 = 7.75	③
Virtual assistant		P2 S11	P3 S4	P4 S13	(11+4+13)/3 = 9.3	⑩
Friend system	P1 S15	P2 S4		P4 S6	(15+4+6)/3 = 8.3	⑨
Translation records	P1 S6	P2 S6			(6+6)/2 = 6	⑭
Character interact	P1 S9		P3 S5	P4 S3	(9+5+3)/3 = 5.6	⑥
Message sign	P1 S12		P3 S16	P4 S5	(12+16+5)/3 = 11	⑬
Mute	P1 S13	P2 S7		P4 S11	(13+7+11)/3 = 10.3	⑪
Vote	P1 S14	P2 S1			(14+1)/2 = 7.5	⑮
Filter dirty words		P2 S14			14	⑱
Timing		P2 S12	P3 S14		(12+14)/2 = 13	⑰
Rich expression	P1 S11		P3 S8		(11+8)/2 = 9.5	⑯
Trading				P4 S14	14	⑲
Zoom in/small			P3 S15		15	⑳

Appendix B Interview details

Questions:

What do you expect the metaverse office meeting software can bring to you?

What the min thing that you expect in the software?

- Warren (Male, 20)

Q: What do you expect the metaverse office meeting software can bring to you?

1. Real-time interaction :

Detailed Explain/describe: Designers can display their works in 3D and show them to customers from different perspectives. More exotic perspectives (immersive in architectural models that scale up to the size of a room) can be shown. At the same time, designers can show more peripheral details around the main subject as well.

2. Render scenes in real time:

Detailed Explain/describe: Not only projections can be displayed in the conference room, but scenes can also be rendered in real time. If you design a table or book for example, it can be displayed in real time in the existing elements of the Metaverse office meeting. Rendering real objects can show a more realistic feeling.

3. Reality linkage:

Detailed Explain/describe: It can be linked with the reality in real time. For example, the virtual character can drag the virtual file, and the file can be sent to the other party's mailbox in reality. For example, you can click to print after writing on the touch screen, and you can actually print it in real life. Inspiration is similar to Whole House Wisdom.

4. Security permissions :

Detailed Explain/describe: Users can protect their own security rights. For example, they can only watch what they write, and others need biometric authentication. Only after I authorize the disclosure, everyone can see it.

5. real-time translation :

Detailed Explain/describe: Users can select a language and translate in real-time to the language the other person speaks. Real-time rendering can be performed according to the characteristics of the other party's voice, so that what we hear is the translated language based on the other party's voice.

6. Real-time transcription of subtitles :

Detailed Explain/describe: For the words spoken by different users, the system can generate texts in real time, and save them in the cloud after sorting, which is convenient for review after the meeting.

7. Custom

Detailed Explain/describe: Users can customize the appearance and voice of the virtual characters to enhance the fun of the meeting.

8. Added group game mode

Detailed Explain/describe: The game can better condense the overall team, not only to relax, but also to prevent users from resisting the agenda of meeting.

9. Character interaction

Detailed Explain/describe: Virtual characters can provide more character interaction functions, such as exchanging files

10. Switch perspective

Detailed Explain/describe: The viewing angle can be switched, for example, the first-person or third-person perspective can be switched to better watch the meeting

11. Richer facial expressions

Detailed Explain/describe: Users can choose virtual characters to have more realistic or interesting facial expressions, making it easier to communicate real thoughts

12. Basic information display :

Detailed Explain/describe: Users can display more and more detailed personal information for others to choose to view. Understand each other better, icebreak

13. Mute function

Detailed Explain/describe: To implement the mute function, the avatar needs to have a clear display (a playful icon on the mouth) during the mute period. If user need to leave temporarily, can freeze Virtual characters.

14. Voting function:

Detailed Explain/describe: Users can use the system's own group voting system to decide some decisions, and demonstrate fairness through fully transparent data display

15. Friend adding/ deleting function:

Detailed Explain/describe: For friends in the virtual world, you can add and delete functions to establish a circle of friends for your own virtual world

Q: What the min thing that you expect in the software?

Must have: 3d modeling, avatar interaction, real-time translation, switch different perspectives, display basic information, custom style, security, Reality linkage:

- Kim (Female, 25)

Q: What do you expect the metaverse office meeting software can bring to you?

1. Statistical voting function

Detailed Explain/describe: Visual voting function, which can be used to vote on opinions during the meeting. Visualization can be more intuitive.

2. Change background

Detailed Explain/describe: The background scene can be modified to achieve the effect of having a meeting in a different location. Alleviate the boredom of meetings and solve the psychological resistance (fear) of employees to meetings.

3. More diverse simulation scenarios

Detailed Explain/describe: It can simulate some uncommon scenarios such as some chemical reactions, allowing users to see some scenarios more intuitively

4. Adding friend function:

Detailed Explain/describe: Users can add friends through the ID number of virtual characters, and through the expansion of friends, social groups in the metaverse can be established

5. Custom virtual character

Detailed Explain/describe: Customize the voice and appearance of your avatar

6. Meeting minutes

Detailed Explain/describe: The recording system of each session will automatically record what each participant said, and it will be automatically integrated and uploaded to the cloud after the meeting, and everyone will receive a backup after the meeting

7. Passive mute

Detailed Explain/describe: The host can choose to mute other users, and there can be obvious animation icons

8. More security:

Detailed Explain/describe: Every time you enter the meeting, stricter security measures are required. The sharing and viewing of some documents must be approved by the parties before they can be used.

9. Attack options

Detailed Explain/describe: If there are differences of opinion in the team, the "attack" effect can be applied to those with different opinions to increase the sense of entertainment

10. Entertainment

Detailed Explain/describe: Add entertainment mode to let the team relax.

11. Virtual assistant :

Detailed Explain/describe: Each avatar has a personal secretary who helps with basic questions and guides users

12. Timing :

Detailed Explain/describe: During the meeting, you can control the overall time of the meeting through a timer to avoid the meeting being too long and inefficient

13. Touch screen artboard

Detailed Explain/describe: Touchscreen sketchpads that can be shared for everyone to watch, stored in the cloud and imported into reality after use. Artboards can optionally be synchronized to each avatar's screen, with low-latency synchronization

14. Auto filter language

Detailed Explain/describe: The system can identify some abusive words and automatically filter the abusive words by muting or eliminating words to ensure the meeting environment

15. Different perspectives

Detailed Explain/describe: You can view the meeting from a different point of view (first person, third person) while attending the meeting or during a review after the meeting.

16. rapid rendering

Detailed Explain/describe: Simultaneously display the images or thinking sentences in your mind on the big screen. Barrier-free communication is possible without using hands and mouth.

Q: What the min thing that you expect in the software?

Must have: More diverse simulation scenarios, Different perspectives, Passive mute, Custom virtual character, Change background

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- Xiwei Cheng (Male, 21)

Q: What do you expect the metaverse office meeting software can bring to you?

1. Change the background scene :

Detailed Explain/describe: Change the background scene to create a sense of freshness, which can improve everyone's attention, not boring, and not aesthetically fatigued

2. Idea materialization:

Detailed Explain/describe: Abstract ideas are materialized for a more real feeling

3. Personalize:

Detailed Explain/describe: Can create personalized virtual character

4. Beginner's Guide:

Detailed Explain/describe: Every time you use the Metaverse session, you can start with a complete beginner's guide, which allows users to understand the overall software faster and easily learn how to use the software quickly.

5. Virtual character interaction

Detailed Explain/describe: Can interact with other avatars, such as private channels (only two people can hear)

6. Reality linkage

Detailed Explain/describe: You can increase the function of takeaway and Uber. The function that operates in the metaverse and is linked to reality. Dial-to-video functionality can be used in Metaverse meetings to connect to real-life characters. Call a real person in the form of an virtual character

7. encrypted file:

Detailed Explain/describe: All files must be strictly encrypted, and password authentication is required for other people to access, which increases the security of the meeting and gains the trust of the participants.

8. Diversified face action

Detailed Explain/describe: Virtual characters can have more detailed face actions, such as angry, sad, happy, etc.

9. Automatic translation

Detailed Explain/describe: Automatic translation of the other side of the language, you can choose from a number of different languages

10. Break-out group discussion

Detailed Explain/describe: The moderator can select users to communicate with each other, and the groups cannot hear each other

11. Self-aware virtual character

Detailed Explain/describe: Multiple virtual character avatars with self-awareness of the body can be copied, and it is more convenient to use the virtual character avatars to conduct multiple meetings at the same time. Each avatar has some self-awareness to answer questions etc.

12. Record the meeting

Detailed Explain/describe: You can record the meeting content of the avatar in advance, and use the avatar to participate in the meeting again, and you can switch from different angles

recording

13. Add recreational facilities

Detailed Explain/describe: Add recreational facilities, you can build small groups during the break in the middle of the meeting, and increase team cohesion

14. Timer

Detailed Explain/describe: The meeting host can adjust the progress of the meeting through the timer to ensure that the participants can join in the meeting with their best sides.

15. gesture interaction

Detailed Explain/describe: Gesture interaction, realistic finger zoom in and out.

16. Name sign

Detailed Explain/describe: Each participant can display a unique name tag, which can contain the participant's name and so on. This brand name allows attendees to customize

Q: What the min thing that you expect in the software?

Must have: Interactivity, virtual character personalization, language translation, reality linkage, entertainment facilities, Diversified action

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● Yunlong Li (Male, 17)

Q: What do you expect the metaverse office meeting software can bring to you?

1. **Digital visualization:**

Detailed Explain/describe: Users can use 3D projection or higher-dimensional representation to present some data, and use richer dimensions to comprehensively display the integrity of the data (low latitude will cause some data details to be lost).

2. **Change the meeting background:**

Detailed Explain/describe: Users can modify the meeting background to have different meeting experience by using different backgrounds.

3. **Virtual characters can communicate with each other:**

Detailed Explain/describe: Users can use the image of virtual characters to communicate with each other, and communicating in this cooler way will be more comfortable than communicating in real life.

4. **Meeting record:**

Detailed Explain/describe: Every word spoken by the participants in the meeting will be translated and recorded by the system. After the meeting, it will be automatically saved in the cloud and some grammar problems will be corrected.

5. **Showing basic information:**

Detailed Explain/describe: In each meeting, users will have a sign showing their personal information (including name, position, personal slogan, etc.), which can facilitate other employees to get to know each other more quickly, and will not be embarrassed by forgetting their names.

6. **Friend Authentication:**

Detailed Explain/describe: Virtual characters can add friends to each other through ID and socialize after the meeting

7. **Modify the details of virtual characters:**

Detailed Explain/describe: According to the user's needs and preferences, the user can customize the clothing and appearance of the virtual character, and can add character slogans

8. **Auto-translation:**

Detailed Explain/describe: Users can choose their own suitable language and the system can do real-time translation. This enables barrier-free language communication with people all over the world

9. **Entertainments:**

Detailed Explain/describe: We want to have some feature about the entertainments during the office meeting so that our virtual meeting attendee can enjoy their game time and let them relax.

10. let me finish some task with the reality world:

Detailed Explain/describe: The user can choose some task like (calling someone or order takeout food, calling taxi etc...) so that the user never feels leave out the true world.

11. Muting function:

Detailed Explain/describe: The user will be mandatory muted by the host since the situation is necessary.

12. Security measures:

Detailed Explain/describe: All documents involved in the meeting must be encrypted, and if a member wants to see other participants' documents, they must be authenticated by biometric technology

13. Virtual Personal Butler:

Detailed Explain/describe: Each virtual user can have a virtual private butler, who can guide the novice when the user starts to use, and can complete some simple command operations in the future use

14. Virtual currency:

Detailed Explain/describe: Virtual currency can be added as a reward for meetings, and real currency that can be consumed can be used to drive the enthusiasm and activity of employees.

15. Smart Capture:

Detailed Explain/describe: Metaverse meetings can better capture the needs of users, such as more intelligent eye tracking and some detailed instructions.

Q: What the min thing that you expect in the software?

> Must have: Digital visualization, Change the meeting background, Friend Authentication, Entertainments, Virtual characters can communicate with each other.