

Bake Believe (*a Holonovel*)

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Abstract. This paper presents a sugarcoated dystopian holonovel situated in a distant future, where the holodeck has become the main learning and entertainment technology through which people upload personal knowledge and experiences to be used as an immaterial currency. A young woman, Madeleine, is a fierce and competitive baker. She aspires to win the 104th biennial of “The World Championship of Cake Design.” The Virtual Avatars in her baking program guide her in her quest, but in order to win, she needs to make a truly original cake. To get proper help, she needs to get the best advice from a superior hologram-baker. It is more expensive than what she can afford paying with knowledge, so she ends up paying with a personal experience – and afterward she has to deal with the consequences of sharing that experience with the rest of the world.

Keywords: Holonovel, Science Fiction Prototype (SFP), information sharing, immersive training, storage of information/experiences

1 Introduction

This Science Fiction Prototype [1,2] focuses on themes such as internet sharing, immersive entertainment and training programs, future immaterial experience-currencies and an obsession with baking programs. The main technology in the holonovel is inspired by the holodeck invention, as seen in Star Trek [3]. Digital humans, cakes, kitchen tools and other materials are 3D-rendered with the holographic technology. Matter can be transported from one holodeck to a server, from where anyone can download it and engage with their personal holodecks. The use of the technology takes inspiration especially from episode 6 from Star Trek Voyager [4]. Here, the holodeck is used as a fully immersive simulation in order to perform a practice surgery before doing it in real life. Similar ideas are happening at the moment in VR and AR [5] where augmented, mixed or full virtual reality is used as a way of practicing difficult situations that wouldn't be possible in real life. The other part of the imagined holodeck is about the experience of watching something fully immersive. This is relevant especially in the entertainment business, where people are always looking for new ways to make an experience more immersive and

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meaningful. This idea is related to a discussion of how we have been moving past the Information Age and are now entering into the Experience Age, where storytelling is the ideal way of communicating [6]. Another theme of the holonovel is information (over) sharing, a big topic these days after many revelations about how our data are being used by powerful companies and how much we are sharing both with and without our knowledge. In the holonovel, the main character, Madeleine, is so focused on her goal that she doesn't really stop to think about the cost of sharing some personal information in order to get what she wants. This resembles very much the manner in which we are able to let a Facebook app access our mailing address, etc., in exchange for being able to take the quiz "What cake are you?" [7].

The concept of knowledge as a currency is inspired by the idea that knowledge is a value in itself [8]. Society is developing in a way where technology and robots will take care of a big part of manual human labor, leaving knowledge and creative thinking as the valuable assets of humans. The value of each experience and piece of knowledge is though, in this case, being assessed by technology: the holodeck system, which translates the images of an experience into single words. Each has a different weight in the value system of an algorithm, which then calculates how much each experience is worth in total.

The themes of the holonovel, cake baking, and the somewhat ridiculous baking competitions, are themes that I found silly enough for lightening up the otherwise dystopian story. The simplicity and everyday act of baking a cake provide a way to make it easier to grasp the meaning of the story presented in the holonovel. The name of the main character, Madeleine, is inspired by the cake with the same name, which is also a reference to Marcel Proust's famous novel "In Search of Lost Time" [9], where the protagonist remembers parts of his past by eating a madeleine cake.

2 Bake Believe



2.1 A Piece of Cake

Lights on. A bit of flicker. A bare, small, white room with no windows becomes visible. Madeleine stands in the doorway. She just came home from school – another long and boring day. It is now time for the best part of her day. She goes to the side of the right wall and clicks a barely visible button. A whole keyboard and screen appear as a hologram. She routinely runs the first program in the personal exercise folder.

“The Big Bake Show,” Oh, how many times she’s loaded this one! She might even have broken some kind of record. Sometimes she imagines the great people behind this program interviewing her. “As the most engaged player of our program in the whole wide world, what does baking mean to you?” And she would have the speech ready and prepared – the one that she’s refined throughout the years.

As she clicks “open,” the voice of the program, Miss Fondant, starts talking. “Hello my dear, welcome back. What would you like to bake today?”

Madeleine loves her voice – so soft and sweet. The Virtual Avatar is a perfect embodiment of a cake, she thinks to herself. “Hi Miss F. Today I’d like to bake a classic apple pie.” She doesn’t have to think about it for long. She has her plan. “Very well,” Ms. Fondant says, “That’ll be 20 points of experience knowledge. What will you pay with?” Madeleine scrolls through her personal data library with all her skills, knowledge and memories. “Uhm, just take the knowledge about the world food issues from the class today. It’s stupid anyway.” “As you please. I will have Ms. Crumble ready for you in 2 minutes.” Ms. Fondant answers.

While waiting for the program to load, she goes to the kitchen, pours herself a glass of water and puts down her bag. She looks at the big board over the kitchen table. Her plan carefully made with daily, weekly and monthly goals. And then the final goal; “The World Championship of Cake Design 2217.” She’d been following the competition ever since she was a little girl. Her mom didn’t like cake, but she liked the way they looked. They started to watch it together, and even though her mom didn’t really have the time anymore to follow the art of cake baking, Madeleine still did. A light smell of cinnamon from the holodeck pulled Madeleine out of her thoughts. Ms. Crumble and the baking program are ready.

2.2 Getting Butter

The room is now completely transformed. Soft pastels dominate the space, which somehow seems much bigger than it really is. The virtual windows are covered with cute embroidered curtains. A big cooking island in the middle of the room truly sets the stage. The walls are covered with shelves and racks, filled with spatulas in different hardness, whisks in multiple materials, measuring cups in all sizes, brushes, knives, sieves, and things you couldn’t even imagine being used for baking.

Next to the oven stands Ms. Crumble, the hologram for baking an apple pie. Ms. Crumble is designed in the image of a crumble cake, so her hair has the same kind of messy, curly structure as a crumble. Underneath the hair, the face is folded in round,

lightly wrinkled curves, reminiscent of a soft cake bottom. She looks warm and motherly and has a faint scent of almond around her. One of Madeleine's favorite Virtual Avatars. "Welcome to today's class, my dear Madeleine. If you put on your apron, we can begin at once," she says. Madeleine takes her apron from a hook on the wall and puts it on. The apron is custom-made after the apron worn by the greatest cake-baker of them all – the previous winner of the championship of cake design, Amandine Oates. Of course, it was a bit expensive, as Madeleine had to pay with a childhood memory of her and her mom going to the amusement park. But oh, it was worth it.

In front of her on the table stand all the ingredients necessary for her today. Next to her is a hologram of a recipe. She skims it quickly and then clicks it away. She needs to learn it with her bodily memory – reading the words never made her truly understand and remember. "Let's begin," Ms. Crumble says. She is making the pie simultaneously with Madeleine so that Madeleine constantly has the possibility to compare her work to the perfect version. For now, it is okay. The dough is basic work. Milk, flour, butter, and sugar. She works fast, and Ms. Crumble adjusts her speed as well. After that, the apples are cut. Madeleine turns to Ms. Crumble to watch the sizes and shapes that she makes. Nothing can be left to chance. With millimeter precision, the hologram cuts the apples in the same, perfect shape every time.

Madeleine, of course, has some margin of error, and it bothers her a bit. Ms. Crumble reassures her that the pieces are lovely, but it somehow doesn't ease Madeleine's frustration. Even though she knows the holograms are programmed to be honest in their judgment.

Next is the caramel filling. This is the part that Madeleine has been a bit nervous about. The temperature and the movement of the spatula need to be just right. She watches Ms. Crumble out of the corner of her eye, and then focuses down on her own pot. The temperature is fine. She is stirring slowly, watching the sugar water getting creamier by the minute. The mass starts smoking, first lightly, then suddenly drowning the whole pot in thick smoke. Ms. Crumble is instantly at her side, grabbing the spatula. "Here honey, let me show you. You need to rotate the spatula more in the shape of the number eight. And then at this speed." Madeleine watches Ms. Crumble's hand move in smooth shapes of eight. "Try and feel," Ms. Crumble says, and Madeleine puts her hand on top of Ms. Crumble's. She feels the movement in her lower arm, her wrist, and her fingers. She closes her eyes to remember this feeling. Ms. Crumble removes her hand, and Madeleine continues the same, smooth movement. She's got it now.

2.3 Just Dough it

The pie is in the oven. Madeleine checks her goal board in the kitchen. She has nearly learned all the regular cakes. But to get to the championship she needs a bit more. Something original. There are only two days until the test cakes for entry to the championship will be submitted. This is the last sprint, she thinks. The cakes that she has planned on making are quite good and supplement each other well in all the

categories – taste, shape, look, texture, size, and type. But she still lacks the winning cake, the one that will set her apart from all the other contestants. There are only ten seats available in the competition, and the applicants are usually extremely skilled. Thinking about it makes her shake a bit. But of course, she still has a bit of time to think about it. No need to decide right away. All the other cakes are already done; she did the Tarte Tatin as the last one a couple of days ago. It was scanned and beamed into the holodeck, and then sent to the entrance committee.

Ms. Crumble’s voice reaches the kitchen. “Your cake is done, my dear.” Madeleine gets up and refocuses. She enters the holodeck. Everything is back in order. All the tools are clean and back in their place and the kitchen is free from any loose flour or dough. A small table with a chair has appeared in front of the kitchen. Madeleine’s apple pie is on the table, ready to be served. Madeleine sits down, takes a small piece, and tastes it. It is just right. She smiles at Ms. Crumble, who asks: “Do you want to save your result to the program?” Madeleine shakes her head. “I have enough cakes for the competition. This was just for practice. Thank you so much for today, I’ll have a look at some new cakes now.”

Madeleine walks to the keypad by the wall. She presses a couple of keys. Ms. Crumble and the rest of the kitchen fade away. Madeleine browses through some different cake tutorials. Chocolate cakes, macaroons, lemon curd. Nothing special. She gets almost to the bottom of the tutorial list. Then her hand suddenly stops. This one she’s never seen before. A pure masterpiece, called “Great Expectations.” The shape is like an architectural construction, with beautiful angles and interesting negative space. Some of the ingredients are familiar, but most are obscure things that she never knew even existed. Included among the necessary tools for the cake are a spirit level, cake crimper and a clay gun. Flambéing and steaming are also a part of the process. This is the one, Madeleine thinks. She checks the price. 20000 points. She swallows. She doesn’t have that much in knowledge – it would be impossible. Still, she can’t get it out of her head. That cake would definitely get her to the championship.

2.4 Sweet Dreams Are Made of This

Madeleine sits at the kitchen table. She’s wiping a tear from her cheek. So close to the dream. The dream – maybe she should have a look at it again, she thinks. Just to get her mind away from the perfect, but unaffordable cake. She goes back to the holodeck. Exits the exercise folder and goes to the experience folder. The one with all the experiences bought from others. Memories, which are now transformed into a form of full-body immersive film experience. She only has one in this folder – there is only one experience that she cares about. “The World Championship of Cake Design 2215.” She presses play, and the room goes dark. She closes her eyes. Starts to hear the familiar sound of people cheering. The smell of butter and flour. Lights start to get brighter. She is standing behind a big curtain together with the other contestants. Behind the curtain, the audience is cheering, as the host, Mr. Graham comes on the stage and starts introducing the event. “We have come to the part that you’ve all been

waiting for,” he says, “The final!” The Audience cheers even louder. He announces the current points each of the contestants has. It is a tight race. Amandine Oates, the original owner of this experience and the person through whose eyes Madeleine is experiencing this, is looking around at the other bakers. Most of them are looking down or closing their eyes. Trying to focus and calm their nerves before the final baking. Madeleine looks straight at the curtain. She doesn't seem nervous at all. The cue is given from the host, and a bright light shimmers through the side of the curtain as the contestants are walking on the stage. Madeleine squints her eyes and follows them into the light.

It is amazing to look down and see the hands of Ms. Oates in action. Juggling bowls of flour, milk and warm butter; chopping chocolate, nuts, and berries with the speed of light; keeping an exact time on four different ovens with four different temperatures. Every time Madeleine plays, she remembers a bit more of Ms. Oates' procedure. By now she practically knows the routine by heart. This is however only half of the fun of the experience. While working on the cakes, Madeleine also registers the audience. Their excited faces. Their shouts and gasps. This could actually be her, standing here in real life next time! She sighs. If only she could afford the special cake tutorial. She presses pause on the playing experience. Fast forward to the award ceremony. Presses play again. “And the winner is... Amandine Oates!” Mr. Graham shouts out. Madeleine steps on the podium. Camera light flashes. Confetti is raining down on her. The audience is going crazy. Mr. Graham shakes her hand, looks her in the eyes. “Congratulations. You've deserved this.” Madeleine always starts tearing up at this point.

2.5 Donut Think Twice

Madeleine is sitting on the floor of the empty holodeck. She is looking through her knowledge and experience bank, desperately trying to gather enough points for the cake tutorial. Experiences are the ones that are worth the most, but most of her memories aren't worth much, according to the algorithm of the computer in the holodeck system. She's had quite a normal, boring life as an adult, and her childhood wasn't filled with happy, fantastic moments. Those are the most valuable – the ones filled with love, happiness and a little bit of sadness. Madeleine's memories are mostly filled with sadness. She tries to dig deep into her experience bank. There must be something! Madeleine doesn't even recognize how late it is getting. Only after a couple of hours does she look up at the time. 01.30 p.m. Shit. She gives up on looking any further. Gets up and walks out of the holodeck. “My life is worthless,” she thinks. If only she could be someone else. She freezes. An idea. She had an old, private memory from the last time she had sex with her ex. They both knew it was going to be the last time since he was moving to France to focus on French desserts, so it was a moment filled with passion and sadness. Maybe the perfect combination for the system's algorithm, which calculates the price of each experience depending on emotional strength. Of course, it would technically be amateur porn, but who would know? The holodeck system is filled with so many experiences that no one ever sees.

This happens all the time on the dark side of the holodeck, which is filled with porn and more or less criminal tutorials. People are busy with their own lives, she convinces herself. Who would care what I am doing?

The tiredness that she was starting to feel suddenly vanishes. She digs into her files of experiences and finds it quickly. People will have a hard time identifying her, she thought. Then there is her ex. He will get a notification when she uploads a memory of him. This might be a problem. But she doesn't have much time. They haven't spoken in years. He might be isolated in a small French village. Who knows when he'll see it? By the time he would report it she would already have gotten into the competition. Then she might be banned from the holodeck community for a while, but she could live with that. And who knows, maybe it wouldn't even go that far.

2.6 All is Fair in Loaf and War

After Madeleine uploads the experience to the holodeck for sharing, she only has a couple of hours of sleep. She feels a bit nauseous. This is not a good starting point for making the best cake in the world.

Anyway, she needs to get it done so she can stop feeling guilty and forget this whole thing. As soon as she's in the competition, everything will be fine. She goes to the kitchen and splashes some cold water on her face. Then she grabs an energy drink from the refrigerator and goes to the holodeck. She loads the cake tutorial as she finishes the drink. A sharp looking elderly lady appears as her guiding hologram. "I'm Mrs. Buttersworth," she says. "The best baking hologram in the world. Any questions? Then let's begin." Madeleine doesn't even have time to reply to any of the things. Mrs. Buttersworth works fast and with determination. Madeleine grabs her apron and rushes after her.

Several hours later, Madeleine is sitting up against the wall of the holodeck. Sweaty; covered in flour, butter, and other unknown substances. She has done it. It was nearly perfect, and although Mrs. Buttersworth didn't have many nice words about it, Madeleine is satisfied. Now all that is left is to beam in the cake, and then she's made it. She reaches for the keypad. Her hand is shaking as she presses the "send" button. It is done. Her body collapses down on the floor out of relief.

2.7 Leaving the Crumbs

How long has she been asleep? Madeleine is slowly getting up from the floor, leaving a puddle of drool near where her head had rested. The rest is on her cheek.

She tries to orient herself within the white space. No windows to give her a clue about the time of the day. She moves towards the kitchen. Although her body is stiff and aching, she feels light and calm. The clock in the kitchen says 7:14 pm. She has slept the whole day. Her stomach is growling. She finds a stale piece of bread in her cupboard and some pâté that expired a couple of days earlier. It'll do just fine, she thinks to herself, as she mindlessly chews the bread.

A sound. Her phone is ringing. Madeleine is startled because it rarely does. Where did she leave it? The sound is coming from the holodeck. She goes in and picks up the phone. "This is Madeleine," she says, with a mouth half full of bread and pâté. "Hello, this is Mr. Basil, head judge of The World Championship of Cake Design." Madeleine stops chewing. "I just wanted to let you know that we got all of your creations by now, and we are really impressed. Especially with the last one." Madeleine swallows the big lump of moist bread. Oh my god, she thinks. Is this really happening? "Thank you," she mutters. Mr. Basil coughs. "Well, the reason that I'm calling you personally is that we are in a special situation. It has come to our attention that you have been distributing porn in order to get the final cake made. Of course, we can't have anything like that associated with our competition. Especially since the person involved is my co-judge, Marshal Neyman. I believe he is your ex-boyfriend? He is not very happy about this, to put it mildly. Well, frankly none of us are. This means that we are going to disqualify you immediately."

Madeleine suddenly has problems standing up. This can't be real. She can't get any sound out. All air is squished out of her. Her stomach is cramped together. She falls down on her knees. Tears are running down her face. "Oh, and one more thing," Mr. Basil adds, "because of legal reasons we've had to report you to the holodeck security system. I believe they will shut down your holodeck until this sexual offense case has been resolved. I'm really sorry about all of this, Madeleine. You really are a great baker." He hangs up. Madeleine stares into the white wall. The holodeck starts countdown to shut down.

Lights off.

3 Reflection

What are our information, our experiences, and knowledge worth? This is the biggest question raised in this holonovel, based on curiosity concerning how we all manage to share so much information on the Internet, and even after being confronted with the problematics of this practice, continue to do it. [7,10]

The idea of sharing knowledge and experiences through the holodeck has raised several questions, like "how do you put a price on something as subjective as an experience," and "the complications of sharing personal experiences in a very realistic way with the rest of the world." With this still non-existing technology, it would be possible to store other people's personal memories and watch them again and again, possibly making the original experience somewhat worthless. Another point to consider is the way our memories work. Since they are not exact replicas of reality, but more fragments altered by our emotions, the whole process of storing memories for others to watch would be problematic. Furthermore, with the way our brains sometimes create fake memories of information we've gathered, it could be imagined that many people watching other peoples' experiences would soon start to remember them as their own, leaving the authenticity of the original memory in question. When you are uploading a memory, other people present in that specific experience will involuntarily be a part of the file for everyone to see. This is a big part of the dangers

in not only the imagined society in this holonovel, but also in the days of the Internet that we currently live in – the sharing of something personal, not only for you but also for the other parties involved. These days we see “revenge porn” and “celebrity sex tapes” as the current problem of the possibility of recording and sharing. It gives the potential to share something with the world that was meant for a private audience. This can be fascinating, but comes with catastrophic implications for those involved if there is no consent.

The exercise mode is a more realistic concept, and not too far in the future [11]. Knowledge is more tangible and easy to pass on to others. Performing a task could be recorded with motion tracking and transferred to a 3D character. The Virtual Avatars in the exercise mode were thought to be more like characters than real life people, in order to enhance the feeling of a game and diminish the awkwardness and possible “uncanny valley” feeling of someone you might know standing in your house. Especially concerning more delicate matters, such as teaching how to kiss, etc.

This holonovel provides a view of the way inventions within entertainment and education might be developed in the future. The story is dystopian, and shows an example of how things can go bad if we don’t pay attention to how we use new technology. That being said, the invention imagined here opens up many positive possibilities. The most important one, as I see it, is the possibility of having different experiences than what you have in your own life. In the way that films and books already help us understand other people, this holodeck idea would be an even greater tool for that. To walk a mile in someone else’s shoes. Literally.

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