The mechanics of change

Gameplay for human motivation

Heather Kelley
Kokoromi

My talk today is called "The Mechanics of Change." By "Mechanics" I'm referring here of course to Gameplay mechanics. But what do I mean by "Change?" Well, I'm talking about change in people's everyday lives, whether personal, social, or even global. I'm talking about something as small as starting a personal habit like saving electricity in your house, or as big as ending the spread of HIV.

So that's what I'm going to address today. How the techniques and powers of games can be used to motivate people to change their real-world behavior.

First, let me tell you a little bit about myself, for those who don't know me yet. I'm a game developer and designer, and I've been working on game-related stuff for about 14 years.

These images are from a few things I've worked on or done, including commercial games on a number of platforms, "art games" in galleries and shows, symposia, and curated exhibits and events. My professional work includes level design and game design on AAA console, PC, and handheld games, and my art game work includes projections using quake and unreal, interactive gallery games with RFID devices, and events to promote experimental gaming, like the Gamma events which i've organized in Montreal with my game collective, Kokoromi.

My newest role is as Creative Director on an electronic game being developed by students working at the Emergent Media Center at Champlain College in Burlington, Vermont. The Emergent Media Center is a research and creation center which is funded by grants from sponsor organizations, to create games and other interactive media experiences. The project teams are staffed by undergraduate students from Champlain College, which has an game development degree. So – the students hired by the Center have a part-time job that actually provides real-world experience, working for real clients. And I'm working on one of these grant-funded projects.

Games for Change

Most of my career i've worked on games that primarily entertain or express. Now I've been given an opportunity to make a game that changes behavior, which I will talk more about in a minute. This game is actually intended to change what its players DO, in real life. So I approach this challenge as a game design area that hasn't been thoroughly explored yet. There are definitely some other games out there that have tried to do that, but there's still a lot of ground to cover.

This isn't to say that all games need to try to change behavior, or that everyone should be working on games like this. But I was attracted to the work because it seems like an area of conceptual space that needs deeper understanding and experimentation. If we don't do it, someone else definitely will. And that someone will be someone with a distinct agenda. An advertiser, for instance, or a political entity. So I think we need to understand this intersection of gameplay and everyday behavior more thoroughly if we are to confront forces that would use them in a less appealing way.

UNFPA Electronic Game to End Violence Against Women

- UN Millennium Development Goal #3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

- Target audience: Adolescent boys, worldwide

- Platform and delivery methods: Web, and mobile

So first I'd like to tell you a little bit about my project, which brought me to this area of research.

Our client for the game is the United Nations Population Fund, one of the branches of the UN. They're known for their work in Family planning, women's health, and fighting the spread of HIV. One of their mandates is to work for equal rights for women, around the world. This is tied into one of the UN's "millenium development goals" which are eight high-level goals to end poverty. Promote gender equality and empower women is goal #3, and it is on the list because it was realized that to eradicate poverty it is essential to improve the worldwide status of women, so that they can fully participate in the economy.

Typically, projects to improve the status of women have focussed on reaching women. Seems logical, right? Help women to lift themselves? Well of course that's only half the story. If women are to be treated equally, men must also see the value in that change, and participate in it. So the UNFPA realized that they needed to reach out more to men, and specifically to young men, to try to end the injustices that are directed specifically at women. That could mean anything from combating domestic violence, forced early marriages, sexual violence during wartime, or lack of access to health care and education. That's just a few examples.

Our game, which is to be developed for the web and also mobile phone technology, is focussing on domestic and relationship violence, which affects every community, around the world. Our current concept is based around the actions and interactions of teenaged players on a soccer team, to draw a link between ethical behavior on the field and respect for women in everyday life. We just had our concept approved by the UNFPA and we're moving now into pre-production.

Our creative partners in the project are an organization called the Population Media Center. They are a non-governmental organization based in Vermont that is best known for creating radio dramas that following a model developed for social change television in Latin America. In some parts of the world, radio is the primary form of mass communication, and that's where PMC usually operates. They've tackled a number of different social issues like HIV and women's maternal health.

SABIDO

The PMC bases their shows on the influential work of Miguel Sabido, a Mexican television executive in the 70s who discovered that a character in a peruvian soap opera, or telenovella, was inspiring people across Latin America to start their own businesses and pull themselves out of poverty. After that he started to make his own telenovellas with specific messages embedded in them to create change in the communities where they were broadcast. And with this method he tackled subjects like literacy and dealing with disabilities.

Some features of Sabido relevant to our own field is that his focus was on creating compelling Entertainment, first and foremost. Because if the show wasn't entertaining, people would just tune it out. So his general rule was that shows should be 75% pure entertainment, and 25% social content.

Also important was that the process of content development is done on location, with people who are the show's target audience, so it responds to local culture and values. This is not something done very often in games, but it's something we should look at moving forward, in order to create game content that speaks directly to particular groups of people.

Sabido also makes great use of universal human archetypes of plot, character, and structure, like positive and negative role models, and cliffhanger endings that keep you paying attention to the series, and make you wonder what's going to happen next.

So in essence, Sabido Methodology is the codification of the content creation methods that work best to create change in specific communities, using long-running narrative formats like television and radio.
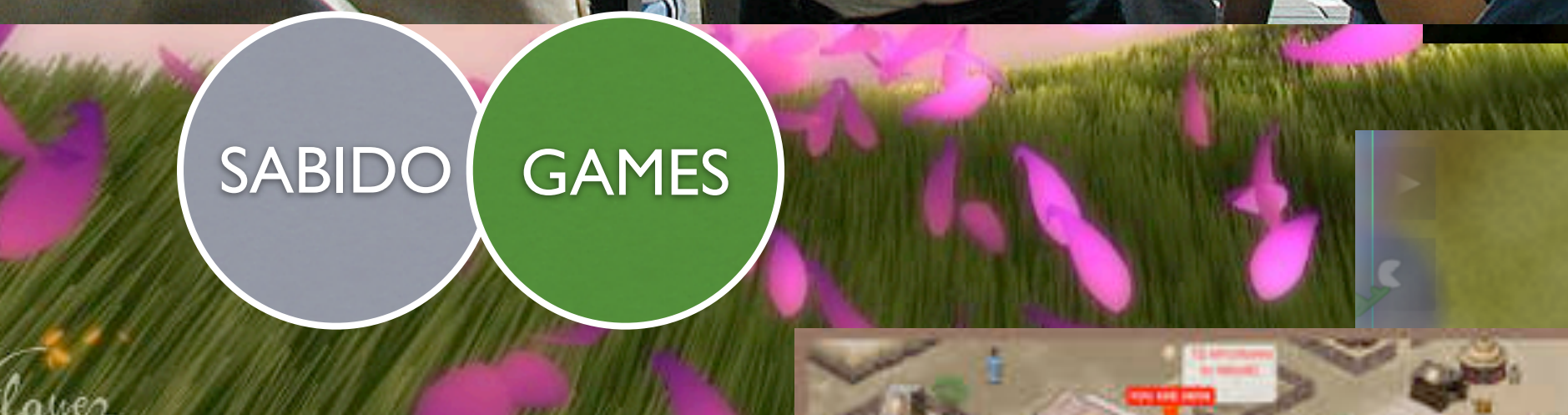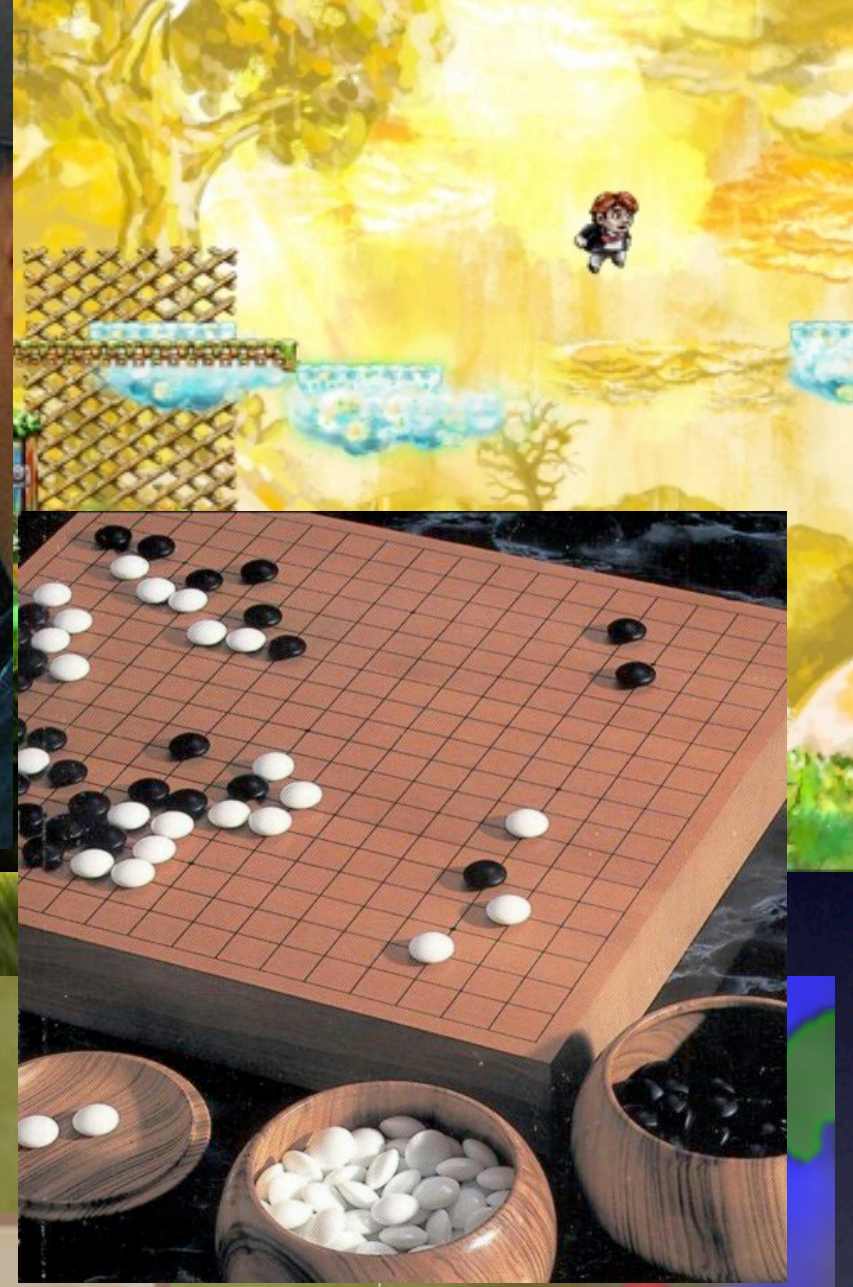
But games represent hundreds of new methods and strategies. We need new methods to create them, and they will be able to use different strategies than a serial, linear, or passive medium could.

So, there are no specific behavior change toolsets to use, for games, yet. We have to create them. But there are other theories of change that encompass multiple formats and modalities. So, what are they? How do games fit into these? What can we take from them?

When I started the job on the game for the UN and was learning about Sabido from the Population Media Center, I was chatting to Jason Della Rocca, and he pointed me toward a book called **Influencer**. I was really impressed by the way this book breaks down the methods of creating change. They don't really talk much about games in the book, and while at first I thought this was quite an oversight on their part, the truth is, we game makers are really the ones who need to be talking about this and contributing our skills and expertise to the dialogue.
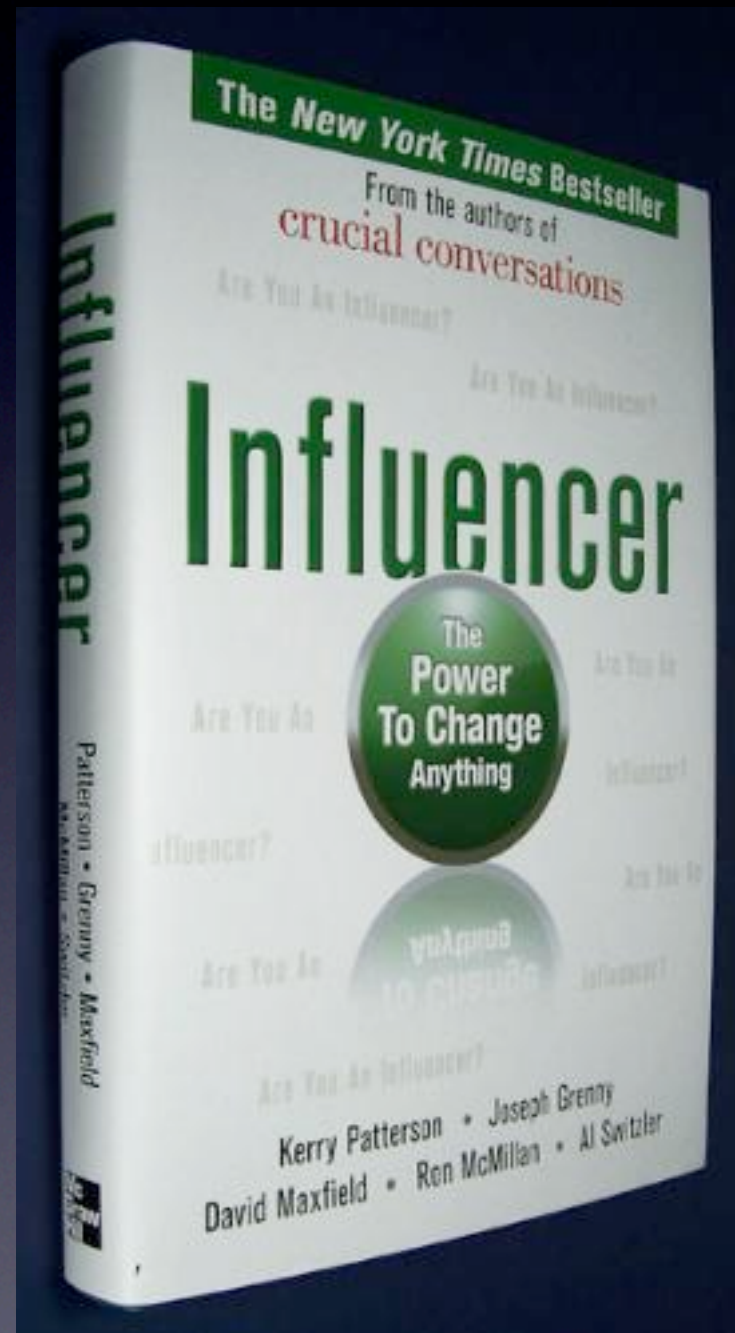
Influencer

Change strategies
and methodologies

SABIDO GAMES

The New York Times Bestseller
From the authors of
crucial conversations
Are You An Influencer?

Influencer

The
Power
To Change
Anything

Kerry Patterson • Joseph Grenny
David Maxfield • Ron McMillan • Al Switzler

So that's what I'd like to talk about for the rest of the lecture.

Here's the book. Great cover, eh? Books always look so heroic when they're photographed at that angle.

First let me give you a give a birds-eye view of some of the concepts the book covers.

The authors of **Influencer** offer a simple premise about what it takes for someone to change something about their lives. To change their own behavior, that is. If someone is going to change, they have to answer two questions for themselves about that change. These are really simple questions, but they represent a huge amount of emotional and personal investment for the person who is going to change. So what are these questions?
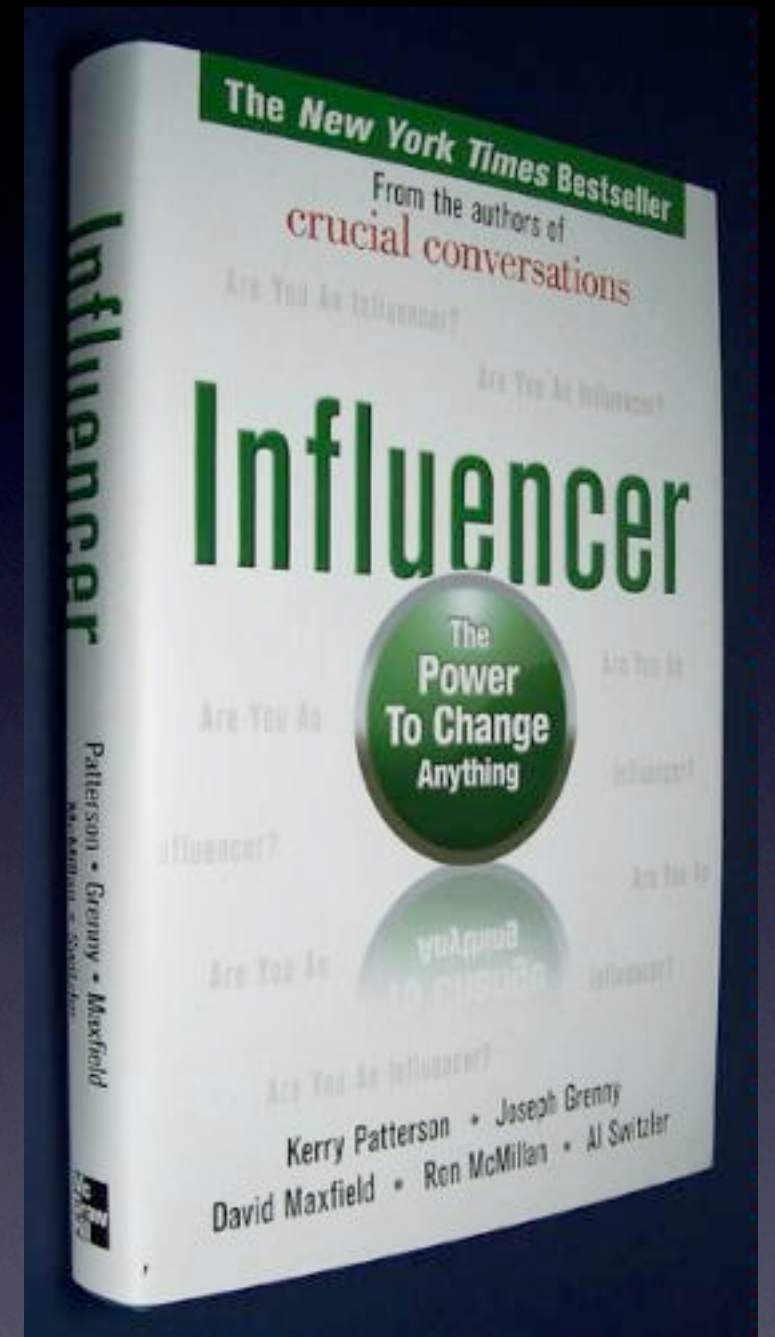
Influencer

Can I do it?
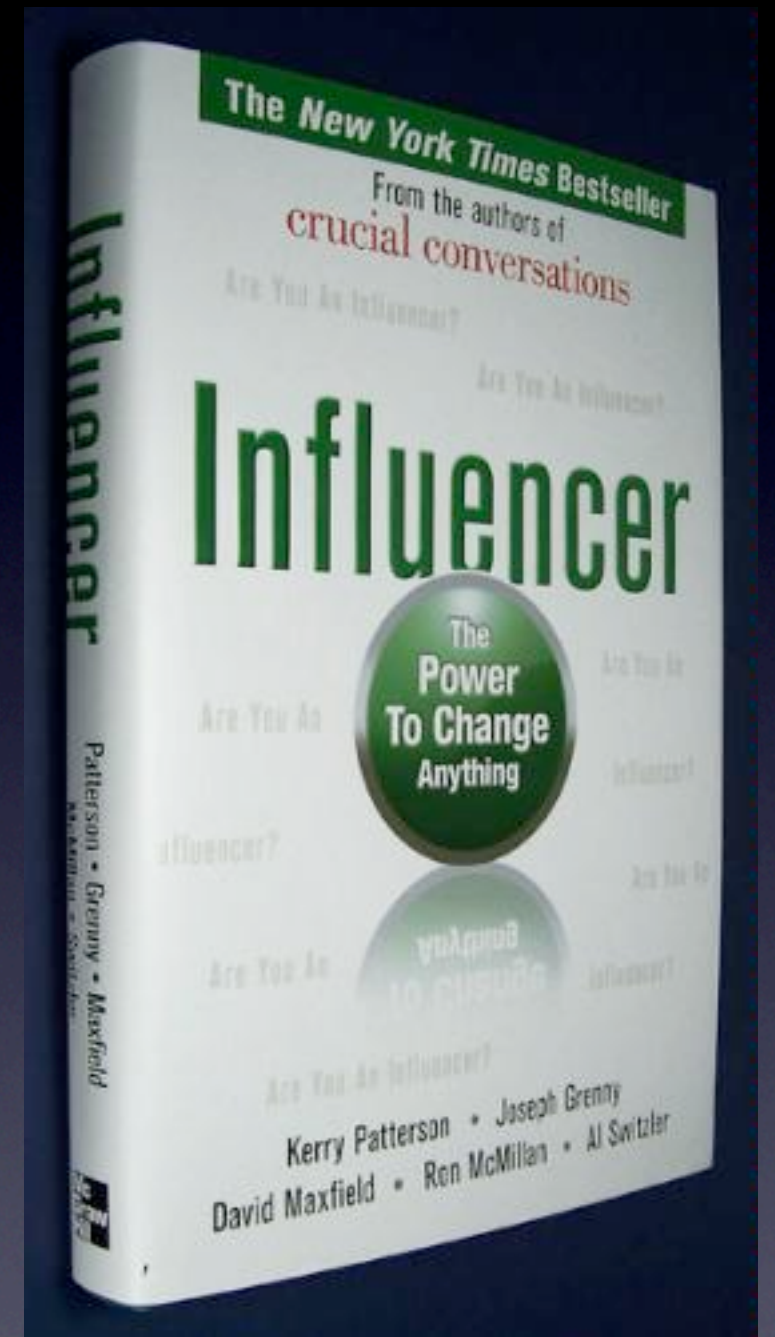
Can I do it? Can I actually accomplish what is being asked
of me?

Influencer

Can I do it?

Is it worth it?

Is it worth it? Why should I even WANT to do this? What price will I have to pay?
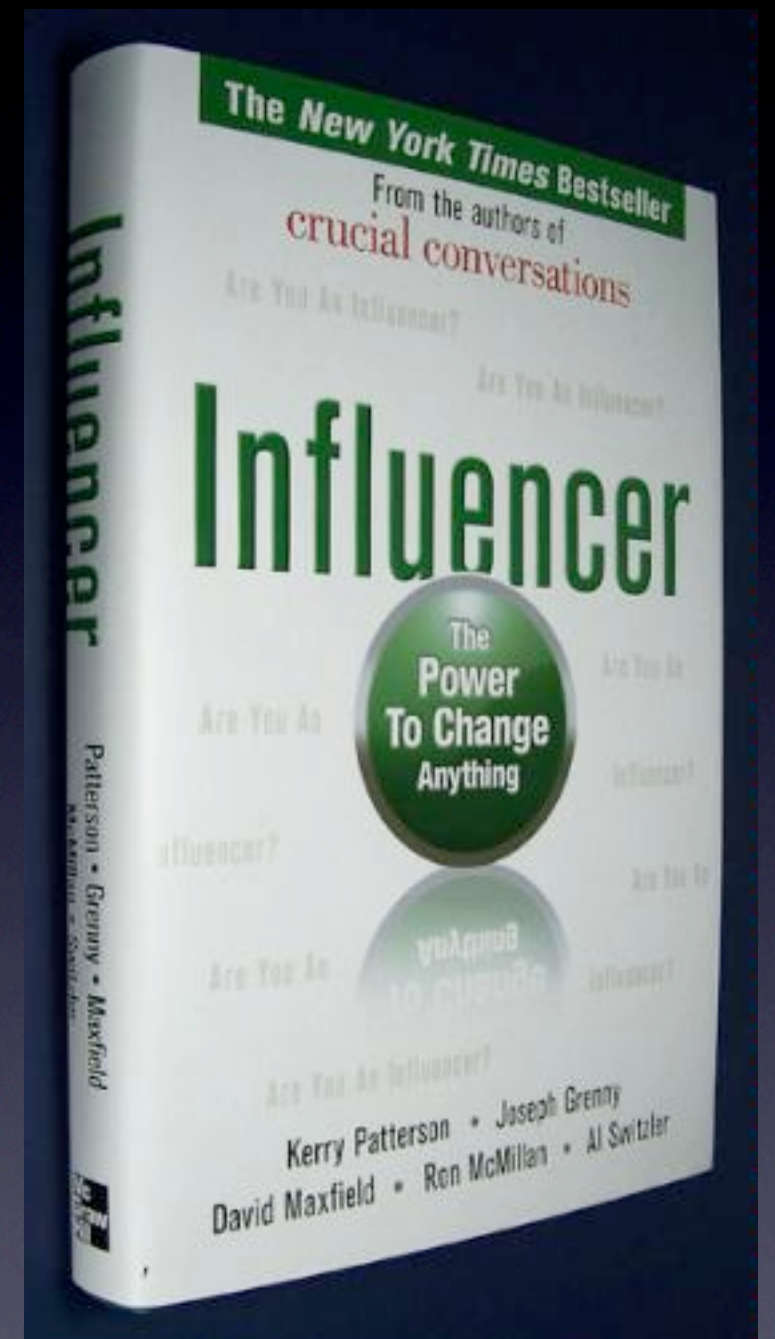
Influencer

Can I do it?

Ability

Is it worth it?

SO when we are designing something to change behavior, we have to help them answer these questions. We have to show them they have the Ability to make a change.
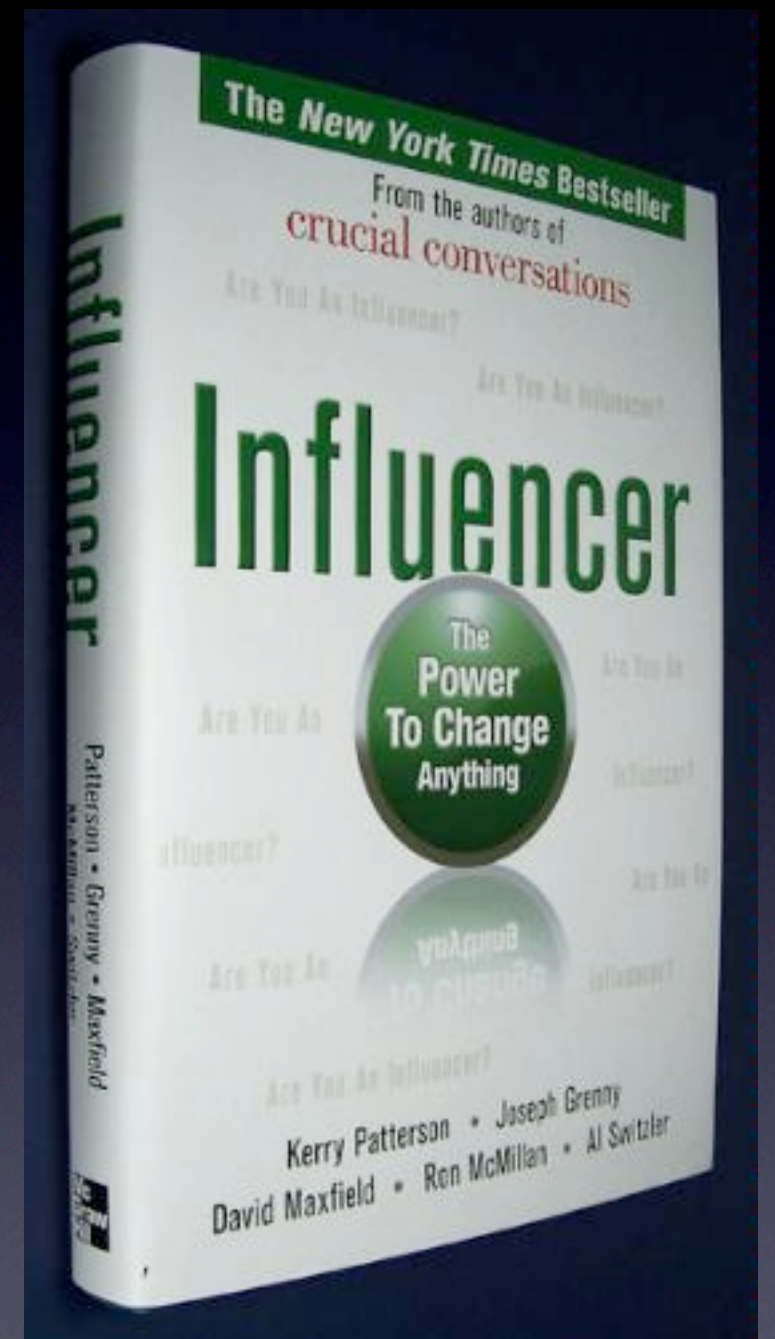
Influencer

Can I do it?

Ability

Is it worth it?

Motivation

And we have to help them keep the Motivation to do it.

My feeling is that we game developers are the keepers of an incredible set of tools for change.

So let's look a little more closely at the areas of influence that we can contribute to with games.

Sources of Influence

PERSONAL MOTIVATION

PERSONAL ABILITY

SOCIAL MOTIVATION

SOCIAL ABILITY

STRUCTURAL MOTIVATION

STRUCTURAL ABILITY

The authors designed a simple breakdown of what areas you can affect to help people change their behavior. In other words, to Influence them.

So we talked about Motivation – "Is it worth it?" and Ability – "Can I do it?"

Their approach breaks down those two questions into three more specific areas in which we can influence someone to change their behavior: The personal, the social, and the structural. So, what I want to do now is briefly describe each of these six areas, and talk about how how games might fit into the picture.

While I was working on this presentation, I was thinking about what kind of fresh examples I could provide for how a game might accomplish these kinds of change. So, I was thinking about what I need to change in my OWN life, and what it might take to do it.
And you know, something I definitely don't do, and need to start doing...

Sources of Influence

|	
PERSONAL MOTIVATION	PERSONAL ABILITY
SOCIAL MOTIVATION	SOCIAL ABILITY
STRUCTURAL MOTIVATION	STRUCTURAL ABILITY

...is floss my teeth at least once a day. So, I'm going to use this as an example of a change behavior, and see how games and game mechanics might be able to help me achieve that.

Personal Motivation
"Make the undesirable desirable."

- Compelling experiences

- Emotional connection

- Create desire to change

- Show the possibilities

PERSONAL MOTIVATION	PERSONAL ABILITY
SOCIAL MOTIVATION	SOCIAL ABILITY
STRUCTURAL MOTIVATION	STRUCTURAL ABILITY
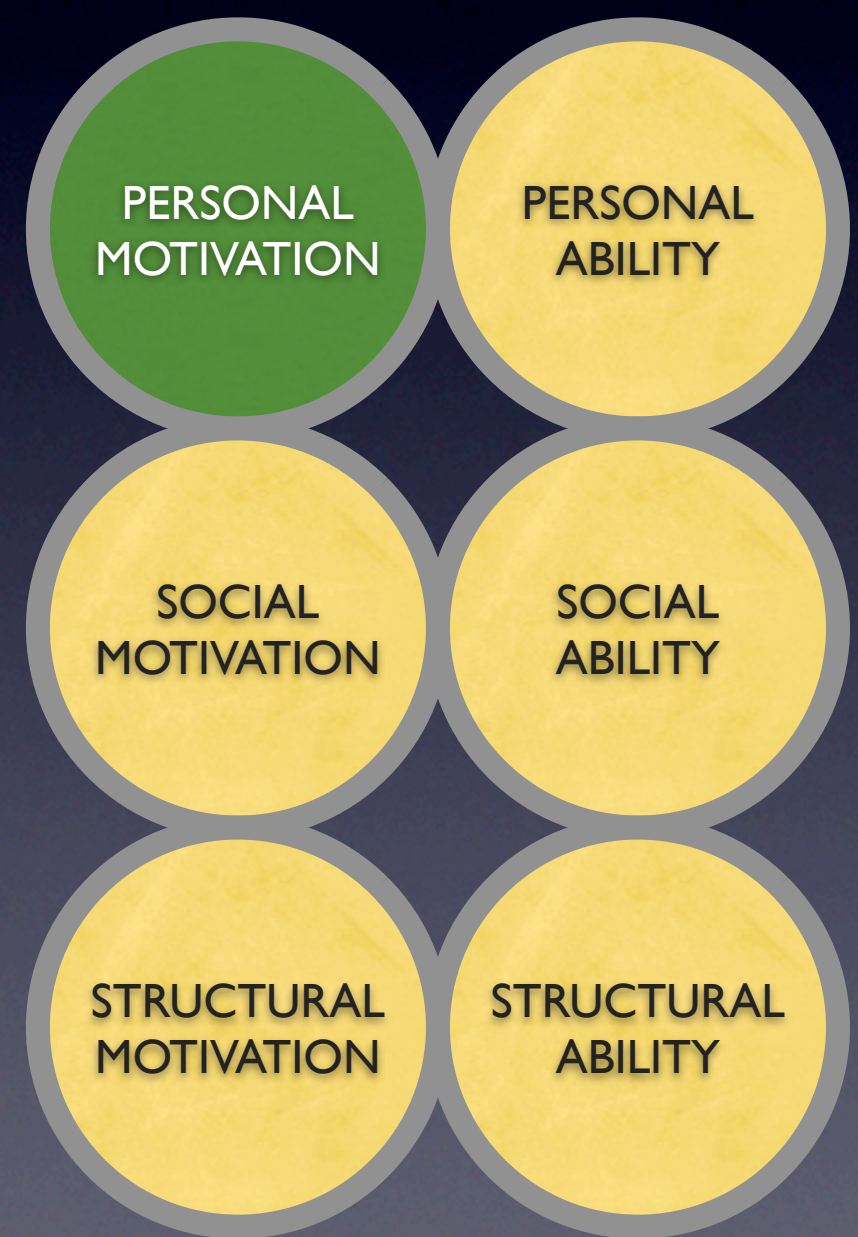
No one is going to willingly change their behavior unless they want to.
To motivate someone long-term, you have to create an emotional connection to the actions you want them to do. You have to instill a **desire** to change.

You can help someone see different possibilities than they do in their everyday life. They have to believe these possibilities, and want them. Because making a change can be, on its own, BORING, or even dangerous. Or at very least, time-consuming. We often need to sacrifice short-term convenience and pleasure for long-term goals. Making the emotional connection is how we make these actions compelling.

One technique that games share with linear media like Sabido's telenovellas is the power of storytelling, and character.

PERSONAL MOTIVATION
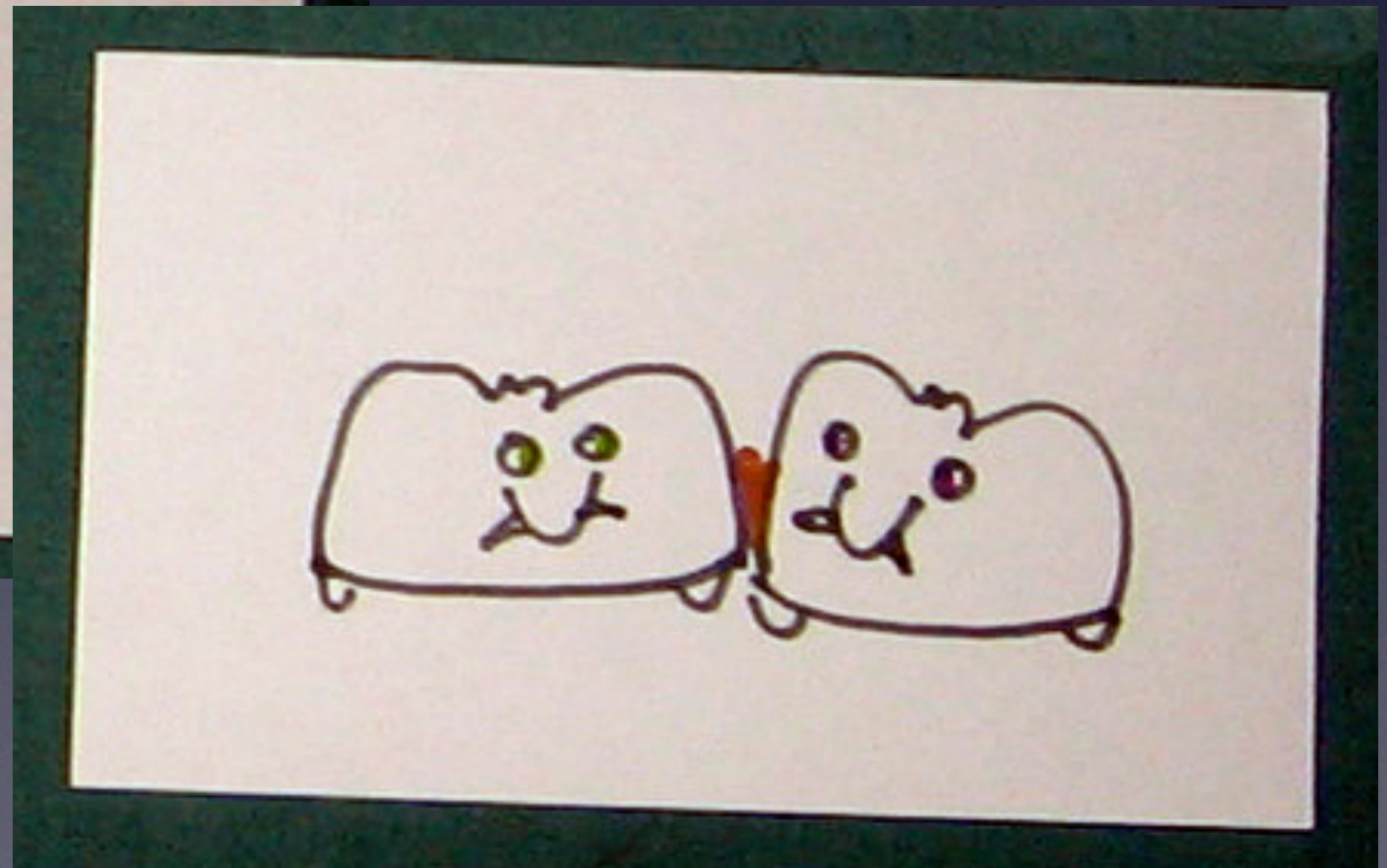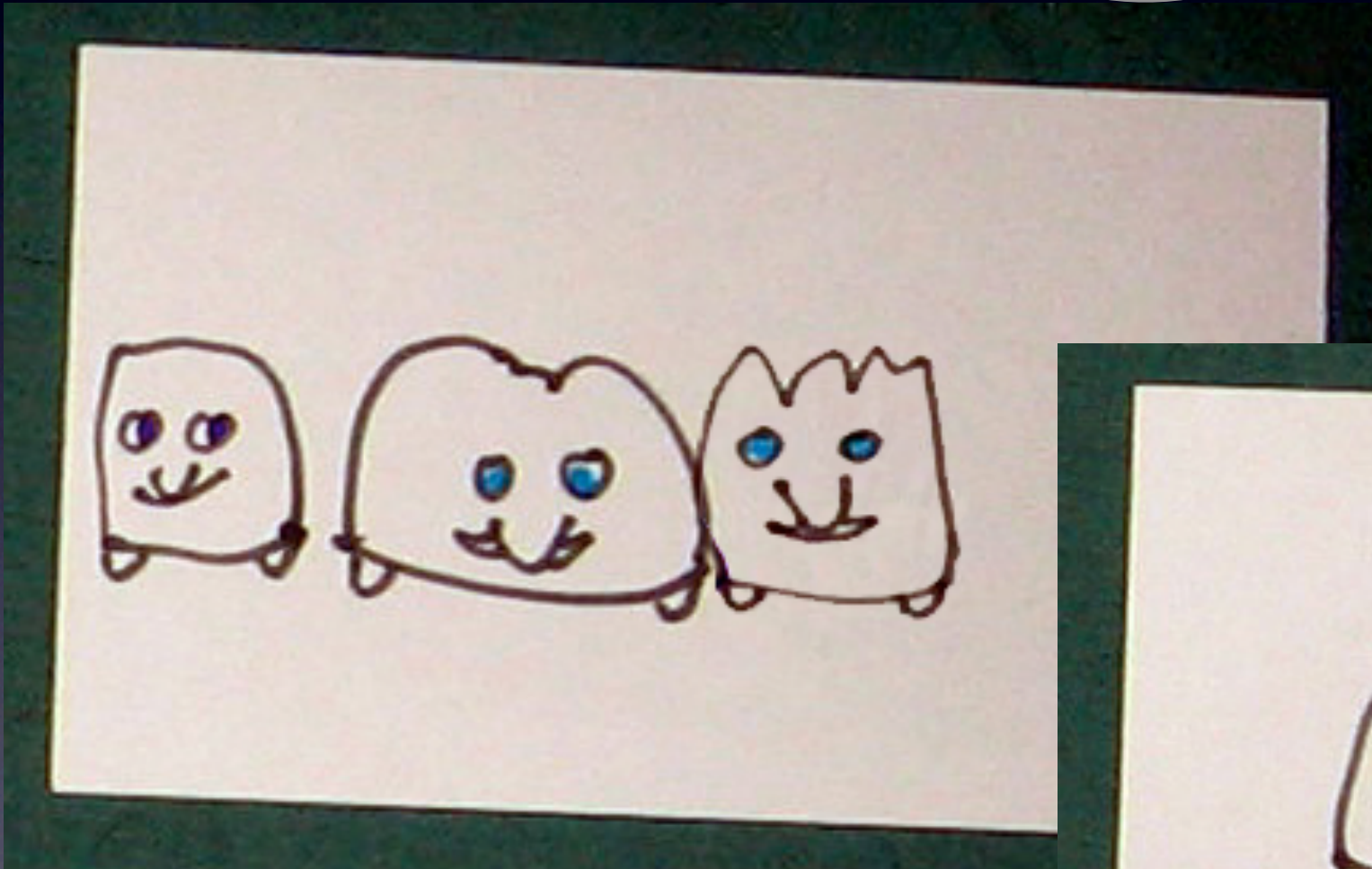
So! Now I'd like to introduce you to the first part of my plan to get myself to floss my teeth. Naturally, it's a set of adorable animated characters.   That look like teeth.

You can see here why I'm a designer and not a character artist.
I realized that one way to get myself to care about my teeth is to make them into something a little more empathetic, and more lighthearted. So I created these "Teethies" that you have to take care of. They like to crowd together a bit like sheep. But sometimes they get things stuck between them and don't know what to do, also a bit stupid, like sheep. So, the idea is basically that you are the shepherd of these things.

So by doing that I'm instantly tapping into the human desire for taking care of something helpless, of being a hero to them. And it's taking something literal and through metaphor and character, making it more lighthearted. So, I'm more personally motivated to DO something, once I know what it is that I need to do.

So, using personal motivation is all about making it extremely easy to find out what needs to be done. To get past people's barriers. Pleasure and emotional connection are those pathways.   In other words, "Fun."

Personal Ability

"Surpass your limits."

- Provide training and knowledge

- Create ramping challenges

- Give chances to practice

| PERSONAL MOTIVATION | PERSONAL ABILITY |
| SOCIAL MOTIVATION | SOCIAL ABILITY |
| STRUCTURAL MOTIVATION | STRUCTURAL ABILITY |
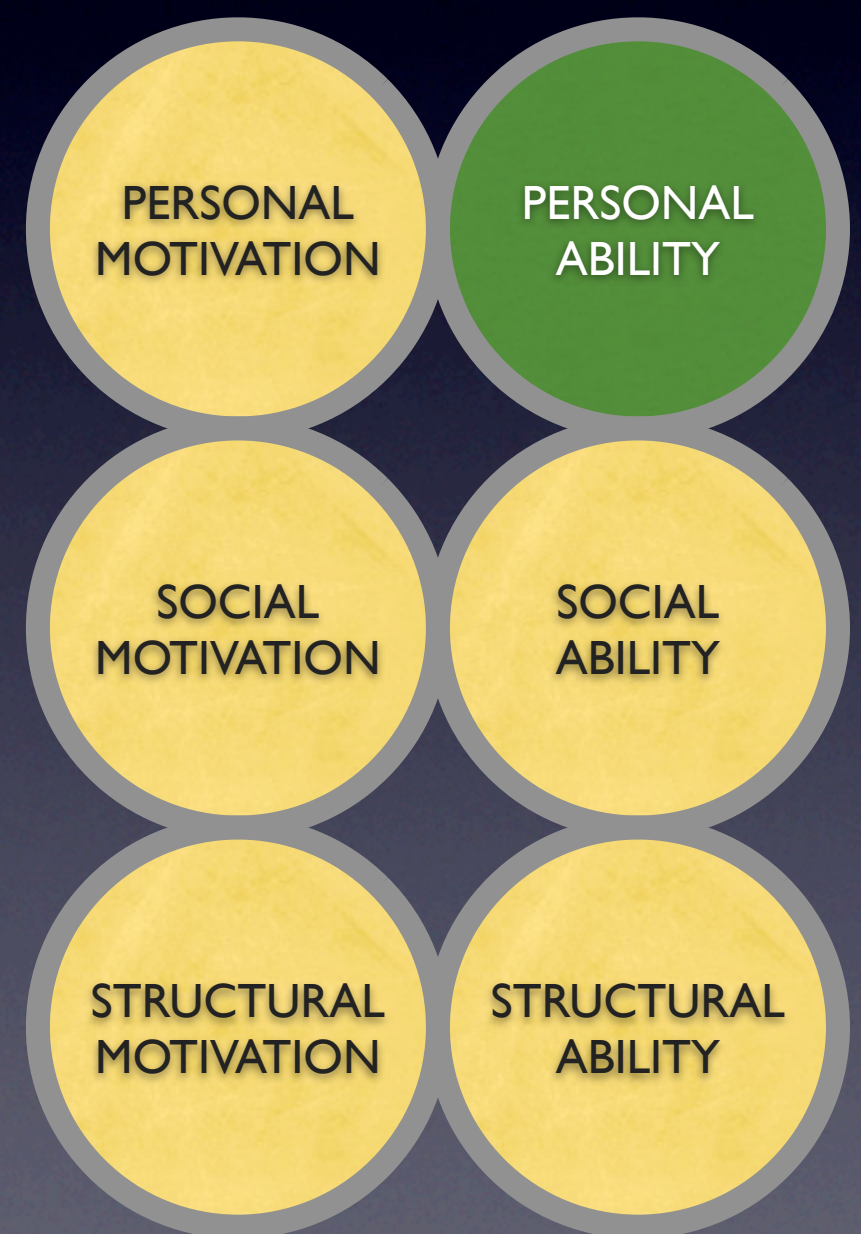
Using linear media like radio, you can create VICARIOUS experiences.   But games have the additional power to create a DIRECT action or emotional experience – of course some easier than others – but all of which can help a person connect to your story, and become motivated to make it a part of their own lives. In fact, relative to all the other ways you can enable Personal Ability, games are some of the BEST. We've spent decades studying how to gradually introduce someone to a new skill, and ramp the challenges to keep the player in flow. It's almost so obvious that I don't feel like I have to elaborate much here. But again, the challenge for us is how do we translate our skill at ramping difficulty in the hermetic world of a game to real behavior in everyday life.

photo: Ricardo Carreon
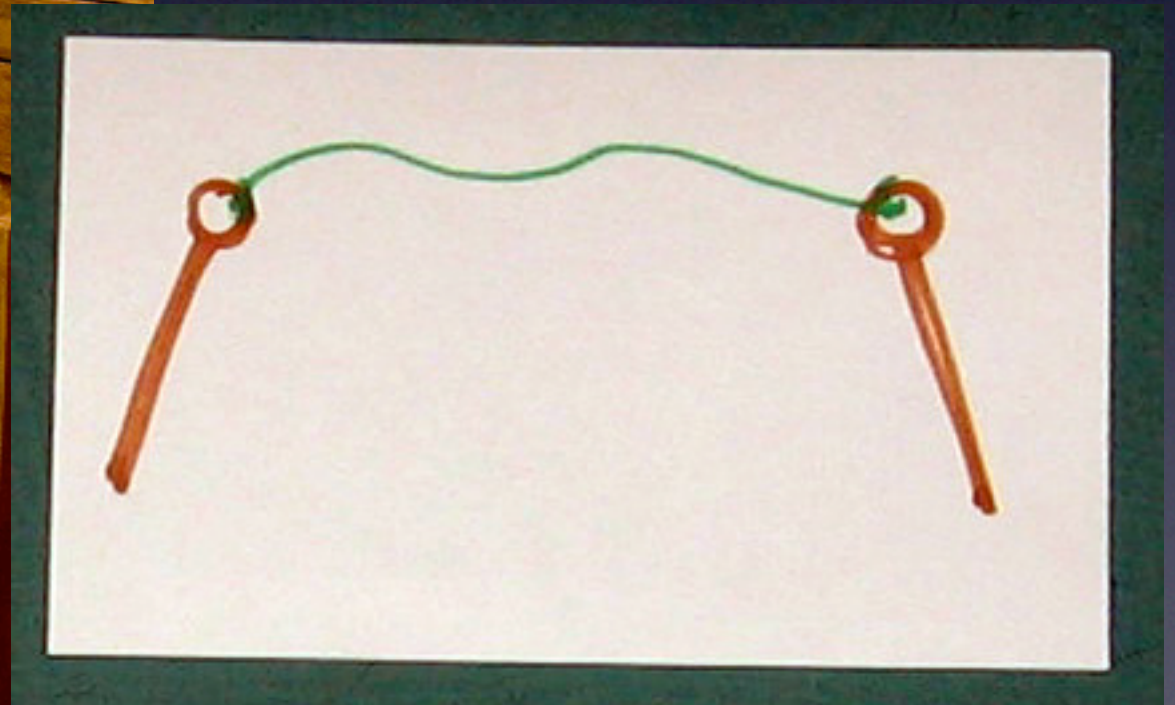
So here we are again with my flossing game. What we want to do is overcome any lack of knowledge or technique, and use the gameplay both to train and motivate. So, staying with the Shepherd/caretaker theme, I needed to find a way to teach the technique of flossing your teeth and make it fun. Enter the Nintendo Wii.

This illustration, if I can call it that, is of the in-game lasso that you would use to clean off the tooth creatures. Not surprisingly, it looks like dental floss!

The core gameplay loop requires you to perform lassoing and cleaning gestures on the Teethies, using the Wiimote and nunchuck. I thought it was kind of a cool side effect of the nunchuck that it means there's a cord as part of your controller, which could help support the fantasy of a lasso. Maybe if the game relies only on the accelerometers and not the pointing device, then it's even possible to hold the wiimote and nunchuck backwards so that the cord was in the front. I'm not sure.

The gameplay of flossing the Teethies taps into not only the caretaking hero archetype I mentioned earlier, but also the "completist" or "cleaning" desire common to many games, with the most notable example being Tetris.

And to ramp the difficulty, you'd have more gunk between the Teethies, they'd press closer to one another, or be at an unusual angle from you, or far away, or other ways to make the challenge greater – similar to challenges you'll face when flossing in real life. I think i'd need to hire some dental assistants as subject matter experts!
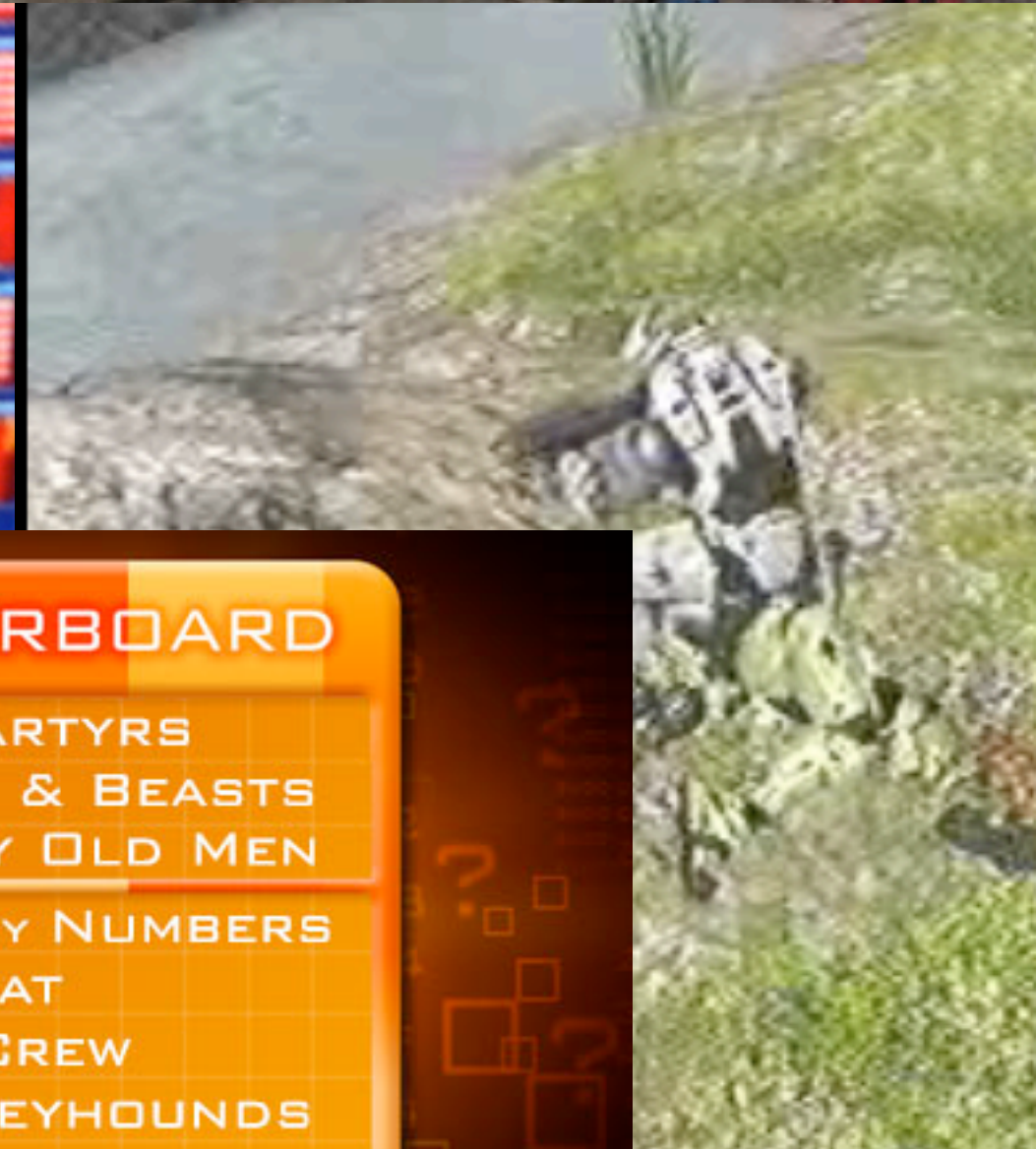
Social Motivation

"Harness peer pressure."

- Make changes community-wide

- Sway public opinion

PERSONAL MOTIVATION

PERSONAL ABILITY

SOCIAL MOTIVATION

SOCIAL ABILITY

STRUCTURAL MOTIVATION

STRUCTURAL ABILITY

Here's another case where the power of games is just really obvious. Social motivation. The influence of peer pressure. Because if someone makes a change in their behavior, but they are surrounded by people who ignore or even act counter to that change, they are almost certainly not going to succeed. So you are better off if you can make the entire community desire a change simultaneously. This kind of motivation would come in really handy for anyone who has ever had trouble getting their roommates to clean their dishes.

SOCIAL MOTIVATION

Social motivation in games is a no-brainer. Scores and competition create an automatic structure for getting everyone working toward the same goal. In the case of the flossing game on the Wii, you could easily picture a leaderboard with high scores for the fastest and cleanest.

It's a little less obvious how you'd provide social motivation for a real-world component of the flossing game. But this problem called to mind an experience that I had in elementary school that obviously made a memorable impression, since that was... a little while ago.
Volunteers came around to all the schools to explain the necessity of brushing our teeth. They had us chew little red tablets, which turned your plaque bright red, so you could see exactly where the plaque was and how much of it there was on your teeth. And of course it was pretty embarrassing to have a bright red mouth. So we could take something simple like that and make it overtly competitive.
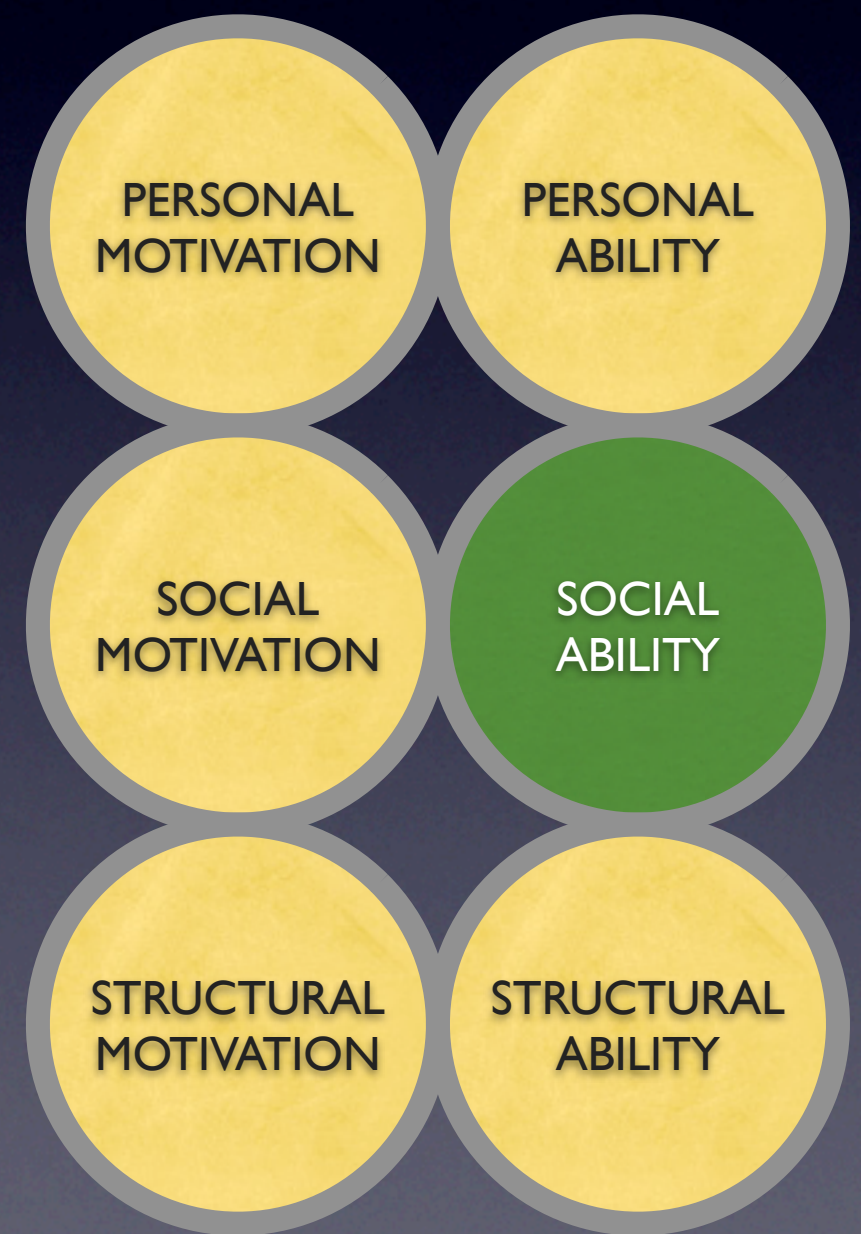
Administer surprise plaque-checks at schools, for instance, and give awards to classes of students with the best results. It's not pretty, but avoiding humiliation is a great motivator to succeed. Just ask anyone who plays Halo.

Social Ability

"Find strength in numbers."

- Reward teamwork

- Reward sacrifice

- *Make change co-op!*

PERSONAL MOTIVATION	PERSONAL ABILITY
SOCIAL MOTIVATION	SOCIAL ABILITY
STRUCTURAL MOTIVATION	STRUCTURAL ABILITY

Social ability is yet another area where games seem to be a natural fit. Here the emphasis could be put more on cooperation. How do players HELP each other to succeed? Maybe players have to form teams to play the Wii game – and some players are responsible for teaching others how to play the game. So players become responsible for not only themselves but other teammates.

SOCIAL ABILITY

photo: Ann DeMarle

Here are a couple of examples of cooperative gameplay that came to mind as comparisons, one from WOW, and one from the streets of South Africa. In both cases, the creation of the game experience itself depends on the willing participation of the other players. And in games we do this ALL THE TIME.

Structural Motivation

"Design rewards and demand accountability."

- Build a gradual reward structure

- Ensure fairness of the change system

- Punish only when necessary

PERSONAL MOTIVATION

PERSONAL ABILITY

SOCIAL MOTIVATION

SOCIAL ABILITY

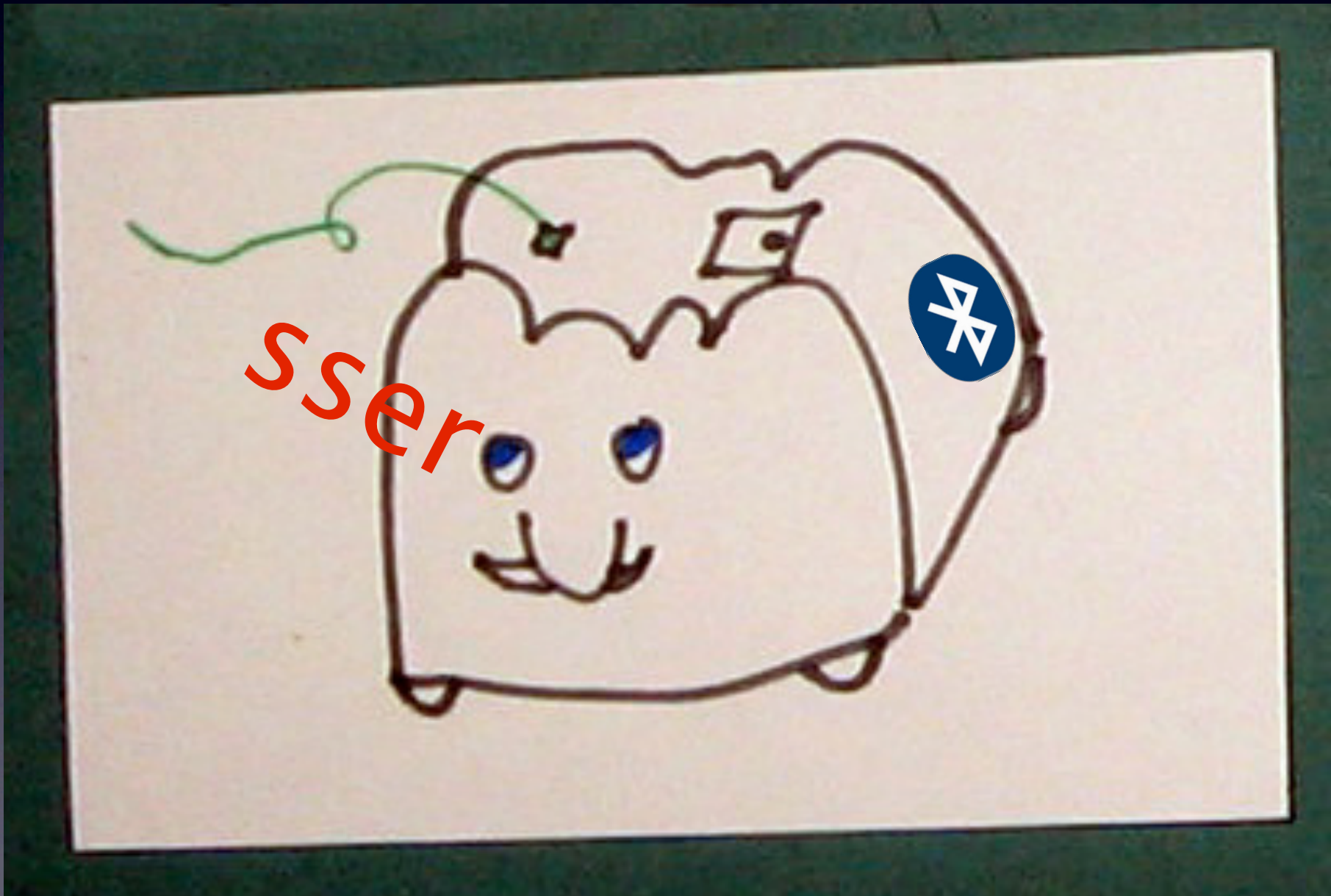STRUCTURAL MOTIVATION

STRUCTURAL ABILITY
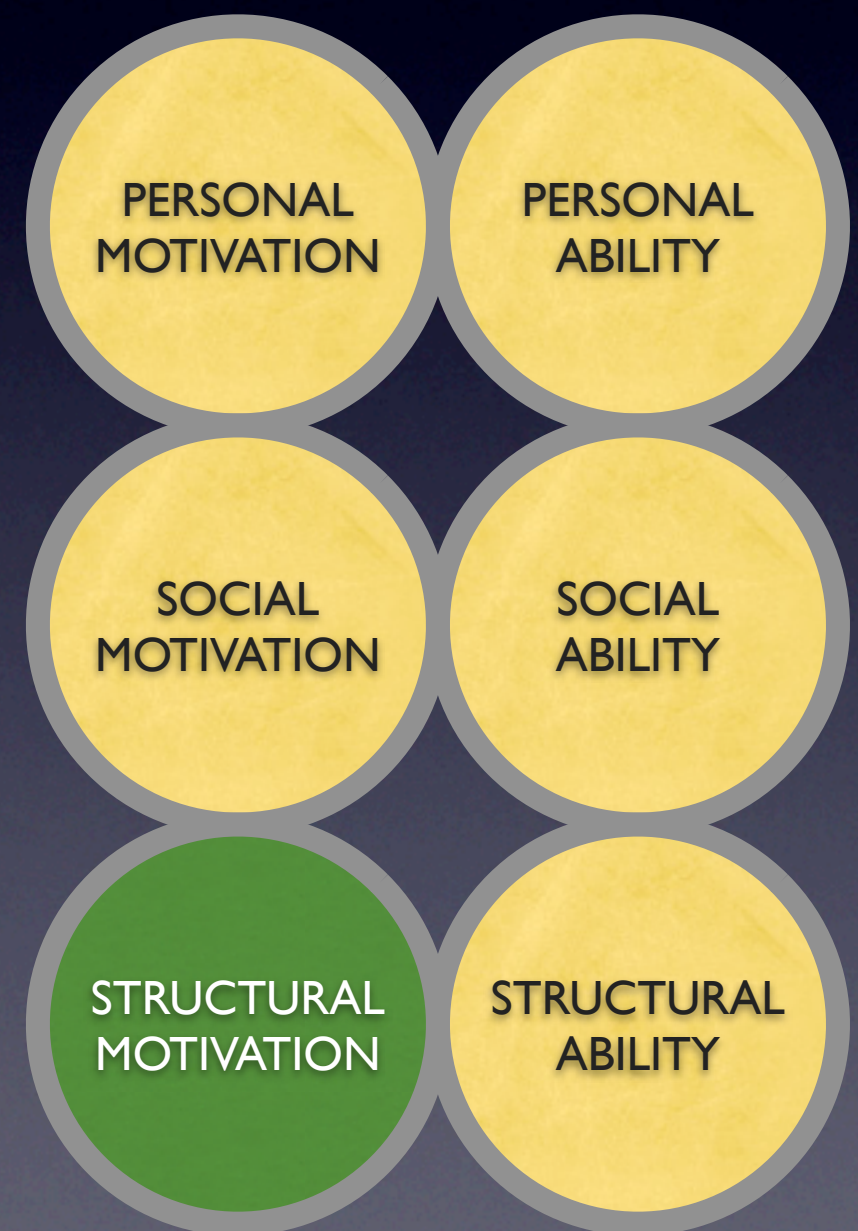
I'm starting to sound like a broken record here – but structural motivation is something that games are really fantastic at providing. Building a reward structure is not just a side element of what we do – it defines the essence of games themselves.

The more important element when designing a game for real-world change is to make accommodations for the newest players to learn the system, get rewards early, and have a recovery mechanism that doesn't let you get discouraged easily when you fail. I think this will be one of the trickier problems for games that want to change behavior, though we have made progress recently with the Wii and other family games. We have to let the player gracefully recover from the mistakes they are going to make. Also, we need to shift an emphasis away from punishment and toward rewarding good behavior. In games that seems anathema -- in a good game, losing is part of the fun of playing! But in making a real-life change, losing a lot will probably mean that you quit altogether. So we'll need to think hard about how we manage that aspect of the design.

STRUCTURAL MOTIVATION

So how does the Flossing game motivate players structurally?
First, it needs to have clear criteria for success. And I can see this being true in the real world as well as the game world. So the game KNOWS when you have flossed your teeth. The way I imagine this could happen is with this all-in-one floss dispenser, disposer, and scorekeeper.
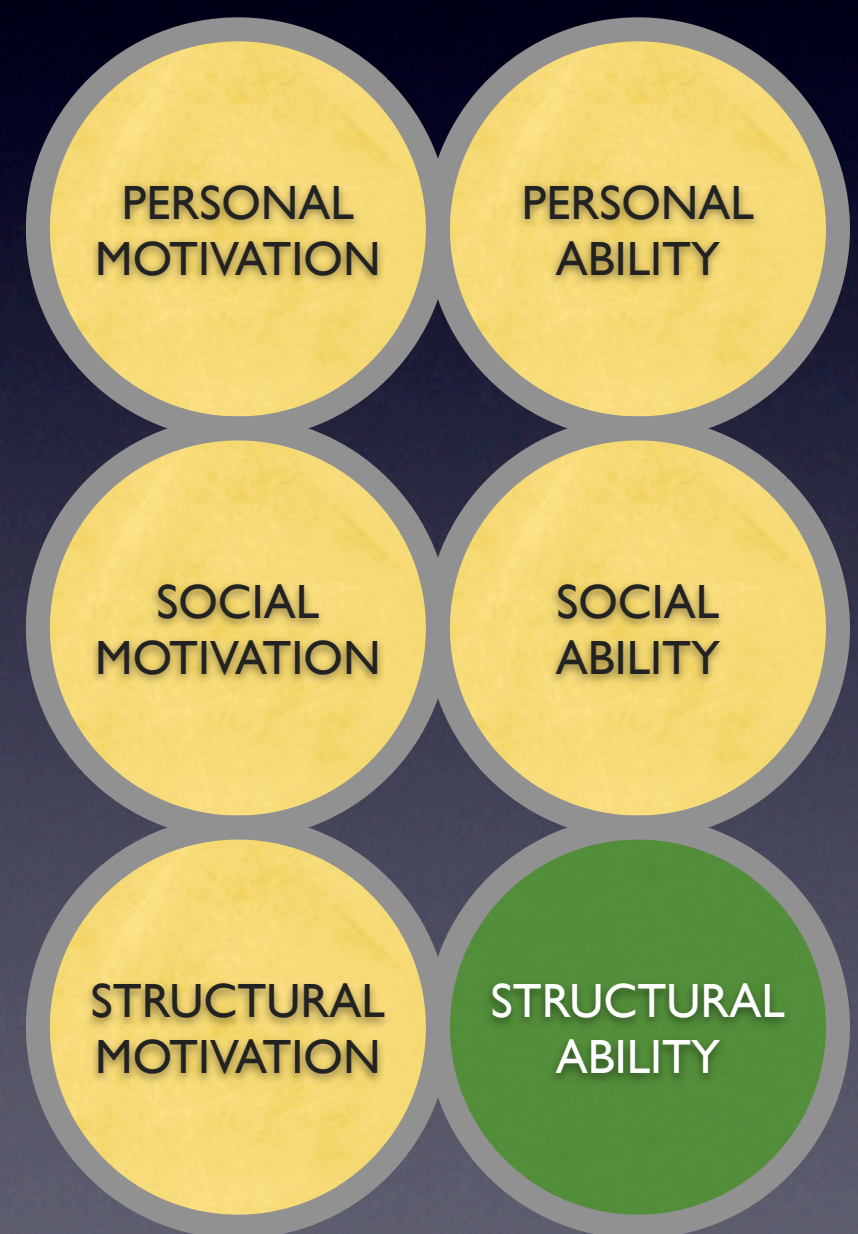
ON the left there you see it gives you a piece of floss.   On the right is a trap door to deposit your used floss. Putting the used floss in the trap makes the dispenser sing you a little thank-you song, and also uploads your usage stat via bluetooth or wireless to the multiplayer game server, so it can add to your team flossing ability, by improving your player's skill stats in the Wii game.

Structural Ability

"Change the environment."

- Design the possibility space

- Design the entire player experience

- Make the game feel "real"

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PERSONAL MOTIVATION	PERSONAL ABILITY
SOCIAL MOTIVATION	SOCIAL ABILITY
STRUCTURAL MOTIVATION	STRUCTURAL ABILITY

In addition to creating a game and world space that motivates you to act, you need it to also make it very EASY to act. That means that you design the gameplay space of possibility, the system design, to make change almost inevitable. This could occur at the level of the gameplay or the level design. There should be as few hindrances as possible to accomplish the Vital Behaviors you want to address.

We need design the entire player experience, inside and outside the game proper. So, not just what ships in the box or is downloaded from the online store. But the community around the game as well, online or through other more old-fashioned means.

You also want to make the game "real," structurally and emotionally – this does not necessarily mean graphically. A good example is Rock Band. Thanks to the controllers, the gameplay, the feedback, and the social structure, the game "feels" like you're really playing a musical instrument in a band, and can generate a huge sense of collaboration with your band mates. The fantasy of being a rock god is very accurately represented, even though it doesn't look "real" in a literal sense. This is probably one of the key elements to making games work as agents of change. Because people can benefit when this surrogate activity is as close to reality as possible, even making the real activity part of the game.

STRUCTURAL ABILITY
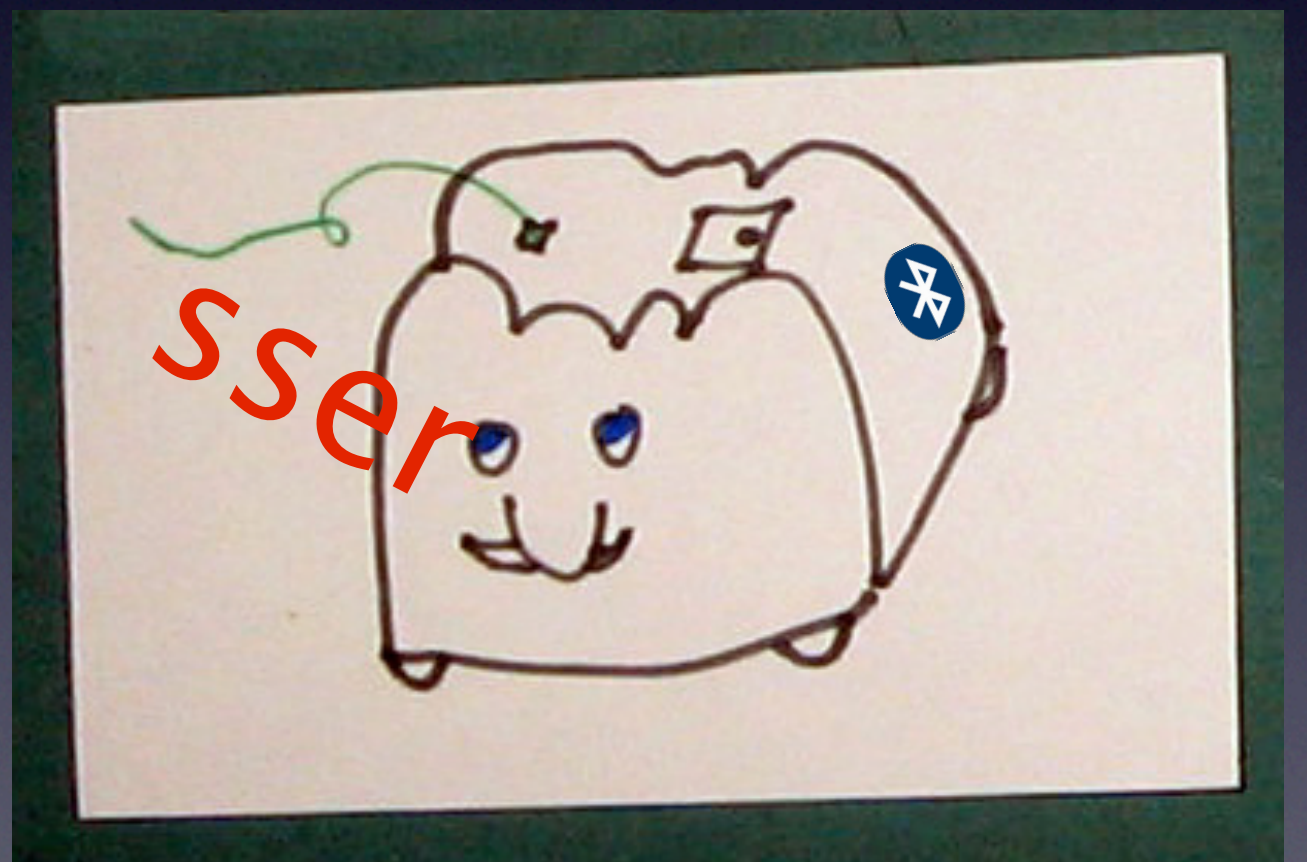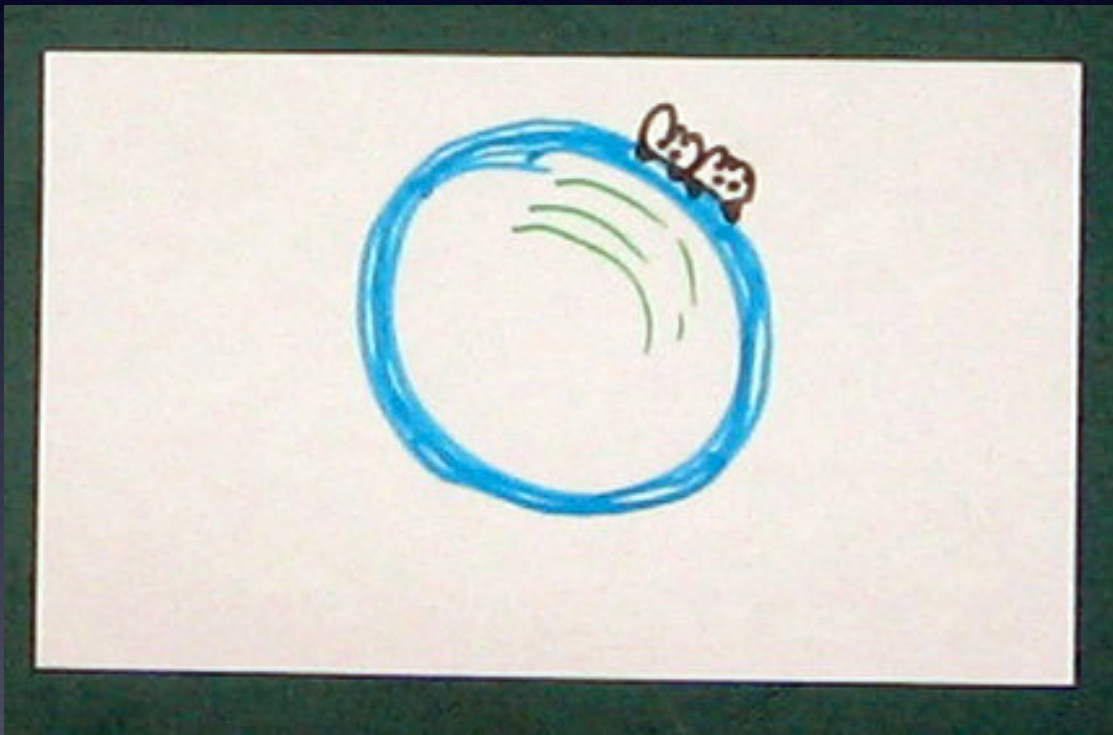
So here's what I'm thinking for the Flossing Game's Structural Ability. This one is a bit of a stretch but bear with me here. What we're looking at on the left, in my highly detailed concept art rendering, is a magnifying mirror that could come packaged with the Wii game, or be given out as a reward to a winning team in a multiplayer tournament. So this part of the game experience even changes how you look at yourself every single day.

And it compliments the floss dispenser we looked at a minute ago, living as it probably does next to the bathroom sink.   The way I see it, if the floss is sitting right there in your environment, being all adorable and acting like it WANTS you to use it, then you're going to have a harder time turning it down. Add in the reward of the little song, and the stat upload, and you've got something pretty influential there. It may just be my love of useless adorable gadgets, but i REALLY want one of these, now! And there could be a hardcore variation with some kind of sharp carnivorous incisors, and that plays an explosion or something.

STRUCTURAL ABILITY

One last element I want to look at as an interesting challenge for the structural ability of games is the matter of Time. To make a big change in your life, it needs to be done gradually, over time. You need time to think about actions, either your own or those of other people and characters, and be able to internalize them. I think this is true whether the actions are real or virtual.   By way of comparison, the telenovellas and radio dramas that follow the Sabido methodology stretch across many months and sometimes even years.   Their viewers really get to know the characters, and experience their transformation in a sort of "real-time" way. Compare that to the unrealistically short epiphanies of a film. For games, that means that the standard type of one-off experience game, like an epic that you play start to finish (and possibly don't even finish), is not really the best model for a game that influences people.

MMOs could be the exception in that regard, since they are played for the long haul.

In the case of the Flossing game, there really is no end to it. Once you have the structure in place, the player could play against themselves or other teams online as long as the servers stayed up and the floss doesn't run out.

PERSONAL MOTIVATION	PERSONAL ABILITY
STRUCTURAL MOTIVATION	STRUCTURAL ABILITY
SOCIAL MOTIVATION	SOCIAL ABILITY

So, to conclude:

All this is just a start. It's a suggestion about how games are already, and will increase to be, agents of change in the world. And by games, of course I ultimately mean game creators, like us. We're already living and using these techniques every day.

Games WILL be used to change behaviors. The question is, whether it will be to change situations that really matter, like global warming, human rights, or hey, oral hygiene. Otherwise, we leave these techniques to those forces that just want to sell us a new brand of energy drink.

The choice is up to us.

Thank You!

More about Breakaway - the game

emc-gamestakeonvaw.blogspot.com

More about me

rapport.moboid.com