Massively Multiplayer Futuring: IFTF's Foresight Engine

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Finding Futures

The future lives inside the human mind. Trillions of visions flicker within billions of brains. In regards to 'images of the future,' the job of the futurist is threefold:

- 1. to find and study images freely pouring forth from the human mind,
- 2. to invent tools to crack open the head if the images are imprisoned, and
- 3. to contest, extend, or invent alternative images and find a way to make them flourish in the global cognitive ecology.

FORESIGHT ENGINE

For most of its brief history, the trepanning tools of the futurist have been blunt, slow, and accessible only to a tiny population operating in boardrooms, war rooms, or classrooms. But as the world hurtles toward self-destruction, in large part due to mass aversion toward forward-thinking and an institutional lack of foresight capacity, advances in futures practice must take on more urgency, and must get better.

One path forward: the world is now connected at a level never before seen in history. We now share information, resources, goods, and risk globally, and almost instantaneously. Connected minds from across the planet are potentially the greatest source of imagination and problem-solving ever discovered. Because connected minds house alternative futures, and some of these will be the futures that could lead toward human survival, squandering this resource would be as destructive as ignoring the future itself.

In the last two decades, futurists have leveraged the Internet for research and communication. Environmental scanning, for example, has become much more expansive (not to say more noisy and complex) with the use of digital networks and mass informational databases. Futures outreach and education has also extended its reach via the Internet. In the last decade, futurists have also begun to integrate tools from the so-called Web 2.0, the "social" web that allows users to easily create and share their own content with other peers.

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The explosion in user-generated content (from symphonies to status updates) and the communities that have built up around content platforms is a treasure trove for scholars and analysts. The data from the micro-blogging site Twitter, for example, is continuously mined by marketers, government agencies, and the media to understand the minute-by-minute mindset of users, and thus becomes a stock-ticker of the real-time zeitgeist. Massively participatory platforms, like Facebook and Twitter, have created new means of information gathering and new communication habits and expectations from billions of users. Mining the signals and images of the future within this data is futurist gold, and leveraging these new participatory literacies is essential for futures communication with the public. This understanding is what drove the creation of Institute for the Future's (IFTF) Foresight Engine, a massively multiplayer futures engagement platform.

About Foresight Engine

Foresight Engine is a systematic engagement and conversation tool that facilitates the generation of responses to a given scenario. It allows players to create ideas, comment on others' ideas, and to build conceptual and thematic resonances with hundreds or thousands of players all around the world. Scoring and game mechanisms allow players to measure their relative impact on the conversation, and get real-time feedback on their progress.

The player experience: a player comes onto the site and they are presented a video scenario (one that IFTF researchers develop in concert with relevant content experts). Foresight engine scenarios have covered a wide range of topics and goals. These include scenarios that have centered on the tensions between water and energy, calorie optimization, Somali piracy, the Smart Grid, as well as for specific geographic locations such as Christchurch New Zealand. Players create an account, watch the scenario, think about it (hopefully), and then dive in and start playing with their peers around the world. "Playing" consists of contributing Twitter-size (140-character max) ideas, comments, and other responses. The initial level of play is to contribute a positive imagination or a dark imagination card. So, a positive reaction or posited outcome to the elements in the scenario, or a comment on negative outcomes from the scenario.

The foresight engine allows people to generate ideas in a low-barrier to entry way, building threaded conversations quickly and productively. These are the instructions that first greet players:

How to play

1. Discover the scenario.

Watch the short welcome video to find out what future we're forecasting. Think about the scenario questions for a minute or two, and you're ready to play! (There's also background on the scenario if you want to learn more.)

2. Play a card.

A card is an idea about the future. Your first card is either "positive imagination" — something good that we could do in the future scenario — or "dark imagination" — a challenge or obstacle that might stand in our way. If you're optimistic, play a positive imagination card. If you're pessimistic, play a dark imagination card. And if you can picture both

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positive and dark outcomes, then play one of each!

3. Build on other players' forecasts

Check out the ideas created by other players! Look for cards that really catch your eye — and then take them one step further, in one of four possible directions

- "No way!" If you disagree, play an antagonism card.
- "Yes! And..." If you agree, play a momentum card.
 "Yes! But..." If you agree, but if you can imagine the idea playing out differently in your field or part of the world, play an adaptation card.
- "Hmmm..." If you have a follow-up question, play an investigation card.

4. Watch the game live on the Dashboard

Get a bird's-eye view of the game unfolding on the Dashboard. Follow trending topics, and see which ideas are gaining momentum. Track your favorite ideas and players in conversation. And keep an eye on the leaderboard to see where you stand!

Besides eliciting ideas from the players, Foresight Engine offers the opportunity to teach and refine some broad futures thinking and brainstorming techniques amongst the players. There are several instructional and feedback mechanisms built into the platform for this purpose. To begin with, players are given some direct suggestions:

Forecasting tips

Make your best guess... but don't worry about being "right." If you think something is possible, share it! Your ideas don't have to be probable. They just have to be possible.

Play to your personal strengths. The Foresight Engine is a collaborative community. Everyone is encouraged to draw on their individual expertise. What do you know a lot about? What do you care a lot about? Where do you live? Who do you know? What are you good at? Whoever you are, there are ideas about the future only YOU could have, and there are thoughts only YOU could think. Please share them with us!

Share multiple ideas. Don't try to come up with the one "best" idea. Share all your ideas, one card at a time. Then watch and see which of your ideas spark the most conversation!

Don't get into idea wars. We will frequently disagree with each other's ideas and forecasts! But we can still treat each other with respect. If you disagree, make your best case, and then move on to other ideas.

Push yourself to be original. Feel free to play the first ideas you think of. But after that, try to push your ideas to the extreme. Go beyond the obvious. *Try to think something you've never thought before!*

The second level of feedback comes from the direct responses of other players and from the "game guides," a team of futurists and content experts who monitor the conversation for interesting, provocative, inappropriate, offensive, redundant,

or frivolous comments. Cards can be called out as inappropriate and sometimes deleted—although, in order to maintain an open and free atmosphere, deletion of cards is only done in extreme cases. Game guides also provide positive feedback through the game blog, a complementary space where provocative and original ideas can be further explored in the relatively more expansive conversational format of the comments section.

The game elements included in the platform provide a central form of feedback and motivation for the players. Competition between players can build further engagement, and a point and reward system provides the scoring mechanism. Players are awarded points for card contributions, including commenting on others' cards. They are also given points when others comments on their original cards, as an indication of an idea that sparked interest amongst the players. The more responses, the more points, so it pays to come up with catalytic ideas, as this point system explanation indicates:

Forecasting points

The more you inspire others and provoke conversation, the more points you'll earn. You earn 1 point whenever another players build on your forecast – and 20 points when your card is marked as "Super-interesting" by a Foresight guide. (You don't earn any points for a forecast unless someone else builds on it, or a guide is surprised by it – so don't be boring!)

Track your points, and see players and cards with the most points, on the leaderboard.

MOST FORECASTING		MOST SUPER	PLAYED FIRST CARDS	YOUR POSITION
Mara208 America San Francisco 1500+	kate_e san Francisco, CA	Gardener Amountain View, CA	jbonnema 🛱 San Francisco, CA 1	35 Mario 126 36 paulwicks 121 37 Misha 119 38 WereLila 118 39 iao marga 104
Gardener Mountain View, CA 1500+	kkahol Arizona 3	Michael J Pannell	suzie 2 Australia 1	40 dean 101 41 mmhirsch 89 42 vdistler 82 43 IFTFjane 79
Adalene 🚖 Detroit, MI 1500+	Erlazerg 🚖 Madrid, Spain 1	katle.odette 🛱 Baltimore, MD 7	Deanna 🛱 California 1	44krinaldi7745perepel72
Burgundian († Palo Alto) 1500+	PaulT 😭 princeton, nj 1	Adalene 🖄 Detroit, MI 5	Korine 🚖 Canada 1	TRENDING #TAGS #
edudkin 😭 Prof of biology 1500+	lifecoach_mark 22 Denver 1	Callooh A	Lynn Amerikaan 1	#finnovation #transparent #transparency
kingjacob Houston 1500+	Gardener Standard Mountain View, CA	dennisolden Columbia, MD 5	Fusion 😚	TOP KEYWORDS
Isotope 🔅 Chicago 1500+	Rock Pallas, TX 1	kate_e 🕸 San Francisco, CA 6	CoH Artford, CT 1	research data people disease
Rivyrn 🕸 Maryland, USA 1500+		MOOreideas Chicago, IL 4	JO S West Coast 1	need VIEW ALL

Figure 1. Illustration of foresight engine's live points leaderboard

Levels

The more idea points you earn, the faster you'll level up. Table 1

Level	Forecasting Points Required
Novice	0
Keen	1-4
Inspired	5-19
Brilliant	20-42
Luminous	43-79
Genius	80-179
Extreme Genius	180-299
Beyond Extreme Genius	300-424
Legend	>425

And finally, there are several achievement badges that are automatically awarded, or are given by game guides for ideas they deem to be "super-interesting," innovative, or profound. New achievements are always being invented, but here is a sample of the kinds of achievements players can unlock, and their meaning:

Table 2. Automatically unlocked

HIGH SCORE:	Most points earned in an experiment
PROVOCATEUR:	Started the longest chain-reaction in an experiment
THE WORKS:	Contributed all five types of micro-forecasts in a single experiment
TRILOGY:	Completed three different engagements

Table 3. Awarded by Foresight guides

Ted Talk:	Micro-forecast most worthy of an 18-minute elaboration
Macarthur Genius:	Micro-forecast most worthy of five-year funding
Hawking:	Micro-forecast with the clearest sense of the very big picture
Feynman:	Micro-forecast with the clearest sense of the very small
-	picture
Venter:	Micro-forecast that makes the biggest paradigm shift
Heisenberg:	The player that had the biggest impact of the conversation
J.K. Rowling Award:	The most imaginative idea
Usain Bolt Award:	The idea that will have the greatest impact on speeding new
	treatments to market

Case Study: IEEE Smart Grid 2025

On March 17, 2011, several hundred engineers, students, energy experts, futurists, and members of the interested public came together virtually for 24 hours to brainstorm, discuss, critique, and forecast futures for the Smart Grid of 2025. This particular Foresight Engine was initiated by the Institute for electrical and Electronic Engineers (IEEE). Specifically, it was a project led by the IEEE Spectrum magazine, as an initiative to foster a more creative and exploratory discussion around Smart Grid issues. Having been surprised by some of the public backlash against smart

metering technologies, and some of the political stonewalling associated with what, to many engineers, seems like a technically feasible and worthy goal to make energy use more responsive, more efficient, and more cost-effective, the IEEE sought a broader conversation beyond just how the technical systems involved would integrate, but also how these technical systems would integrate with cultural, social, and political systems as well.

IFTF Distinguished Fellow Jamais Cascio and myself developed a Smart Grid scenario for 2025, looking in particular at the how the various cultural histories, technical capacity, and (political) power dynamics might play out in various regions around the world. Both the pre-writing research, and several drafts of the scenario



utilized a network of IEEE recommended experts. Amongst the most significant changes were pushing many of the smart grid roll-out dates several years further into the future, as technical limitations would prohibit wider adoption. Once a script was in place, we worked with a producer to bring the ideas to life in video form. These core demographics and statistics show the diversity and various levels of engagement from registered users:

User Data

Users registered for the game:	681
Users actively participating in the game (played at least 1 card):	166

Countries

United States:	305
International:	376 (users from 81 different countries including):
India:	50
Canada:	36
UK:	36
Germany:	18

Occupation

The following are the top 5 occupations:

Student:	156
Engineer:	149
Researcher:	39
Consultant:	21
Software Dev.:	16
Video Views:	2438

146

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Information about the frequency and kinds of cards played, as well as the number of builds within a threaded conversation is also informative:

Card Data

4690 Cards Played

1st Order Cards: 615 Positive Imagination 298 Dark Imagination

2nd Order Cards: 1439 Momentum 899 Investigation 831 Antagonism 608 Adaptation

	What do we need to do today to create the best possible future for the smart grid? Just as large, wasteful automobiles became a fashionable way to display wealth, excessive energy usage becomes the hallmark of upper class.		Edit Card Super Interesting Scenario Fail Common Knowledge	
	played about 6 hours	ago by thoughtgram		
PLAY MOMENTUM	PLAY ANTAGONISM		PLAY INVESTIGATION	
f that happens What happens NEXT ?	Disagree? What would you do, or what might happen, INSTEAD?	How might this play out in YOUR field or organization differently?	Curious? Ask or answer a FOLLOW-UP QUESTION	
PLAY CARD	PLAY CARD	PLAY CARD	PLAY CARD	
MOMENTUM CARDS	ANTAGONISM CARDS	ADAPTATION CARDS		
Energy Hog tax is used to pay for cleaner energy production lants. The more they wish to nog the cleaner the grid gets! ramgarden	Excessive investment in expensive energy savings equipment would come into vogue so the wealthy could display a facade of social engagement	Maybe it doesn't need to be fashionable, might work just by being visible to those whose opinions you care about. LexLota	How can be make the practice of efficient and prudent energy use sound fashionable? AnuKow	
The disparity between haves	nonlinear_time		Is the fashionable part of the large, fast automobiles that	
and have-nots is a real and vexing problem, but not specific to SG. Regulation should provide "energy rights".			they're wastefulor is it that	

Figure 2. Illustration of IEEE case study card builds

Card Builds 14 cards had 30 or more builds. 67 cards had 20 or more builds. 236 cards had 10 or more builds. 623 cards had 5 or more builds.

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Figure 3. Illustration of IEEE case study scenario engagement

Gaming the Game

Two of the most interesting player-initiated responses to the Foresight Engine came beyond the confines of the game itself. In one case, utilizing the bulk card data that we made available after the game ended, player Warren Bazil created a very simple, but highly enlightening "word tree" visualization from all of the responses.¹ This "tree" allows one to enter any search term, and if this term was used within the game, all of the cards and builds that use that word will appear. For example, coming just days after the Japan tsunami and Fukushima reactor disaster, one would think that this would be inordinately high on players' minds—following the so-called "crackpot realism of the present" theory that people envision the future within the frame of today's news cycle. However, searching for "Japan," "Fukushima" or "tsunami" showed, at least in my mind, a relatively small number of users discussing this issue. But the conversation were eye-opening in that one could already see the beginning of a shifting attitude toward nuclear power, and an increasing sense of urgency in developing alternative, renewable energy sources.

In the second case, there was much player consternation, and backlash, about the scoring system, and several direct attempts to "game" the scoring system.² As noted earlier, scoring is based on many factors, but one of the most important mechanisms is built around the number of follow-up cards that a post receives. Some players attempted a collusive strategy to engage in purposeful extensions of conversation threads in order to maximize points. In almost all cases, these conversations were sincere and on point, but in Twitter and blog posts relating to the game, their strategy was made manifest.

In addition to the "hacking" of the game, another user attempted to develop his own scoring system, one that would rectify a scoring "bug" in the original system that allowed players to rack up millions of points, while others who were making similar levels of contributions were scoring in the hundreds. This scoring system altered the final leaderboard, and a new "winner" was unofficially declared. As Foresight Engine is intended to be a continually evolving and learning platform, these unsolicited re-designs of the game were not only welcomed, but a thrilling testament to the passion, intelligence, and commitment of the players to the game experience. Beyond the numbers of players and cards played, there is no greater indication of success for a participatory platform that the users taking ownership of the platform itself.

Conclusion

Futures studies and foresight work must learn to engage meaningfully with the public, both as research data and as co-creators of futures visions and designs. Foresight Engine, a game-like futures engagement platform, has evolved over the past 3 years into a model system for scalable participatory futures work. It continues to evolve, by the guiding hands of IFTF researchers, designers, and the volunteer efforts of players themselves. It will be a central part of IFTF research and engagement for years to come, and the hope is it will inspire further innovation in futures communication.

Reflections on the Yeditepe Conference Gathering

At 7 am, August 24th 2011, from my home in Mountain View, California, I had the privilege of addressing several dozen futurists and students in Istanbul, Turkey as part of the Yeditepe International Research Conference on Foresight and Futures. Some of the wonders of free digital networked conferencing have become mundane, but nevertheless there is still a thrill associated with such shrinking of geography. While no substitute for being there, the strange pleasure of presenting via video teleconferencing was memorable. Part of the strangeness was that I could see my fellow presenters (also linked digitally from around the world), but not the actual conference attendees.

Any awkwardness in the set-up or grogginess as my caffeine kicked in was easily overcome by my excitement to introduce, for the first time at an academic futures meeting, the Institute for the Future's *Foresight Engine*. *Foresight Engine* is a game-based conversation platform that leverages the Internet to allow dozens, hundreds, or even thousands of players from around the world to engage in collaborative futures thinking. It is, in my view, a major step forward in how futurists interact with the public and how foresight processes can benefit from this participation.

Combined with other panelists' introduction to their own innovations in crowdsourcing futures processes and methods, the experience gave me great confidence in the future of the field, one that will create and rely upon powerful new collaboration tools.

As the panel came to a close, my video patch to Turkey suddenly re-appeared, showing a room of smiling faces—faces that together with ours and many others, will be building a better field and a better future.

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Notes

- 1 http://www-958.ibm.com/software/data/cognos/manyeyes/visualizations/ieeesmartgrid-game-ideas-word-tre
- 2 http://www.energyblogs.com/ewpc/index.cfm/2011/3/31/Do-Players-in-1st-and-2nd-Place-in-Smart-Grid-2025-Game-Deserve-to-be-Call-Winners-Part-II

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