THE FUTURE TECHNOLOGY WORKSHOP METHOD

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Future scenarios invariably feature references to new technologies / products / services

Types of new products (Meyers et al. 1989):
- Incremental / continuous products: improvements, upgrades, line extensions
- Discontinuous products: radically new products that involve dramatic leaps in terms of user familiarity and use

Both types of new products influence future scenarios
But discontinuous products likely to shape futures in the end
New Product Development Process

- Fuzzy Front End
  - Opportunity identification & analysis
  - Idea generation / screening
  - Concept development

- New Product Development

- Commercialisation

... and User Oriented Design:

- ... can increase collaboration in development effort
- ... can have a positive effect on idea generation
- ... can result in a superior product or service
- ... can lead to products that are more readily adopted by users due to better appropriateness

Veryzer & de Mozota, 2005
## Existing methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Minimal participant training</th>
<th>Collaborative</th>
<th>Direct input to design</th>
<th>Cost-effective to run</th>
<th>Relates people with technology</th>
<th>Open-ended</th>
<th>Pragmatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus groups</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Future Workshops</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
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<tr>
<td>Strategic Visioning Workshops</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Role-play games</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>SPES</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Lead User Workshops</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>CURRENT ACTIVITY</td>
<td>FUTURE ACTIVITY</td>
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</tr>
<tr>
<td>1. Everyday technology-mediated activity</td>
<td>2. Familiar activities supported by new technology</td>
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</tr>
<tr>
<td>3. New activities that current technology might support</td>
<td>4. New activities with new technologies</td>
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</table>
FTW: the method

- Aim: reach an informed understanding of how people might interact with technology in the future, by exploring the possibilities represented by all 4 boxes in the grid

- Seven sessions with defined outcomes and defined tools for capturing data

- Carried out typically as a half-day event

- 6-20 participants, familiar with the domain of interest but not generally technology experts
FTW Session 1: Imagineeering

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Participants envision future activities in relation to the design task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>10-15 mins (to produce adequately rich &amp; diverse set of ideas)</td>
</tr>
<tr>
<td>Techniques</td>
<td>Brainstorming</td>
</tr>
<tr>
<td>Purpose</td>
<td>Set the scene; get participants to think in terms of future</td>
</tr>
<tr>
<td>Outcomes</td>
<td>List of new activities they’d like to do in the future; Outlook set to think of the future</td>
</tr>
<tr>
<td>Placement in time</td>
<td>Far future</td>
</tr>
</tbody>
</table>
# FTW Session 2: Modelling

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Participants create low-tech prototypes of future activity contexts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>40-50 mins (time for small groups to conceptualise/create prototypes)</td>
</tr>
<tr>
<td>Techniques</td>
<td>Low-tech prototyping workshop</td>
</tr>
<tr>
<td>Purpose</td>
<td>Imagine far future; produce models of useful / meaningful technology and activity context</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Models and written descriptions; Videos of modelling activities/presentations; Facilitators notes</td>
</tr>
<tr>
<td>Placement in time</td>
<td>Far future</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CT</th>
<th>FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>1</td>
</tr>
<tr>
<td>FA</td>
<td>3</td>
</tr>
</tbody>
</table>
### FTW Session 3: Role Play

<table>
<thead>
<tr>
<th><strong>At a glance</strong></th>
<th>Participants build scenarios about use of models and act them out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>30 mins (to build and enact scenarios)</td>
</tr>
<tr>
<td><strong>Techniques</strong></td>
<td>Scenario building and Role Play</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Bring future into present by ‘acting’ as if future was now; Engage in future activities and make conceptions more tangible</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>Videos of performed scenarios; Facilitator notes</td>
</tr>
<tr>
<td><strong>Placement in time</strong></td>
<td>Far future</td>
</tr>
</tbody>
</table>
### FTW Session 4: Retrofit

<table>
<thead>
<tr>
<th>At a glance</th>
<th>Participants modify scenarios to make use of existing technology only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>30 mins (to modify and enact scenarios)</td>
</tr>
<tr>
<td>Techniques</td>
<td>Scenario building and Role Play</td>
</tr>
<tr>
<td>Purpose</td>
<td>Bring future into present everyday life; think how futuristic activities might be adopted into current life</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Videos of performed scenarios; Facilitator notes; List of identified technological gaps</td>
</tr>
<tr>
<td>Placement in time</td>
<td>Present</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Placement in time</th>
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<tbody>
<tr>
<td>CA</td>
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<td>3</td>
<td>4</td>
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</tbody>
</table>
# FTW Session 5: Everyday

<table>
<thead>
<tr>
<th><strong>At a glance</strong></th>
<th>Participants list current activities and problems in carrying them out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>10-15 mins (to produce diverse list of activities and problems)</td>
</tr>
<tr>
<td><strong>Techniques</strong></td>
<td>Group discussion</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Think about current practices and how they could be improved</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>List of current activities performed with current technology; List of related problems</td>
</tr>
<tr>
<td><strong>Placement in time</strong></td>
<td>Present and recent past</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CA</th>
<th>1</th>
<th>2</th>
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<tbody>
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</table>
FTW Session 6: Futurefit

| At a glance | Participants modify models to support current and future activity and try to ‘sell’ them |
| Duration | 50-60 mins (to modify models and ‘sell’ them) |
| Techniques | Brainstorming, Scenario building, Performing |
| Purpose | Think what future technology might support current activity; Implicit requirements derived from way models are ‘sold’ |
| Outcomes | List of near-future technologies to support current activities; Implicit requirements |
| Placement in time | Near future |
# FTW Session 7: Requirements

## At a glance
Participants list requirements for future technology

## Duration
15-20 mins (to examine models / scenarios and list requirements)

## Techniques
Focus group discussion

## Purpose
Explicate requirements for future technology

## Outcomes
Explicit list of requirements for future technology

## Placement in time
Near future

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</tr>
</tbody>
</table>
FTW: sessions flow diagram

- Start: Box 4
- Sessions 1-3

1. Box 4
2. Box 3
   Session 4
3. Box 1
   Session 5
4. Box 1
5. Box 2
   Session 6
6. Box 4
   Session 7

Near Past | Present | Near Future | Far Future
---|---|---|---

End
More on FTW


Download the original publication from [www.springerlink.com](http://www.springerlink.com) or view preprint.
What participants say...

- **Positive**
  - “When people are relaxed they tend to think in a more free-form way. I enjoy the brainstorming that goes on, which often begins with fun and laughter, but which then begins to focus and home in on some really interesting ideas”
  - “the need to represent the imagined situation by means of a kind of ‘art work’ and a short play helped to make the imagination activity more concrete and more live. The fact that they play had to represent the situation imagined by another group stimulated me to pay more attention to other people’s visions than I would have done otherwise”
  - “The whole thing is very coherent – each stage leads to the next – and at the end it feels as though a cycle has been completed ... I think it makes good use of the expertise and skills of the group involved – so that the whole is more than the parts”
  - “it’s a very useful method for thinking ‘outside the box’ but also grounds that thinking back in reality, theory, etc.”

- **Negative**
  - “(I liked) the distraction of the materials and the social engagement ... But it did distract from the ‘issues’”
  - “The fun bit can be a disadvantage because people can get carried away in playfulness and fail to connect the significance of activities to the design process”
Conclusions

- Successfully used with children and adults
- It is cost-effective
- Yields engineerable outcomes that can directly inform design while not assuming fixed patterns or contexts of use
- Framework for creativity, focused on socio-technical system rather than the technology
- 😊 And also
  - Pipe cleaners good for representing wired communications
  - Feathers good for wireless communications
Thanks to ...

- Mike Sharples (Open University)
- Chris Baber (University of Birmingham)
- Josie Taylor (Open University)
- Patrick McAndrew (Open University)
- James Cross (prototypes developer)
Next-generation VGC

Content is king!

Including mine!?
Imagine, you are far into the future...
The artefacts you use in your everyday life have evolved...
Museums have evolved...
Collections have too...
And so have stories...

Imagine, you have available all the gadgets, props and freedoms to create, contribute and share, objects, ideas, feelings, sensations, opinions, knowledge, [...add-your-own...] on culture and heritage.

What do you see yourself doing?
What activities are you performing?

<SPACE AGE THINKING COMPULSORY>
Ideas

- Transfer info with mind
- Show/rate/code feelings
- Access (&touch) anything, anywhere
- Bring friends’ eyes to what you’re looking at
- Instant travel (to object)
- Materialise objects in 3D
- Scale/integration – single device – ‘economic’
- Time travel
- Experience multiple interpretations – in parallel (no hierarchy)
- Experience makers’ feelings
- Retro-museums
- ‘lost in museum’
- Silent/private experience in public space
- Rent artworks / share actual objects
- Physical-isation of objects
- Inter-galactic visitor / experience
- Sense time and its scale
- Takes photos ANYWHERE and do WHATEVER YOU LIKE with them
- ‘Impress’ vision in brain (contact lens app)
(Nice list of activities there, well done!)
Now, how do you see yourself performing these activities in
the future?
Work in groups.
Each to select a couple of activities and use the crafty stuff
to design some props to demonstrate how you see the activity
carried out in the future (how you participate in culture and
heritage)
Then write a description of your model.
Then present it to the group (tell us how it works and what it
does).
Models
Session 3: Role play

Model-swap time...

Create a **scenario of use** for the other group’s model.

Act out the scenario you created in your group. (That’s right, act out!)

Watch other group’s act and use the Storyboard sheets to capture their basic ideas through drawings, explanations and comments.

Was the other group’s enactment of your model different to how you had imagined it? Did they do what you expected them to? What would you have done differently?
Session 4: Retro-fit

The future was nice while it lasted, now back to early 2014…
Scenario work again, but make all (or at least some) of these things happen today, using only tech and tools and methods we already have…
Watch other group’s act and use the Storyboard sheets to capture their basic ideas through drawings, explanations and comments (again).
Can current tools do the job? Are we realising their full potential? Are we innovating too much technology and too little experience?
Let’s put the future aside for a moment.
Think back the past 2-3 weeks: what kind of things you did that involved creating, contributing and sharing of objects, ideas, feelings, sensations, opinions, knowledge, [...] add-your-own... on culture and heritage?
Were there any problems, frustrations, worries, inconveniences?
Problems

- Logging on – losing people there?
- Trust that institution knows best – authoritative vs. authoritarian?
- ‘prescribed’ experience devalues VGC
- Permissions / limits unclear
- ‘Keeping up’ with audiences – participation now maybe different to 15 years down the line
- Lack of strategic planning for VGC → not sustainable
  - VGC embedded rather than add on
- Funding
- VGC management skill set
- Conclusive evidence for VGC value
- Ownership of VGC component
- Mutually beneficial vs. responsive to expectations (visitors do it anyway!)
- Size matters? Global reach vs. meaningful community group work
- VGC project objectives / type dictates reach, value, etc.
- Not all content generated for integration within museum
What are the distinguishing characteristics of these models? If you were to instruct an engineer to create these techs, tools and models of participation, what would you ask for? (Think back discussions about the things you would like to do in the future, the things you currently do, and finally the things that these models do.)

Does what you’re asking relate to a need or will it be a future luxury? Let’s rate them on a 1 to 5 scale: the higher the rating, the greater the need!