Games for Impact

THE TRANSFORMATIONAL GAME DEVELOPMENT PROCESS

Game development is a combination of art, science and design. Games for Impact have a purpose, which requires additional subject-matter expertise (whether it be learning, health, civics and more) and related concepts (such as theories of learning, persuasion, behavior, communication, etc.). If you're interested in developing a transformational game, it's important to consider how this interdisciplinary mix makes for a unique process to create games that are challenging, engaging and impactful.

FIRST, YOU NEED TO ANSWER SOME IMPORTANT QUESTIONS:

a. What values do you want your game to reflect?
b. What are your transformational goals?
c. Is a game the best way to address your goals?
d. If so, how do you want the player to be transformed by the game?
e. How do you want to assess the potential transformation?
f. And finally, how can a game best do this?

QUESTIONS TO ASK ABOUT THE GAME DESIGN PROCESS

- Who is the target market? What do we know about their play patterns, motivations, styles?
- Who is the designer? Are they engaged only at the start of the project, or in an ongoing fashion?
- Who are the learning and assessment experts? Are they also involved throughout from the start?
- Who are the testers? Where do you test? How often are you getting feedback?
- Who is responsible for the quality of the game's look and feel as well as software development?
- Who is focused on the core values of the experience? How will these be expressed through the game?

???

KEY CONCEPTS

RAPID PROTOTYPING
build playable versions early and often to test ideas

PLAYTESTING
test with your demographic audience to see what works

ITERATION
use testing results to help make new playable prototypes to progress toward the best game

USER RESEARCH & GAME ANALYTICS
analysis of user data and markets to help focus design decisions

POLISH
once you have a playable game that is testing well, polish to make it amazing

INTERDISCIPLINARY
should have game developers, learning/assessment designers, & subject-matter experts

EXPERIENCES
game design shapes the impact on players through the context and values at play

EXPLORATION
games create spaces that enable players to discover their interests and motivations

TRANSFORMATIONAL GAME DESIGN

ASSESSMENT
models for measuring the transformation of players

GOALS
like learning, design clear goals that give players direction and embody core values

CHALLENGES
scaffold the difficulty to increase with players' skills

CONSEQUENCES
should be consistent, and match player actions

REWARDS
match with the players' successes at achieving main goals

MOTIVATIONS
the above combine to help players' strive to succeed

SUCCESSES
good games have multiple paths to success, not one "right" way

EVALUATIONS
the challenges and rewards provide moments to gauge performance

TRANSFORMATIONS
players become motivated problem solvers through playing the game

CALL FOR PROPOSALS BEST PRACTICES

- Initial proposed concept will evolve during iterative design process
- Project timeline should allow chance to review and revise game
- Vet teams by playing the previous games they have developed
- Get experienced reviewers to evaluate schedule and budget estimates
- Small games are not necessarily less important or less effective than large ones

PRODUCTION COST ESTIMATES

Note: Costs are wildly variable, and these estimates don't include grant overhead or associated research, assessment and evaluation. These are meant to help set expectations of what could be possible in terms the professional production of a game.

playable paper / concept prototype	$25k-75k
playable digital prototype	$100k-150k
browser game	$150k-200k
facebook game	$200k-250k
mobile game	$200k-250k
PC game	$500k-1mill
multi/cross-platform game	$1mill-2mill
persistent world multiplayer game, which also requires additional long-term recurring costs for backend support, hosting and community services.	$10mill+

CURRENT POSSIBLE PLATFORMS

Note: These are continually involving as old platforms disappear and new ones are created. And each can impact production costs and potential reach of the game.

UNITY 3D · FLASH · XNA · HTML5 · C4 · iOS · UNREAL DEV KIT · ANDROID · BOARDGAMES · VARIOUS OPEN SOURCE ENGINES · ARTOOLKIT

STAGES OF GAME DEVELOPMENT

IDEATION	brainstorm ideas, player research, assessment modeling, system interactions, documentation, identify core values
PROTOTYPING	experimentally develop & iterate gameplay elements
USER RESEARCH	playtest with players, verify core values
PRODUCTION	construct the full game
ALPHA, BETA AND GOLD	key development milestones
RELEASE AND SUPPORT	game is public, ongoing support is required, online games need continual updates

TESTING AND ITERATION

PLAYTESTING
determining whether or not the game works as intended

FOCUS TESTING
working with your demographic

BETA TESTING
fixing the bugs found, responding to user feedback

ASSESSMENT
continual modeling what and how to measure progress in terms of competencies

ANALYTICS
collecting data through gameplay

EVALUATION
determining what players are learning, and the impact the game is having

MISTAKES / MISCONCEPTIONS

- Just make one big game, or that any one game is the solution to all impact goals
- It's all about the fun, and you can just add a layer of fun to serious topics
- Not getting testing feedback early and often, and iterating design
- Feature creep through the inclusion of all ideas and feedback
- Not including game designers and learning specialists throughout the process
- Just add badges as the sole means to track and reward learning
- An online game is finished once it's released
- Releasing a game without a PR and Distribution plan
- A transformational game is easy, cheap or quick to make

RECOMMENDATIONS / EXPECTATIONS

- Look for what is already playful or game-like about the topic you're exploring
- Make lots of small playable prototypes to find what works
- Continually playtest and integrate feedback to iterate toward success
- Games are hard, that's why players work to win
- Have the entire interdisciplinary team on board throughout the process
- Allow players to be transgressive in their play, don't always require "virtuous" choices

A successful transformational game engages players because they have agency within an interactive experience that is created through a combination of gameplay, setting, story and content meant to influence learning and behavior. As games require such an interdisciplinary blend of expertise, the challenges and rewards of making effective, transforming, interactive experiences are significant. With transformational games, players can come away from the game with experiences, competencies and motivations that they can apply outside of the game, realizing great impact in their daily lives

RESOURCES

Note: This is just the start of a list of resources (people, organizations, universities and more) that are working in this space.

BOOKS

Learning by Doing by Clark Aldrich
Serious Educational Game Assessment edited by Leonard Annetta and Stephen Bronack
Beyond Fun edited by Drew Davidson
Game Frame by Aaron Dignan
Game Design Workshop by Tracy Fullerton
What Videogames have to Teach Us about Learning and Literacy by James Paul Gee
Critical Play by Mary Flanagan
The Art of Game Design by Jesse Schell
Reality is Broken by Jane McGonigal
The Ecology of Games edited by Katie Salen
Video Games and Learning by Kurt Squire
Playful Design by John Ferrera
Values at Play in Digital Games by Mary Flanagan and Helen Nissenbaum
Game Analytics by Magy Seif El-Nasr, Anders Drachen and Alessandro Canossa

ORGANIZATIONS & CONFERENCES

IGDA Education SIG http://www.igda.org/education/
IGDA Learning Games http://www.igda.org/learning-and-education-games
DiGRA http://www.digra.org/
Meaningful Play http://meaningfulplay.msu.edu/
Serious Games http://seriousgames.org/
Games for Health http://www.gamesforhealth.org/
iCivics http://www.icivics.org/
Game Education Network http://www.gameeducationnetwork .com/
Serious Play http://www.seriousplayconference.com/
Games for Change http://www.gamesforchange.org/
Games+Learning+Society http://www.glsconference.org/
Foundations of Digital Games http://www.foundationsofdigitalgames.org/
Game Aid http://gameaid.org/
Gameful http://gameful.org/
Game User Research http://gamesuserresearch.org/

EMAIL DISCUSSION LISTS

Serious Games http://www.seriousgames.org/maillist2.html
Games for Change http://groups.google.com/group/gamesforchange
DiGRA http://www.digra.org/mailinglists
Game Edu http://seven.pairlist.net/mailman/listinfo/game_edu
Learning and Education Games http://groups.google.com/group/igdaleg/
Games for Health http://www.gamesforhealth.org/index.php/community/listserv-community/
Game User Research (LinkedIn SIG) http://www.linkedin.com/groups?gid=1873014&trk=myg_ugrp_ovr/

ACADEMIC CONSORTIUM

Ian Bogost Georgia Institute of Technology
Doug Clark Vanderbilt University
Drew Davidson Carnegie Mellon University
Chris Dede Harvard University
Lynn Fiellin Yale University School of Medicine
Mary Flanagan Dartmouth College
Tracy Fullerton University of Southern California
Carrie Heeter Michigan State University
Dan Hickey Indiana University-Bloomington
Bruce Homer New York University
Eric Klopfer Massachusetts Institute of Technology
Debra Lieberman University of California - Santa Barbara
Colleen Macklin Parsons The New School for Design
Scot Osterweil Massachusetts Institute of Technology
Zoran Popovic University of Washington
Brenden Sewell Arizona State University
Val Shute Florida State University
Magy Sief El-Nasr Northeastern University
Kurt Squire University of Wisconsin-Madison
Reed Stevens Northwestern University

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