



XEODesign,® Inc.
5273 College Ave. Suite 201
Oakland, CA 94618
510.658.8077 voice
510.658.2659 fax
www.xeodesign.com

***Diner Dash* and The People Factor**

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People Factor Case Study on Diner Dash

Diner Dash developed by *gameLab* and published by *PlayFirst* is a remarkably successful online game. According to *PlayFirst*; “*Diner Dash* has consistently been in the top 5 most popular games of Shockwave.com, Trygames.com, and Big Fish Games.” This design case study uses XEODesign,® Inc.’s research into why people play games to examine the role of emotion in this game’s phenomenal popularity. Just as Shakespeare designed the emotional space between characters, developers design the space between player and game.

In *Diner Dash*, the player controls Flo the former stockbroker who quits her job to run a humble diner that she wants to grow to a 5 star restaurant. The story unfolds based on her progress towards this goal through “levels” that integrate naturally into running and growing a restaurant. If Flo earn enough tips she can afford a coffee maker, add bigger tables, or upgrade the decor. There are restaurant critics to please, new restaurants to open, and new types of customers. Like the progress in *Lemonade Stand*, *SimCity* or *Zoo Tycoon*, all of these events happen as natural progress in the game.

Taking a closer look at the Player Experience of *Diner Dash* it is really a game about managing customer’s emotional states. In XEODesign’s research on why we play games, we believe that part of the game’s popularity comes from interacting with in-game characters in a social setting. *Diner Dash* is an excellent example of many aspects of what we at XEODesign call The People Factor.

The People Factor

The People Factor models how games create a wider range of emotions through player interaction with other people and with in-game characters (non-player characters or NPCs). It is where in XEODesign’s game research we see a big opportunity for increasing the emotional involvement in games.

XEODesign’s research has identified unique emotional mechanisms that game players enjoy most about games. Beyond “character” and “story” games can also take advantage of emotion from *doing*. The People Factor models how player interaction with other players and with in-game characters creates more emotional Player Experiences. By examining the emotions from interaction between the people involved in playing, new

games can be made more compelling. Modeling these emotion producing mechanisms offer opportunities for new more engaging interactions.

In previous research XEODesign found that people playing in the same room experience many emotions, and that interaction with characters in game created similar, if reduced player emotions. People playing in the same room experience:

- More visible & frequent emotional displays
- Greater range & intensity of emotions
- Emotions players can't get on their own (such as *Shadenfreude* and *Naches*)*

* *Shadenfreude* is a German word for pleasure from a rival's misfortune and *Naches* is the pleasure or pride a parent or mentor experiences at the success of their child or mentee. For more information see the white papers "Why We Play Games: 4 Keys to More Emotion without Story" and "Why We Play Games Together: The People Factor" available at www.xeodesign.com/whyweplaygames

Many computer games increase emotional and psychological engagement from combining recognizable objects and intriguing goals with more elaborate and appealing art. PC and Console games have the luxury of large media files to support not only photo-realistic graphics but also video cut scenes to establish relationships between characters and goals for the next level. Casual games with their small download size need to look elsewhere to deepen player emotions. Many online games offer puzzles, pattern matching, and timers for goal completion. Only a few casual online games such as *Diner Dash*, and *Qbz* (the later developed by Skunk Studios) use game tokens that exhibit emotional states that are directly affected by player actions.

1. People Care About People

"Emotions occur in every relationship we care about." - Paul Ekman

People are inherently interesting. Most people are affected by the emotional states of others. So one way to increase emotion is by including emotional in-game characters and/or the ability to play with another person. The characters in *Diner Dash* display a wide variety of emotional states for the player to experience and react to.

Diner Dash's interaction design could be mapped onto arranging colored blocks into their proper slots like Tetris, and then clicked on again at various time intervals for more points. It is doubtful that players would feel the same in-game emotions however without such emotive NPCs to spend time with. By mapping this mechanic onto a restaurant scenario with fussy patrons the game provides a richer experience.

2. Emotion from NPC Emotions

The *focus* of *Diner Dash's* game play is managing the emotional state of NPC restaurant customers. The NPCs are not simply happy or sad; they go through several different

types and degrees of emotions. The customers display a range of emotions in their facial expressions as well as their body gestures. These change over time as well as with each player interaction. Because the NPCs have strong emotional displays not only does the player have emotions from successfully satisfying NPC needs, the player also experiences some of the NPC emotions from watching their strong over-the-top animations of joy and anger. The player's character Flo has emotional displays of her own. She gets bored, tired, yawns, and she gets *very* happy when she makes everyone in line happy.

3. Emotion from Player to NPC Interaction

The only way to make progress in the game is to monitor and react to the customers' emotions. The frequency and timing of the interaction changes their emotional state. These NPCs show a wide range of emotions as feedback in the game, as a direct result of player choices. If the NPCs are happy they leave large tips but if they get angry and leave in a huff it plunders the player's tip jar. In a restaurant setting the cause and effect relationship between player action and NPC emotion is easy to understand and empathize with. Even if the player never waited tables, he or she certainly has been frustrated or pleased by the quality of restaurant service. Because the NPC emotions respond to player interaction, they create tight feedback loops, which increase engagement.

The player is in charge of managing the non-player character's emotional states. The point system is based on how satisfied the customers are when they leave. Every interaction with an NPC creates an emotional response. NPCs get happy when the player clicks to seat them, gets unhappy or stares angrily at the player if kept waiting and will leave if the player ignores them for too long.

Player choice affects how many and how well customers are satisfied. In addition to having many people to wait on, the player has to manage different personality types: patient low-tipping seniors, impatient high-tipping businesswomen. Players also get extra points if they respond to seating preferences (indicated by the color of character's outfit and seat).

Interaction between characters changes their emotional states:

- Customers show frustration from waiting too long to be seated or served.
- Customers show delight when seated, and extra love when seated in color matching chairs or served drinks.
- Customers leave in anger, or show frustration, delight, or Fiero* depending on how satisfied they are when Flo drops off the check.

*An Italian word that emotion researcher Paul Ekman translates as personal triumph over adversity (such as in "Yes! I just completed level 20!")

4. Emotion from Conflict between NPC Emotions & Player Strategy

It is not just that the NPCs have emotional reactions to the player. Players must balance their goals with their clientele's emotional needs. Many emotions such as frustration (difficulty in achieving a goal) and sadness (loss of something valued) come from trying to achieve goals. As the restaurant becomes more popular the player needs to ignore seated customers to spend time keeping those on the wait list happy. To succeed in this, everyone must eat at once. So by frustrating seated customers ready to order those standing in line can be persuaded not to leave. Balancing the player's needs with their customers increases the emotional conflict in the game and makes it more compelling.

5. Emotions from a Popular Fantasy

Another part of the appeal of this game comes from the natural mapping from a popular real-world dream into the game. Just like being a pirate or a secret agent, quitting a boring desk job to start a restaurant is a widespread fantasy. This popularity increases the game's appeal to a larger target market.

Familiarity with the script of what a waitress must do increases the game's usability and makes it easy to pick up and play. As Flo the waitress players know they must seat customers, take orders, and serve food. Having such a well-known scenario increases the game's usability and makes it easy to get started.

Probably most importantly, in XEODesign's interviews, game players often play to escape workplace frustration. This is the exact reason that main character Flo quits her lucrative job as a stockbroker and starts her own restaurant. A concept that is made even more attractive when players are frustrated at work. Which is exactly when, where, and why many people play casual online games. In-game players are finally in charge of their own career. This makes it an easy fantasy to get into.

Summary

Beyond pattern matching the game mechanic of *Diner Dash* stands apart from other games in terms of its ability to inspire emotions. Serving others and causing joy is a different set of emotions than solving a crossword, winning a car race, or inflicting pain in a shooter. The focus of its game mechanic *is* emotion on top of the pattern matching you would find in a Tetris, Bejeweled, or a jigsaw puzzle. The mechanic is one of helping instead of hurting people and creating joy in life rather than loss of it. This makes the game very appealing to the demographic that plays casual online games. Compared to other games in its category *Diner Dash* offers players a unique emotional profile.

Another aspect of The People Factor that remains to be fully explored by casual games is emotion from interaction between live players. Multiplayer card games such as Hearts, or Game Shows such as Sony's Jeopardy Online increase emotion through competition. Most games support a high-score board to allow asynchronous competitions between

players. Many players report starting a game after seeing that their high score has been beaten. Outside the game experience some games allow for player-to-player interaction before, during and after the game. However, all of these Player Experiences pale in comparison to the emotions from a simple face to face board or card game with friends.

Diner Dash allows high scores and different user names so players can compete against each other. Since levels also have expert scores players can compare scores or how many levels they've completed at an expert setting. These examples are just the beginning. Similar to how the game mechanic for *Diner Dash* requires managing the emotional state of NPCs, future online games could make a game that rewards making a best friend laugh, get angry, or cry.



Nicole Lazzaro, Founder and President of XEODesign, Inc., is an authority on emotion and the player experience and a frequent speaker at industry events. She writes extensively on games and why people play them.

Nicole Lazzaro has over fifteen years of expertise in Player Experience Research and Design for mass-market games and consumer creativity products, with clients including Sony, Ubisoft, Sega, Roxio, LeapFrog, Mattel, The Learning Company, PlayFirst, Xfire, Broderbund, and Maxis.

To learn more about XEODesign's ground breaking research on emotion in games including free white papers please visit: <http://www.xeodesign.com>, email: info @ xeodesign.com, or call us at 510-658-8077.

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About gameLab:

gameLab is a game development company based in New York City, founded by Peter Lee and Eric Zimmerman in 2000. Creating smart, innovative, high-quality games that appeal to a broad audience, our specialty is inventing new ways for people to play, integrating hip graphics, sound and content into approachable and addictive gameplay. We consult, create custom games, and also license original gameLab titles. To learn more, please visit www.gmlb.com.

About PlayFirst:

PlayFirst, Inc. publishes popular games targeted at the mass market through all online consumer platforms. Available on more than 250 sites and in 10 countries worldwide, PlayFirst games can be found through leading channel partners such as Shockwave.com, Trygames.com, RealArcade and others. To learn more, please visit: www.playfirst.com.

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