



## Deconstruction

### Platform:

- **Windows Phone** - June 7, 2012
- **iOS** - June 7, 2012
- **Android** - June 7, 2012

### Background Information and Basic Gameplay:

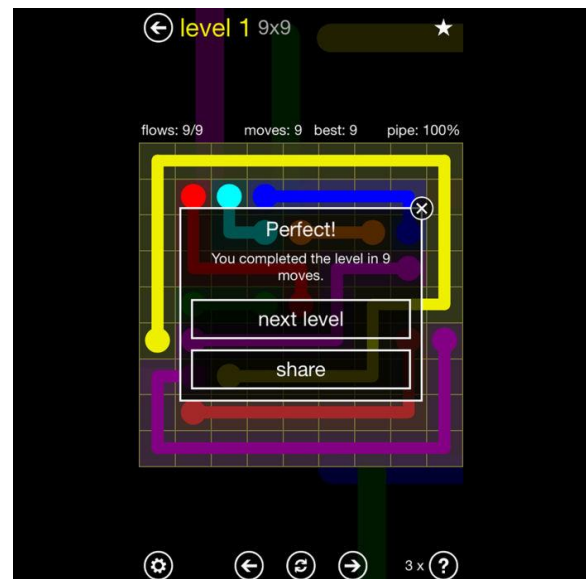
*Flow Free* is a grid-based puzzle game released in 2012 for Windows, iOS, and Android devices. The player's goal is to clear a series of Numberlink puzzles, which involve connecting a variety of colored dots together without allowing the formed lines – called pipes – to intersect. There are over 20 level packs available for free that contain either 120 or 150 puzzles each, allowing for over 3,000 unique puzzles in all. Some packs feature gimmicks, such as bridges that the player can lead pipes both over and under and points where the grid wraps around. Regardless of their content, however, each puzzle requires both visual-spatial and logical reasoning to solve. The first several levels in a given pack tend to be fairly simple to lead the player in and get them used to any unique concepts, but as the player progresses, the puzzles get larger and become far more challenging.

## **Intended Audience:**

*Flow Free*'s demographic consists of several types of players, ranging from seasoned puzzle fans to casual players with a preference for mobile games. As its name suggests, *Flow Free* is free to download, and most of its puzzles come with the base game. Casual gamers and players who tend to shy away from more expensive games can try it without having to worry about spending money on a product they dislike. This vastly increases its appeal and makes it accessible to a wider audience.

The game's largest intended audience consists of players who are invested in achieving concrete goals, such as completing a single puzzle with the highest possible rating, clearing an entire puzzle pack, or obtaining every achievement. This group's playstyle revolves around mastering the ways to complete each puzzle and optimizing their movements. If they fail to complete a puzzle with the highest possible rating on their first attempt, they are likely to try it again so they can avoid leaving a level "incomplete."

Another audience consists of players who enjoy video games with social aspects, such as the ability to share one's high score with their friends on social media. This group of players is similar to the goal-oriented ones mentioned above, as many of them desire to master the game's systems. However, they differ in that their ultimate goal is based on either impressing and interacting with their friends and family members. This means that they are more willing to leave puzzles "incomplete" than the achiever-type players, though they might specifically try to achieve high ratings on puzzles that they deem more challenging.



*Figure 1: The menu that appears after completing a level. Note the text telling players they completed the puzzle in an optimal amount of moves, encouraging achievers and socializers to try several times for the highest possible rating.*

Lastly, *Flow Free* is meant to target the casual players mentioned above, who mainly use it as a means of killing time. Unlike their goal-oriented counterparts and similarly to their social-oriented ones, this audience is willing to stop playing a level after completing it for the first time, even if they do not acquire the highest rating. While they might want to progress through the game, mastery is the farthest thing from their mind. They likely see achievements and other rewards as pleasant surprises, but they do not seek them out. This also means that if members of this group come across any puzzles they have a difficult time solving, they are likely to skip it and possibly return later on. Additionally, they will likely drop *Flow Free* entirely if they find a puzzle game that they prefer, whereas the achiever-type players (and, to a lesser extent, the socializer-type players) will stick with it for quite a while longer.

## **Gameplay and the Resulting Experience:**

Gameplay in *Flow Free* revolves entirely around the player's logical and spatial reasoning. Each puzzle requires the player to plan out their movements carefully if they want to achieve the highest score on their first attempt, and the game's normal mode provides them with as much time as they need to think things through. As mentioned above, different packs tend to throw new gimmicks into the mix, and each one forces the player to add yet another layer to their planning process. At the end of each puzzle, the player is rewarded with a rating based on the number of moves it took them to solve it.

The game provides the player with many pieces of visual and audial feedback, especially when they successfully link two nodes together. Touching a circle makes its twin pulse in turn, making it immediately clear to the player that it is their target. As the player drags their finger

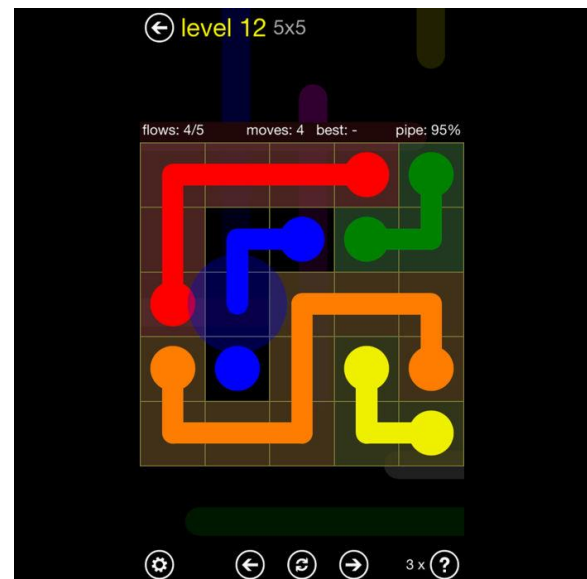


Figure 2: As the player links nodes together, a trail forms that clearly shows the grid spaces they have already filled in. Note that the spaces also take on the color of the attached pipe.

from one node to the next, a pipe appears that matches that node's color. Completing a link, referred to in-game as a "flow," causes a drip sound effect to play. The sound effect's pitch increases incrementally with each flow the player completes, providing positive feedback and letting the player know that they are making progress towards the puzzle's completion. Upon finishing the final flow in a puzzle, the game releases a sound similar to flowing water before presenting the player with the win screen. Every piece of feedback makes the player's progress clear and gives them the sense that they accomplished something, even if it was incredibly minor. Both of these things are essential in a puzzle game, where the player must be constantly aware of their available options, and where they want to know that their actions are putting them on the right track. As such, the feedback is essential to the experience, and the experience is one of small-yet-meaningful accomplishment.

## **Strategy and Logic Systems and the Play Experience:**

*Flow Free* features a fairly low number of systems due to its simple gameplay. With very few exceptions, most of them pertain to its focus on visual-spatial and logical reasoning, which I will be emphasizing for the sake of this deconstruction.

## **Grid and Node Systems:**

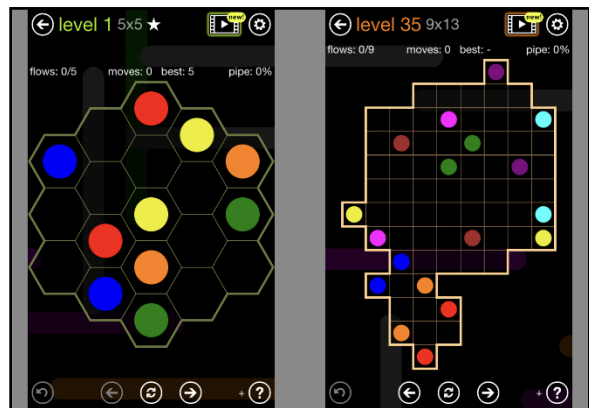
All actions in *Flow Free* take place on a board made up of small squares, which contain the nodes the player must connect to win the game. Systems relating to this board include the grid, the board's size and shape, the nodes, and the pipes that link nodes together. The game eases the player into these systems in the first few level packs, though they become more difficult over time, requiring the player to master them in the early stages.

- **The Grid:** While the grid is where *Flow Free*'s main gameplay takes place, the player cannot directly interact with it. Instead, the grid mainly serves as a container for the other systems, as well as a way for the player to measure the player's current progress in a puzzle.

- **Grid Size:** The size of each puzzle's grid, being the main indicator of difficulty, commonly grows after every 30 puzzles in a pack. This usually involves making its horizontal and vertical regions one unit larger (so a 5x5 grid becomes a 6x6 grid). In doing so, the game provides the player with a constant sense of progression while still giving them plenty of room to become comfortable with a certain size. Note, however, that some packs – such as the “Amoeba” pack –, feature sporadic size increases that do not adhere to the 30 puzzle pattern.

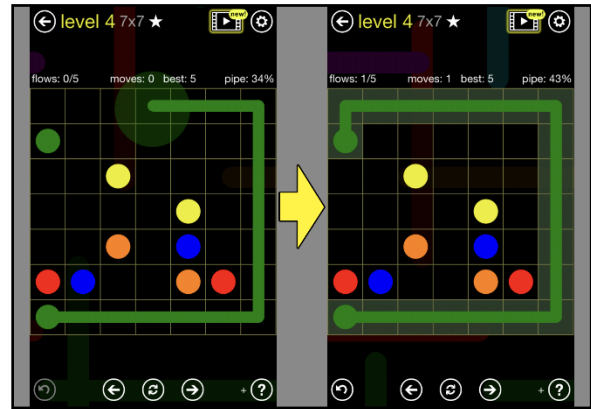


- **Grid Shape:** As with each grid's size, the shape of a given grid also has a noticeable effect on a puzzle's difficulty. Most level packs in the game feature square boards, though a few utilize different shapes, such as hexagons, rectangles, amoeba, or symmetrical inkblots.

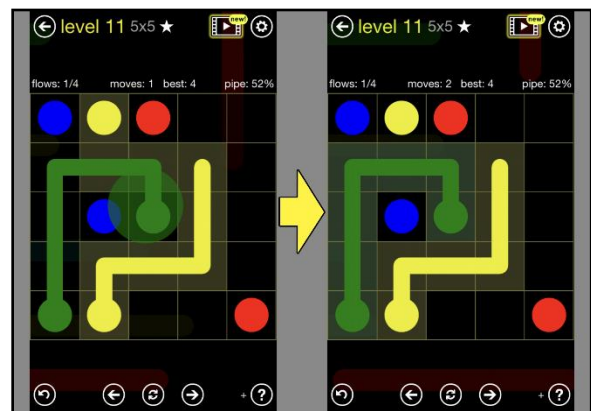


- **Nodes:** When the player touches one of the colored nodes on the grid, it becomes active. They can then use their finger to drag the node to its twin, which creates a flow. Linking every node together is the major condition for clearing a puzzle, as all puzzles require the player to fill every grid space with piping.

- **Pipes:** As the player drags from one node to its counterpart, the node generates piping that matches its color. This pipe fills in any grid spaces the player moves over, making the spaces they have covered throughout the puzzle immediately obvious. If the player removes their finger from the screen before completing a link, the pipe stops at the current location. Regardless of whether they reach their target or not, the pipe remains on screen, the filled grid spaces become highlighted with the pipe's color, and the move counter increases by one.



- **Crossing Pipes:** If the player forms a pipe over a preexisting one and lifts their finger from the screen, the crossed trail breaks. This forces the player to reconnect any broken pipes and makes it impossible for them to receive a perfect rating unless they reset the current puzzle.



### Behavior and Play Experience:

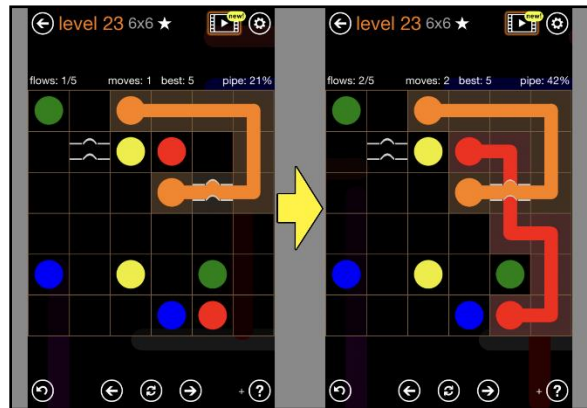
Given that the above systems make up the core gameplay of *Flow Free*, it should come as no surprise that they are all deeply connected to the play experience. Creating pipes to connect matching nodes is the most important mechanic, with the grid itself serving as the system upon which this aspect of gameplay takes place. The shape and size of each puzzle's grid directly correlate to said puzzle's difficulty, as they inform the player that the puzzle will require more

piping or stranger pipe configurations depending on those factors. As such, they both directly influence the player's means of creating flows, filling the grid, and finishing puzzles in general. These systems all produce fairly strong feedback thanks to their visual indicators and sound effects, which creates a sense of satisfaction and accomplishment whenever the player completes a puzzle – especially if said puzzle leaves them staring at their screen or trying various flow combinations to solve it. Lastly, due to the simplicity of these mechanics and the shortness of each puzzle, the game is accessible to a large number of players, making it easier for casual and socializer-type players to become invested.

### **Board Gimmick Systems:**

While most level packs in *Flow Free* only utilize the board and node systems outlined above, some of them also introduce unique mechanics that alter the player's approach to creating flows and clearing the board. Some gimmicks are as simple as giving the board a unique size or shape, but for the purposes of this deconstruction, I will only focus on the ones that directly influence the player's flow-crafting abilities, such as bridges, hexagonal grid spaces, walls, and warps.

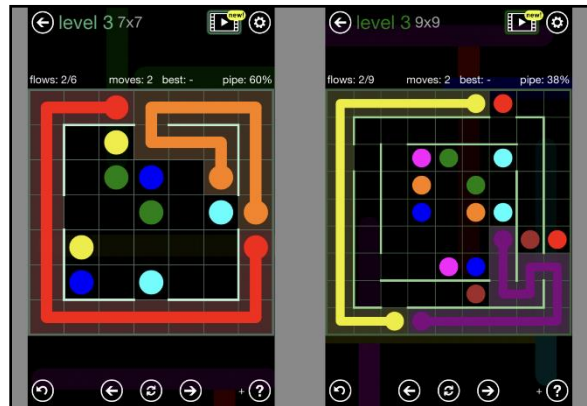
- **Bridges:** In a few puzzle packs (most notably the “Bridges” and “Party” packs), certain spaces on the grid are taken up by bridges. Bridges allow the player to cross two pipes without either of them breaking. This is displayed as one pipe going over the bridge, while the other pipe goes beneath it.



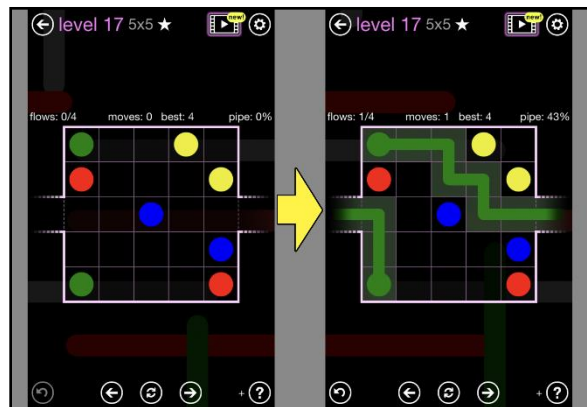
- Hexagons:** In the “Hexes” and “Party” packs, some grids consist of hexagonal spaces instead of square-shaped ones. As one might expect, beyond simply changing the board’s shape, this also means that the player can move pipes in one of six directions instead of the usual four.



- Walls:** In the “Courtyard,” “Courtyard Spin,” and “Party” packs, certain levels feature walls between grid spaces. The player cannot drag pipes through walls, forcing them to go around or through gaps. Puzzles in the “Courtyard” pack feature only a single ring of walls with a gap roughly in the middle of each, while those in the “Courtyard Spin” pack feature two rings with non-centered gaps. The “Party” pack varies from one level to the next.



- Warps:** In the “Warps” and “Party” packs, levels can feature warps on the top and sides of the board. Warps allow pipes to wrap around the grid, meaning that if the player drags a pipe in through a warp zone on the left side, it will emerge from the corresponding warp zone on the right. Puzzles contain anywhere between one and six warps, with the number generally correlating to the size of the board and the player’s current progress in the pack.





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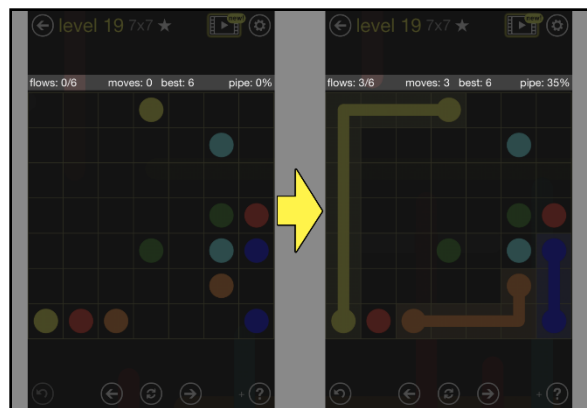
## **Behavior and Play Experience:**

The above gimmicks all increase the complexity of *Flow Free*'s puzzle systems. Each one twists the grid and node systems in unique ways, forcing the player to re-evaluate what they have learned throughout the basic puzzles and master these new systems to proceed. Bridges, for example, allow the players to use a single space twice, where they are normally allowed to only use them once. Hexagons increase the player's movement options, walls limit them, and warps transform the grid's boundaries into paths that naturally flow into the rest of the puzzle. Because of this, the player must approach each puzzle from a slightly different angle, though the fact that the new mechanics are introduced in a vacuum (and only intermingle rarely in the "Party" pack) helps make it easier for players to learn and master them. As with the basic gameplay systems, packs featuring these gimmicks tend to start off with simple, smaller grids that build up from there, giving the player ample time to learn how they work.

## **Progression and Reward Systems:**

As with many level-based puzzle games, *Flow Free* features simple progression and reward systems. Some of them encourage the player to achieve the highest possible score in a given level, even if it requires them to complete it multiple times. Such systems include the user interface, puzzle ratings, level unlocking, pack unlocking, and achievements.

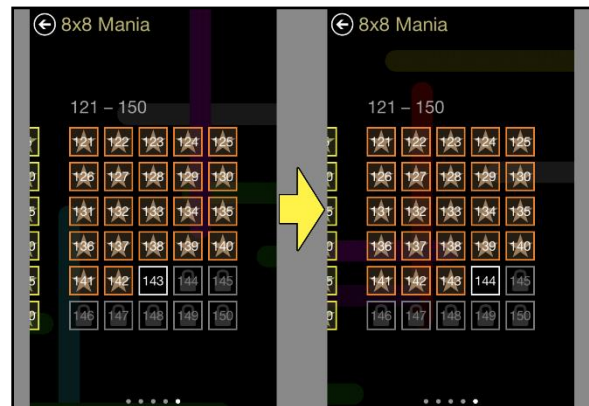
- **User Interface:** *Flow Free*'s user interface displays a number of features relating to the current puzzle. This includes the number of flows the player has formed, the number of times they have tried to form flows throughout the puzzle, the lowest number of moves it has taken them to clear it (if they have finished it before), and the percentage of board space they have covered with piping.



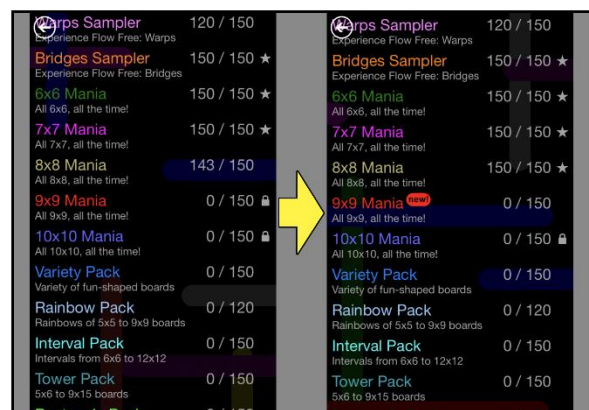
- Puzzle Ratings:** If the player has completed a level using the same number of moves as there are possible flows, they receive a “Perfect!” rating. A star then appears next to the level’s name and on the level selection screen. If it takes them more moves than there are flows, the game instead states that they completed the puzzle, the star is replaced with a checkmark, and the text displaying the player’s move count and best score are displayed in orange rather than white. Regardless of their final rating, the player has the option to either start on the next level or share their results online.



- Level Unlocking:** While most packs give the player immediate access to all their puzzles from the beginning, some of them require the player to complete them in order. Note, however, that the player only needs to finish each puzzle to progress to the next one; they do not need to achieve a perfect rating.

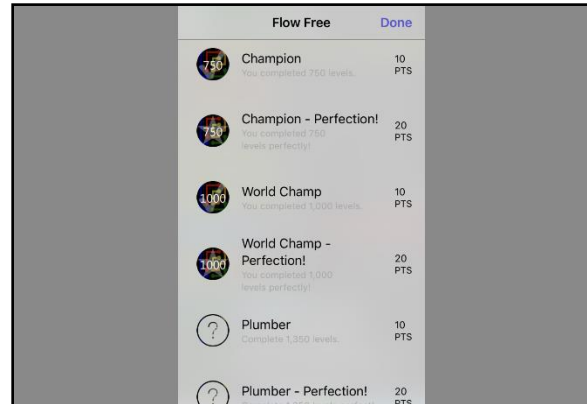


- Pack Unlocking:** As is the case with levels, the player must unlock certain puzzle packs to access their contents. These mostly consist of the “Mania” packs, which contain 150 puzzles that all have a set grid size, such as 8x8 or 9x9. In order to open them, the player must complete the preceding “Mania” pack, starting with 6x6 and going



up from there. When the player unlocks a pack, the word “New!” briefly appears next to it on the selection screen, making the player’s progress obvious.

- **Achievements:** *Flow Free* features a variety of achievements for the player to collect as they complete each level. Achievements are rewarded for clearing every puzzle in a given pack, clearing said puzzles perfectly, finishing a certain number of overall puzzles, completing them perfectly, or solving the game’s daily puzzles for a certain number of days in a row.



### **Behavior and Play Experience:**

The progression and reward systems, while not directly informing the player’s strategy and logic experience in the same way as the other two categories, are nonetheless indispensable when it comes to the overall player experience. The process of unlocking levels and packs appeals greatly to achiever-type players, while the fact that players only have to complete – rather than perfectly solve – each puzzle makes it more accessible to casual players and socializer-type players who are not entirely interested in progression. The user interface, puzzle ratings system, and achievements are also clearly geared towards achievers and socializers, who can use them to either complete concrete goals or to show off their progress. These types of players are thus more likely to look at each puzzle logically and to carefully plan out their actions before diving in, as doing so will earn them the achievements, the visual indicators, and the progression that they long for.

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## **Gameplay Assessment:**

*Flow Free* is a satisfying, if relatively simple, Numberlink puzzle game that serves as an enjoyable experience for casual, achiever-type, and socializer-type puzzle fans alike. Its thousands of free puzzles ensure that players will be able to enjoy the gameplay for quite a while. The lack of forced Internet connection further encourages this, with players being able to use *Flow Free* even in situations where they cannot enjoy some other mobile games. This appeals mainly to casual players, who can use *Flow Free* to kill time during public transit or on a particularly dull airplane ride. Achiever-type players, on the other hand, appreciate the game's wealth of content, unlockable puzzles and puzzle packs, and achievements. These aspects all improve the game's longevity and provide the player with plenty of goals to complete, thus satiating their most primal urge when it comes to playing games. Lastly, the socializer-type players also love *Flow Free*'s progression systems and especially the ability to share their progress online. They make it far easier for such players to show off their progress to friends and family, and if they are lucky, they might even be able to hook their loved ones into the game, allowing more opportunities for social interaction. Regardless of their type, all players love that the game is easy to pick up and learn, contains a massive amount of content, and is free to download, thus allowing any of them to get into it and enjoy its rewarding, logic-focused gameplay.

**Image Sources:**

- <https://www.bigduckgames.com/>
- <https://sensortower.com/ios/us/big-duck-games-llc/app/flow-free/526641427/overview>
- Screenshots from playing *Flow Free*