

SECOND CHANCE - DESIGN DOCUMENT

Executive Summary

Second chance is a split screen action-adventure game in which two players fight their way through puzzles and enemies, chase memories and flashbacks, and try to figure out their purpose. Its aim is to revive the cooperative hotseat game genre by using the potential offered by the popular handheld console, Nintendo DS.

The game is an overhead view, run and gun game, similar to old games like Gauntlet and Smash TV. Two players are in separate timelines, and can only help each other through indirect means; by manipulating the environment. Players shoot enemies in the old fashioned way, but the cooperation between them is what makes the game unique. They need to communicate and coordinate efficiently to beat the levels.

The setting is a post modern world where everything is based on recycled goods; over the years, quality of life goes backwards, whereas technology moves onwards. Much of the architecture resembles 19th century towns, but everyone on the streets is crafty and resourceful, carrying with them a few inventions of their own.

Second Chance's most important focus is on playability. The "Join In" feature allows players to host games with any friend they want, and still progress through the campaign. Since the game areas are separate, stronger characters can be given a more challenging opposition, while not affecting the gameplay of the other character at all. The aim of the game is to make players socialize with their friends.

Second Chance utilizes everything the Nintendo DS offers, to give players all they need to play the game. The two screens are used to simulate the split screen effect; as the player controls his character on one screen, he can check the progress of the other player from the other one. Players can access the game website and download new maps from their DS's Wi-Fi connection. If they are not in the same room, they can communicate by using the microphone. All controls are fully customizable, but the default settings are user friendly, allowing new players to start playing immediately.

Background & Marketing Niche

Cooperative hotseat games have always been a great source of fun. The genre was extremely popular in the last century where Amiga, Sega and Nintendo 64 offered hardware that allow multiple people to play on the same computer. With the PC overtaking the field, the scales shifted. The PC hardware (one keyboard plus one mouse) discouraged multiple people from playing on the same computer. To make a game playable by more than one person, designers had to make games that don't use the mouse, limiting the interactivity available to the player. Even then, more than one person using the same keyboard often led to some keys not being recognized by the computer (an error that has never been encountered in Amiga keyboards). All of these problems discouraged players away from hotseat games, and the genre almost died out. However, a few hotseat games have remained popular over the years. The most popular example is the Worms series.

Over the next few years, the consoles started to become the main gaming platform again. This has opened up new opportunities for hotseat games. Unfortunately, this potential has not yet been seen by the vast majority of gaming companies. The current structure of console games rarely exploit the multiplayer potential, mostly making exact ports of game types designed for the PC. Most consoles come with slots for four controllers. Most console owners don't even have a second controller. Is this because they do not want to play games with their friends? Definitely not. Multiplayer in games is immensely popular. A hotseat option simply isn't offered by most games, forcing people to utilize the Internet, or organize LAN events to play together. When these facts are analyzed, it can clearly be seen that a lot of gamers prefer to play games with friends, and realize the importance of playing together in the same room, so they can share their excitement and socialize.

It must also be noted that in a LAN event, the game itself rarely matters. In fact, the simpler the game is, the less players need to focus, giving them more freedom to socialize. That is why action games are generally the preferred genre for hotseat gaming.

However, sometimes, players look for a game to play with a friend over an extended period of time, measured in weeks. In these situations, games that offer a multiplayer campaign give these players what they need. The primary recent example of this is Halo, allowing players to go through the singleplayer campaign in a hotseat split screen mode. Games like the Baldur's Gate and Neverwinter Nights series also give these players what they need, although they normally require one PC per player. (The console versions of some of these games have hotseat support.)

In the light of these observations, I have decided to harness this potential, and create a game that offers hotseat playability, as well as a multiplayer campaign. To start with a low budget project, I have chosen the new but highly popular Nintendo DS as the primary console, to attract the attention of the hotseat fans. This initial game will serve as a preview of what the players can expect in the sequel, a PC game that utilizes the power of a real computer to deliver much better graphics and high quality sound as well as a higher degree of interactivity using the mouse and keyboard.

USPs

- Cooperative Hotseat. Players need to communicate and play together to get through the obstacles. This reinforces the spirit of teamwork and helps players socialize.
- Multiplayer Campaign. The campaign mode is designed for two people, meaning there won't be any issues with difficulty or the second player being left out in the story.
- Separate Timelines. Although the game isn't about time travel, it features two separate timelines. Players have to develop a strong sense of longterm cause-effect logic to find connections between objects.
- Overhead View Run&Gun. Similar to old popular games like Gauntlet and Smash TV. A defining characteristic of this genre is the emphasis put on using the environment as cover, which fits Second Chance perfectly, as the primary way players help each other is by manipulating the environments.
- Powerful Map Editor. Players will be able to customize the entire game, creating new weapons, skins, monsters and environments. The same tools that were available to the level designers will be available to the players themselves. The map editor will be available for download as a PC utility, and players will be able to import maps they create onto their DS's, or advertise and distribute them through the game's website.

Formats

The game will be released for the DS. No other hand held devices sport display devices ideal for the gameplay offered by Second Chance. One possible candidate is wide screen PDAs, but their processing power as well as the display capabilities vary a lot, making them an unstable platform for games. In addition, only a small percentage of PDA owners are interested in using them to play games.

The Team

As a low budget handheld game, the game requires a fairly small team. Our team is currently a single person: a designer with programming skills (Onur Vural). With the addition of a second person – a multimedia specialist who can focus on the visuals and audio, the team would be complete. Onur would be responsible for working on the design of the game and communicating his vision of the game setting to the multimedia specialist, who would then create appropriate visuals and audio. Onur is also responsible for coding of the game. Since he both designs and programs the game, the need for an intermediate documentation phase to communicate the design to the programmers is not crucial, and can be simplified.

Gameplay Summary

The gameplay of Second Chance can be similarized to playing a map of Gauntlet with a wall in the middle separating the two players from each other. The only way the players can interact with each other is by using levers to open doors in their teammate's area.

That is what Second Chance's gameplay boils down to. Enter the fray, blow up the monsters, click levers and proceed to the next level. However, this is an overly simplified model to explain the game mechanics. The levers may have a positive or negative influence, or perhaps both. A lever in Gauntlet can open the door of a monster prison, releasing three dozen monsters, or it can open the door of a secret passage, helping the player get away. The difference in Second Chance is that the lever a player clicks has no effect on him – his teammate has to suffer the consequences of any wrong choices the player makes.

Besides, unlike Gauntlet, the triggers are not easily distinguished as levers in Second Chance. They can be concealed as any object, from a plant to a chest of drawers to a sofa. Because of the whole recyclable goods setting, any object can become part of anything else over time.

The game requires an intense amount of coordination from both players. If the levers on the left screen open doors on the right screen, which player should be responsible for deciding what lever to pick? The person who actually plays the character that can manipulate the levers, or the person who plays the character that actually gets affected by the outcome?

Let's say, on the player's screen, there is a sofa covered with blue linen cloth with red stripes. His teammate in the future needs to get in a room, but the door is behind walls. The wall is made of thick layers of linen strengtened by chemicals. Some of the wall is blue, with red stripes.

This puzzle can simply be solved step by step:

- Goal: Remove the obstacle (blue wall with red stripes)
- Understand the connection between the objects: The wall uses the same textures as the sofa, so the sofa must have been recycled into raw materials, which were used to create the wall.
- Solution: To destroy the wall, the player must destroy the sofa. He can accomplish this by setting it on fire, or pouring a large dose of acid over it.

An important question to ask here is: which player should be responsible of each part of this puzzle? Perhaps the teammate needs to look at what he needs, figure out what it corresponds to on the other side, and ask the player to destroy the sofa. Or perhaps he can simply tell the player he has a problem with a blue linen wall with red stripes, waiting for the player to make the connection to the sofa, and then figuring out a way to destroy it. Or perhaps, before the teammate even encounters the wall, the player could see the sofa and do some brainstorming to figure out what destroying it would change in his teammate's area. After realizing its connection to the secret wall, he could destroy the sofa.

In all three cases, the puzzle is solved. However, it is important for players to decide how they are going to distribute the responsibilities in advance, to make sure a player does not spend time trying to figure out a connection between some objects that the other player has already found out about. Considering both players have to solve puzzles affecting each other, and they need to solve these under time constraints, (measured in the amount of time they can stay alive while endless waves of enemies are swarming towards them) things may get very hectic if they don't coordinate and communicate properly. Second Chance tries to keep gameplay simple, while rewarding the players for their social skills.

Characters & Settings

The game takes place in a post-modern setting, in the near future. The buildings resemble 19th century architecture but the roads and the skies are filled with mechanical contraptions. The raw material deposits of earth are almost used up and are now a scarce commodity, everything is made from recycled bits and pieces. People sleep on patchwork sofas, drink artificial water, and drive what appears from outside to be engines strapped onto a couple of wheels and a seat (and perhaps a “rotor blade” made of animal skin in case of flying vehicles).

Nevertheless, it looks remarkably similar to our world in terms of functionality. All the effects of the terrible living conditions thankfully do not negatively influence the person playing the game (and the character doesn't complain much about them since he is used to it). The whole patchwork theme of the objects somewhat adds to the “improvised tools” theme. It also gives the designers an opportunity to give characters the ability to gather simple materials and combine them into useful objects, since it is common practice in the game setting.

Despite the lack of raw materials, technology has developed rapidly, and people are able to make tools capable of remarkably better functionality compared to ones used in early 21st century. Amongst such tools are devices that read or control other people's minds (and countermeasures), teleporters, and “biochemical restructurers” that heal wounds. Cloning is common practice, but is a delicate process that takes a few years for a human.

The main character of the game, who is played by two different players in separate timelines, is a scientist with a little military background. What he is capable of doing varies depending on how the player distributes skill points, but ultimately he is capable of creating various weapons and objects from scavenged materials, and using them in creative ways.

The future version of the character is disorganized and forgetful, always preoccupied, and easily distracted. However, he is a practical genius, always finding solutions to the problem at hand, in a matter of seconds. At work, his supervisors hate his sloppiness, but as he is an invaluable asset to the company, and a “key ingredient” of their new project, they need to keep him. His colleagues on the other hand, worship him, seeing him as an inspiration and always trying to participate in his projects.

The past version of the character is a little more aggressive than his counterpart. This is mainly due to him feeling like he is only there temporarily (he assumes he is going back to the future once his work is done). He is less social, relying on individual contacts for information, rather than societies. However, he is more focused, and disciplined. This is due to the pressure on him - he feels like he is there to set things right, and the weight of the responsibility is having a toll on him.

Nobody knows the character's name. Nobody asks for his name. The only exception is one dialogue, where a barmaid asks him what his name is, but he can not remember it. At work, he is sometimes referred to by his colleagues as Ben, as an abbreviation of Benjamin Franklin the famous inventor.

For the short action mode, there is potential for other settings as well. By the inclusion of a powerful map editor, we aim to make it possible for players to create any setting they can imagine. They can replace the soldiers with orcs, the buildings with grass, and the rifles with swords / magic books to create a fantasy setting. Or they can replace everything with robots and laser guns, or perhaps world war 2 style soldiers and tanks.

Key Design Points

“Join In”

Through analysis of previous games, some workarounds for the problems associated with multiplayer campaigns were developed. The game allows any player to “join in”, meaning it does not force a player to play with his same friend throughout the entire campaign. How does it work? By finishing a level, the player unlocks the next one. Players are free to play any level they have unlocked, as many times as possible, with any character they want. Although characters become stronger and obtain new powers as they play the game, level differences will never be an issue; as the players are in two separate environments, each player's environment has a difficulty appropriate to that player's level.

This allows any player to join in and help his friend progress through the levels, even if the second player has not yet reached those levels himself. It is still possible for a player to unlock the next level by helping a friend finish a level he has not yet unlocked himself. However all the previous levels will still be unavailable until the player goes back and unlocks them as well. Considering the campaign is about a man trying to figure out what is happening from fragments of his lost memories and flashbacks, this kind of segmented progression fits the story.

It should also be noted that both sides of the campaign (past/future) need to be unlocked separately. For instance, you do not unlock the ability to play the “future” character in level 5, by finishing level 4 as the “past” character.

Independent Movement and Firing

It is common for overhead view games to allow players to shoot on the run. Second Chance is no exception. Players are able to choose between two control modes, the simple mode allowing them to fire at the direction their character is facing, while the second mode making the facing of the character independent from his movement. In the second mode the player is able to change the facing of his character with the ABXY buttons.

Unique Progression System

When players first create a profile, they are given 5 points to spend on their attributes; Skill, Resourcefulness, and Creativity. Attributes range from 0 to 5, and none of them can initially be higher than 3. What is unique about the system is that it changes the whole gameplay experience on the extreme ends.

- Skill dictates how good the character is at whatever he does. It allows him to utilize objects efficiently, allowing him to shoot a gun further, or using a torch more effectively, leaving less remains when he burns an object, allowing the action to have a bigger effect in his teammate's game area.
- Resourcefulness shows how prepared the character is for the situation. A character with higher resourcefulness rating starts a level with additional objects. Where he would normally go in with an M98 rifle, the resourceful character might bring some grenades, or in the extreme cases, a rocket launcher. He might also have brought something that simplifies a puzzle, like a blowtorch or a magnifying glass.
- Creativity gives the player more ways to use what he has at hand. Although the creative player won't have a rocket launcher with him, he might figure out how to enable the scope on the M98 rifle he brought. It also gives the player new ways to interact with objects. While a metal kitchen table is normally used for eating food, a character with high creativity can flip it sideways and use it as cover in a firefight.

Beginning the Game

When the players first load the game, they are given a choice between tutorial, campaign and short action modes. A person new to the game needs to start the tutorials to understand the game concept.

When the player first starts the tutorial, only one screen is active. He is introduced to the game world, the story behind patchwork items and recycling. The tutorial first teaches the player basic movement controls, then allows the player to practice shooting against a target dummy, and finally mentions the “independent movement & firing” controls, asking the player if he wants them to be enabled. (He can always change his settings from the options menu later on).

Then, the second screen becomes active, and the dual timeline nature of the game is revealed. (During the tutorials, the character on the second screen is computer controlled.) The player is told about the way the characters can influence each other, and is then presented with the simple sofa-wall puzzle we have already covered in the Gameplay Summary section. When the player goes through the puzzle, they are given a choice between additional target practice and returning to the main menu.

Example Level Walkthrough

This walkthrough covers a short action level from the perspective of the player in the past.

Players both enter the house of a scientist in their respective timelines. They start with standard weaponry, modified by their resourcefulness scores.

The player's objective is to obtain blueprints located in the kitchen. Unfortunately, the house is currently being ransacked by a gang, so he needs to fight his way through.

After clearing the first room, he can go towards the kitchen, or if his skill score is high enough, he can pick the lock on the bedroom, to get medical supplies (in which case they disappear in the other screen and his teammate in the future can not get them anymore. If he already picked them up and used them, the hitpoints healed by them are lost as if it was never used).

While moving along the corridor towards the kitchen, the player encounters more enemies in the warehouse. He can either kill them normally, or he can do it the easy way by shooting the chemical filled barrels near them. If he kills them by blowing up the barrels, their mutated monstrous versions appear in player 2's warehouse.

The next room is the living room, but it has a security device. If his teammate finds the password, the player can enter the room(he still remembers). He finds a cloaking belt. He can also destroy the dining table in this room to reveal a secret door for his teammate in the warehouse.

Once in the kitchen, he finds the blueprints. Then he needs to go back, but he encounters more enemies on the way out. He kills them and finishes the level. If he somehow avoids killing them by using a cloaking belt, or incapacitation grenades (which he might have depending on his resourcefulness rating), they will set up an ambush for his teammate in the bathroom (which is where his primary objective is).

Alternatively, if his teammate finds the kitchen key, the player can exit the level from the kitchen after obtaining the blueprints.

Art Style

The graphics of Second Chance is more than eye candy, it is responsible for creating the connections between objects, and creating puzzles. Design decisions influence the style the game world is drawn in, to create a world that is consistent and easily interactable.

Despite the dark futuristic setting, the game art is cartoonish, outlining the lines of the objects and using simple textures. This is done to hint on the functionality of the items, and to make them stand out as interactable objects, rather than pieces of art being displayed in a museum.

The patchwork / classical era theme of the game is reinforced by the environments, tones of brown and grey painting the feeling of the quality of life. This is further improved by cities still resembling old towns, with their 19th century architecture buildings, patched on the walls and ceilings with layers of polystyrene and animal hides. Everybody is a small inventor, as one needs to be crafty and creative to survive in a world without mass production. This leads to a diverse and interesting population, with something unexpected around every corner.



Left: Arkaine's Valor from Diablo 1.
Right: Arkaine's Valor from Diablo 2.

The left image outlines functionality while the right image focuses on realism.

Color and textures play an important role in Second Chance, as objects of similar textures are often connected. This is why the art needs to give away the characteristics of objects. Often, something other than texture designates the connection between two objects. An object on each screen can be covered with a special varnish, giving them a glossy reflection effect. Related objects can have similar art styles (for example a spiked helm and a spiked ball – the helm was perhaps carved out of the ball and hardened with chemicals), having the art give away the connection rather than the coat.

As levels progress, and players get used to the artstyle, the similarities become more subtle. Towards the end of the campaign, players can intuitively know two objects are related, although the objects have no logical connection or visible similarity between them.

Technology

Second Chance uses 2D graphics for various reasons, but the most important is performance. The Nintendo DS 3D hardware is designed to render to a single screen at a time, so rendering 3D to both screens is difficult and decreases performance significantly. Since Second Chance needs to operate on both screens in real time, the 2D engine is more suitable. Although not 3D, the game aims to make use of advanced graphics in the form of reflections, lighting, transparency, and various other effects supported by the 2D engine.

It also aims to make full use of the Wi-Fi technology sported by the DS, offering the "Download Play" feature as well as giving players access to the game webpage to download additional user made maps and settings. In addition, the map editor will be available for download for the PC, and will be able to directly link to the user's DS to allow realtime testing.

Sound

Audio plays an important role in Second Chance, similar to the graphics. Each sound effect is distinct, and the focus is on gameplay rather than realism and accuracy. The sounds communicate the function of the objects. Every weapon has a specific, distinct sound effect, allowing players to understand what weapons the opponents are using and plan accordingly. In addition, the sounds an object makes often hint at the material it is made from.

Sometimes, the players need to listen instead of look to find clues. In one part of the game, while shooting enemy soldiers in front of a wall, a player might hear different sound effects for bullets ricocheting from a specific part of the wall. If he listens closely, he can figure out it sounds like that part was made out of wood. The other player can then destroy the suspicious wooden cupboard in his map, revealing a secret room for his friend.

Players are able to knock on walls and objects to listen to sounds they make. This action needs to be utilized frequently to solve many intricate puzzles.

By default, players only hear sounds of their game area, and they need to listen to the other player's DS to get an audial feed of that player's game area. It is possible to change the settings from the options menu if they want to hear the sound effects from the other player's area. The players are able to set separate volumes for the two areas, or assign them to different speakers. However, it is highly confusing, and must be used as a last resort, if the players are somehow separated by an obstacle and can not listen to each others' DS's.

Multi-Player

Each player sees his own game area on the top display, and his friend's game area on the bottom display. If they find it confusing, they can always swap the displays from the options menu, or set it to always use the top for the past and the bottom for the future (or vice versa).

Communication is vital in Second Chance. Players need to speak to each other in order to complete levels and overcome obstacles. Although it is recommended for players to be in the same room while playing, the game fully supports voice communication, allowing players to use the DS microphone to speak to each other. The microphone can be set to voice activation, or push to talk (default button = right shoulder button).

The ability to customize characters, combined with the join in feature, give players more ways to play together. Perhaps three friends meet up and want to go through a few levels of the campaign, so they play in turns, leaving one player out at each level. Or perhaps, two players have a hard time getting through a difficult level, as they can not find an appropriate object for the puzzle. They call a friend with a resourceful character, and ask for his help. Perhaps his resourcefulness rating is high enough to make him bring along an item that can get them straight through the puzzle.*

Situations like these give the game even more social potential, allowing players to cooperate with each other even between the game levels.

* every character can get through the levels no matter his attributes, however it is more difficult to solve a puzzle if your attributes are not suitable for the task at hand.

Difficulties

The hardest part of designing Second Chance was deciding on the setting. The initial idea was a medieval setting similar to gauntlet, but was later changed to a post-modern industrial setting to create a unique atmosphere. However, that led to different problems regarding the storyline, as in a medieval setting one can simply explain everything by calling it magic, but in an industrial setting, scientific explanations need to be found. Although this made it more difficult to write the story, it also made it much more detailed, and interesting.

Another tricky part was level design. Although it is possible to come up with a few clever puzzles, dungeon crawl games need lots of levels, or a level generator, to offer replayability. This problem remained for a long time, until the idea of recycling and patchwork items was incorporated into the setting. This has made it a lot simpler to create a level generator, as all it needed to do was shuffle the textures and materials on one map, and redistribute them amongst the objects of the other.

These challenges have already been dealt with. However, a challenge still remains: to create a finished product that appeals to the masses, and to deliver continuous support in the form of patches, new content, and expansions to keep the community interested, and maintain a successful developer profile in the eyes of the fans.