



Summer Internship Report

at Trine Gaming Studio
in Game Design and Implementation

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Why Gaming?

I have always been intrigued by games and their design. Games are one peculiar application of interaction principles wherein the user is looking for entertainment. Gaming is one of the very few industries that successfully brings together the combination of technology and entertainment. As an interaction designer, it was interesting to find out how a game is made interesting to the end user. What must be thought about so that the game feels authentic and playable. What makes a good game, a good game?

There are the superficial parts such as the brilliant graphics and great gadgets used in some games. Although these play an important role in making the user's experience a genuinely rewarding one, it is not these aspects that make the user want to come back to the game again and again. It is the gameplay techniques, the underlying game principles, the healthy challenge provided by the game that keeps the user bound to the game.

A game on the computer is all about user experience. Steering a little away from the conventional meaning of the term, here user experience refers to the excitement and involvement that the user feels when he/she plays the game. The game may be as simple as a card game or as complex as a Role Playing game. In the end, fact of the matter remains the same: The user must feel stimulated. There must be a powerful challenge in the game which gets the user addicted. The experience factor is much stronger.



About the company:

Trine Games is a wholly owned game development division of Trine Entertainment Ltd. and is entrusted with the company's high-end game development. Located in the heart of the entertainment capital of India, MUMBAI, the company was founded in June 2006 by the brothers Somil and Sangam Gupta.

Trine Games is a developer of interactive entertainment for PC, Console and Mobile phones with a prime focus on Multiplayer game-play. It is also a service provider for video game art and game development, and can be relied upon for outsourcing purposes.

By focusing on creating well designed and a highly enjoyable entertainment experience, Trine Games has maintained an unparalleled reputation for quality since its inception.

Working at Trine:

The studio was working upon an add-on for a popular role playing game that had already come out with a few earlier versions. When I joined the studio, they had already finished designing the basic storyline of the game. They had been given objectives as to what the story must accomplish so that the add-on forms a good link between the last version of the game and the new version which was also under construction. Moreover, there were other goals such as fixing the technical flaws that had crept in the last version, designing a better and more captivating storyline etc. Also, they had almost finished converting the storyline into playable quests so that the story is reflected in the game. During the time that I worked there, there were three basic kinds of tasks that I was doing:

1. Implementing the quests that had been designed
2. Designing side-quests for the game
3. Designing a quick concept for a game based upon the brief given to me.

Implementing the quests:

This task was about learning to use the tool that interfaced with the game engine. I had to put in the characters, objects and other entities into the world of the game based upon the quest that was designed. The quest was described to me in a few sentences and then I had to write dummy dialogues for the quest so that the client understood what the quest was about.

Although the dialogues were dummy, many of those I wrote were decided to be finalized into the game itself. I had also the task of putting random characters in the world of the game who would have the dialogues that would either just create the atmosphere for the world or support the storyline.

The quest ran based on dialogues and game-events. The game-events were conditions that were set and cleared as and when a particular path of the game was accomplished. No more can be described about the tasks I was assigned since it is all under a Non-Disclosure Agreement.

Designing the side-quests:

Side quests were in the game to create an authentic effect for the world. These quests did not advance the storyline and if these quests were not attempted or finished, the game would not stop. If these quests are accomplished then the player wins prizes and powers that may help him in the game later on. The quests should be interesting and enticing so that although the story does not advance, the player does not feel frustrated for having wasted his time chasing wild geese. The designing of these quests was similar to actually designing the main story/quest with the only difference that these quests were without consequence.

Also, it was encouraged if some of the side quests were a spin-off from the main story such that they told more about some character that only momentarily appeared in the main story.

Designing my game:

While on the internship, the game designer under whom I was working gave me an assignment to design a game so that I could try putting to use the knowledge I was gaining at the studio.

His assignment was as follows:

“Design a game that revolves around the following three objects: a Pen, a Wheel Chair, and a Rocket Launcher”

Based upon this brief, I designed various game concepts. For inspiration, I was given the opportunity to study various games from simple online flash based games, a game called ‘crayon’ based upon experimental game play, to complex games such as Call of Duty (2 & 4), Trash, Tekken, WWF challenge, DragonballZ, etc. and also some console based games such as Mario Karts and Star Wars Racing challenge.

Some of my preliminary ideas were as follows:

1. “Doctored”

Game type: FPS game

Goal: To solve the mystery behind the death of a friend and some fishy goings on in a hospital.

Setting: A ten storey hospital

Concept and story: The aim of the game is to solve a few mysteries which surround the player. The back-story explains the circumstances in which the game begins.

Prologue:

The user plays the role of a private detective. He has an acquaintance in the local underworld. This contact once calls the player to meet him in a particular café. Upon reaching the appointed place, the player is about to listen to what the contact has to say when a bomb goes off somewhere in the café.

The player blacks out and wakes up in a hospital. He feels incredible pain in his legs and realizes that for some reason he feels very groggy. The nurse incidentally steps in, tells the player to take rest because he is on heavy painkillers which will make him delirious and then proceeds to give him some injection which puts him back to sleep. Next time the player regains consciousness, it is with the same grogginess but with the pain in the legs having actually increased rather than decreased. The player is surprised by this fact when the nurse steps in again and gives him his injection. The third time when the player wakes up and finds no progress in the recovery of his legs, he pulls himself out of the bed. He can barely stand but he realizes there is something fishy going on and he must find out the truth. At this point the game begins.

Gameplay:

Part I: The player’s room is on the eighth floor of the ten storey building of the hospital. The hospital has something fishy going on and the player is not invited. So he must get out of the hospital to ensure his well-being and to find out what has happened to his friend. Hence he must reach the ground floor of the hospital.

When the player limps out of the room, he finds out that all of the hospital staff has the instructions to keep him confined to his room and hence it chases him around everywhere.

The player must fight them by hands and escape. The player's legs have not recovered fully and hence, if he walks for too long, his energy starts to reduce and at one point, he bleeds to death. Hence, the player must find a wheelchair which he can use to move around. There will be points in the game where the wheelchair cannot take him (eg staircases) and so, he must leave it behind and find another one later. As the player moves down the floors, the difficulty level increases. Each floor is a new level. To keep the interest of the user, after every few floors, the department of the hospital changes and hence the appearance, uniform and accessories of the hospital staff also changes. Throughout the game, the ward boys have weapons; the nurses shout and alert the ward boys and the doctors, and the doctors have lethal injections which they use to harm the player. The hospital security has guns but they cannot fire in public places.

But they will use their guns freely in isolated areas away from the general people.

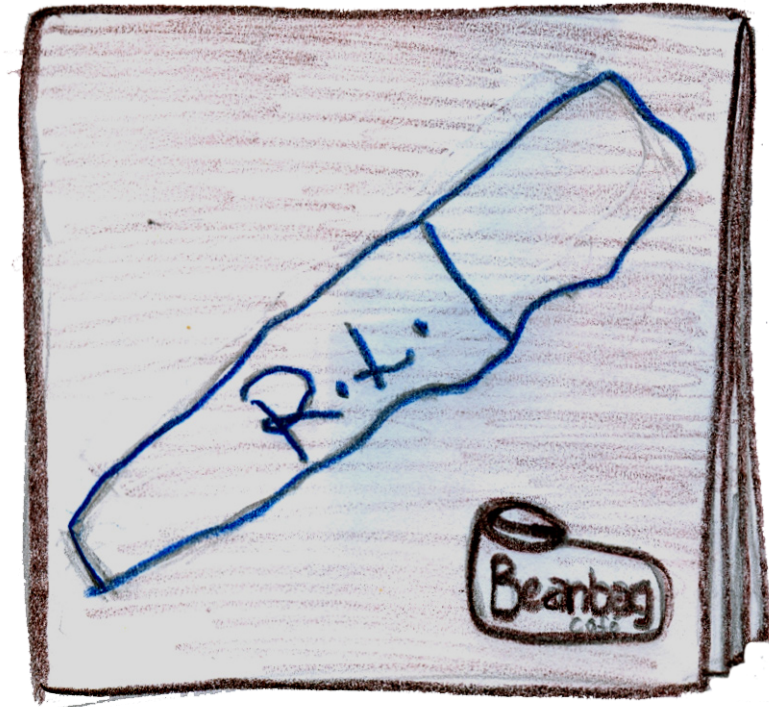
Part II: The player must be observant in the game since there are clues all over the game as to what is going to happen later on. The mission of getting out of the hospital is just the first part of the game. When the player reaches a particular floor, he meets one nurse who actually sympathizes with the player. She's the same nurse who was taking care of the player and administering the unhealthy injections. She tells the player that the friend is dead and that he had left a message for

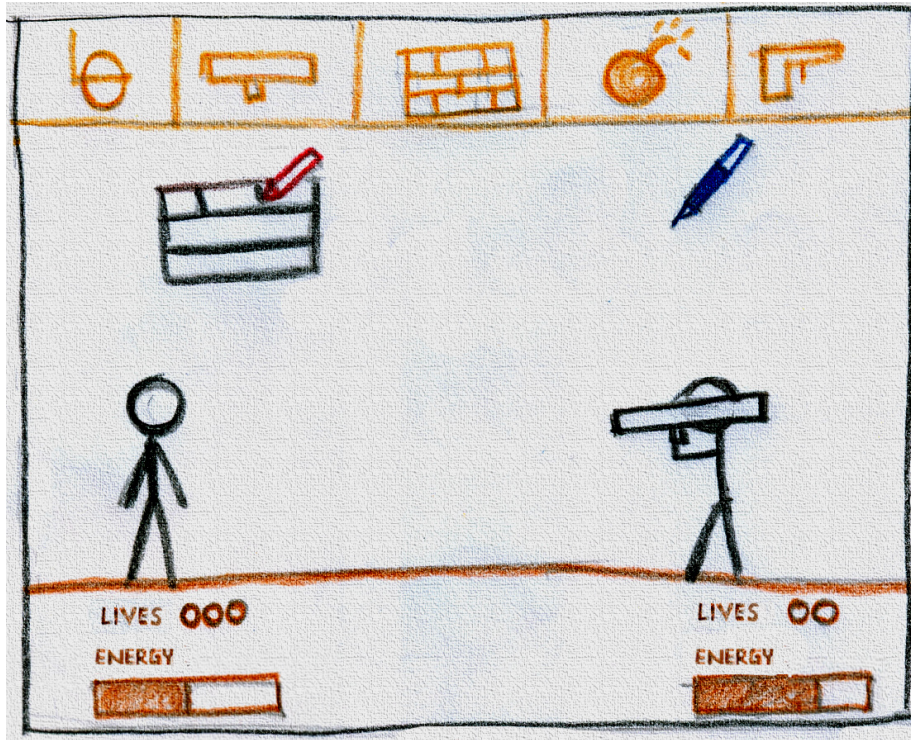


the player. She hands him a tissue paper belonging to the café where they were to meet. On this paper, the friend has a crude sketch as shown, and the initials on it say R.L. The player has observed that all of the staff carry the same looking pen and he links the sketch with that pen. Hence the player assumes it is a pen and that the initials indicate a person. The nurse is then killed later on by the ward boys who find out she helped the player. When the player reaches the last floor, he has to fight the head of the security. When he defeats the head and all of his bodyguards, he finds that even the head has that pen. He takes the pen and observes it to find that it has a chip inside it. He realizes that the pen doubles as a key to some door. Since all the hospital staff has the pen, it is obvious that the door is in the hospital. Now the player has another mission. He must find that door and find out what it was that the friend was going to tell him about.

End:

The pen is the key to the door to the ninth and tenth floor of the hospital. The top two floors are actually a secret laboratory that manufactures weapons. The player has still not found who R.L. is. The hospital is run by terrorists who use it as a façade to be able to secretly develop bio weapons and destructive technologies. The player finds out that R.L. is not a person and that in fact, it stands for "Rocket launcher" and the sketch was not a pen but a rocket launcher. This launcher and its rockets are bioweapons which can wipe out a whole nation through a deadly virus. The weapon is almost ready and the player must sabotage the project to save the world.





2. “Drew or Died”

Game type: One-on-one combat

Goal: To defeat the opponent through various maneuvers and attacks

Setting: A page of a sketch book, with a crudely drawn line across the screen near the bottom serving as ground.

Gameplay:

The player must defeat the opponent by drawing various objects which may either harm the opponent or help the player. Of the objects that can help the player is a rocket launcher. Of the objects that harm the opponent is a wheel chair since that makes the opponent handicapped. Near the top of the page, is a pane wherein the objects that the player can draw are shown as suggestion. The player must draw them properly to activate them. The player draws with a pencil and as he progresses, he gets rewarded with a pen. The difference is that the opponent cannot use the ‘eraser power’ on the pen drawings to undo the player’s moves.

3. "Once upon a time"

Game type: FPS game

Goal: To design a time machine and go back in time to stop an imminent danger in the future.

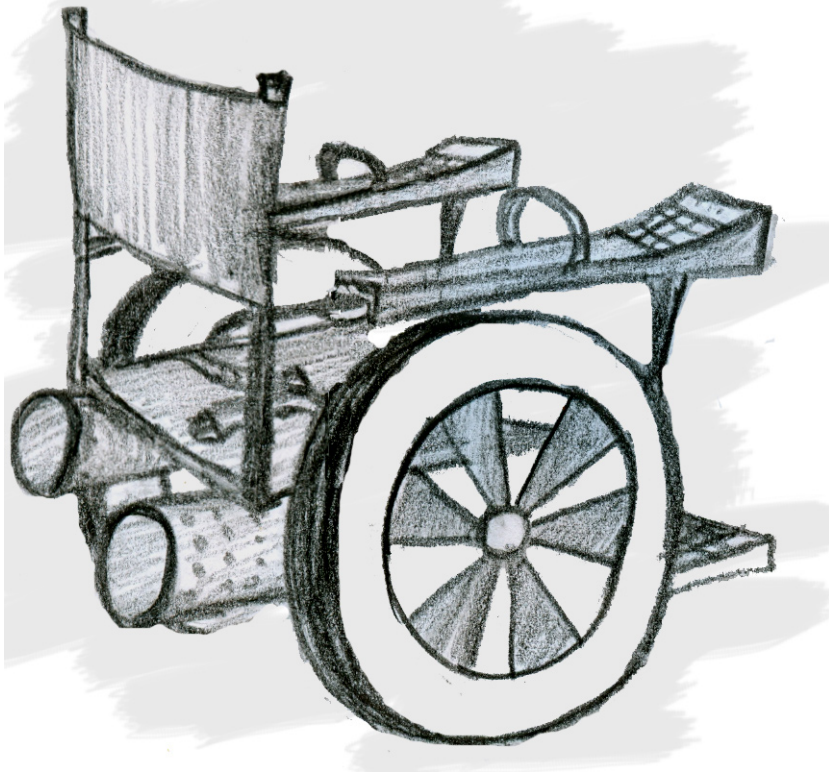
Setting: World of the past (several hundred years ago)

Back - Story:

The player plays the role of a scientist who has calculated that a humongous earthquake is going to shake the earth in two days' time. This earthquake would destroy half the land on the earth and drown more than half of the whole world's people. He also finds out that the earthquake is the result of an imbalance in the tectonic plates created due to the formation of large, deep holes in the ground several hundreds of years ago. The scientist finds out that these holes were created by the men of that time as part of a ritual to bury the most respected individuals of the society. He must now go back in time to stop these people from following this custom and save the earth.

Gameplay:

The player must first assemble the time-machine. He must find a small vehicle which will fit in his lab. He must then run it backwards with such force that it travels in time backwards. To create this design, the player must seek help of a colleague at the university. They come up with a design in which a wheelchair is attached with a rocket launcher. Hence, the mission of the player is to get a wheelchair and a rocket launcher. Once these preliminary missions are done, the time machine is ready. The player's plan to stop the people there is



to convince them that he is the messiah of God and that God communicates with him. It is God's wish that this ritual be stopped since it is insulting the earth he created. To prove himself to be divine, the player must take with him a pen that writes in golden ink and a good quality paper.

The rest of the missions are in the past where the player must face various dangers and adventures before he can gain enough trust with the people to make them listen to him.

End:

He convinces the people that he has a divine instrument that God bestowed with him and that when he writes with it, God's wishes get written down on the divine parchment (paper). He then proceeds to write a few predictions which he then must make sure come true. In the end, he writes that the people must stop the ritual to stop insulting the earth and he returns back to the present.



These ideas were rejected on the basis that the objects, although playing an important role, were not being used to their fullest capacity. Some of them could be replaced with some other objects and the game would still make sense. Hence, I developed another concept which was accepted as a good gaming concept.

Final game concept: “Not a small world”

Game type: FPS

Goal: To get Tom Thumb across the room and out of the door. Also, at a higher level, help a child get rid of his loneliness by finding him a peculiar friend.

Setting: A house. A kid’s room, in particular.

Back-story:

This story is about a little lonely kid. His father was a scientist who dabbles in chemistry. This kid was handicapped: His legs were useless. He had always been a loner and loved to play only by himself. He had very few friends and he barely ever talked to other kids in his neighbourhood. He would feel that everyone will make fun of him sitting in that big wheelchair of his all the time. So all that he would do was play with his figurines of GI Joe, Superman, Transformers and other super-heroes or read the storybooks that his parents bought him. His father had always blamed himself for not being able to find a cure for his son’s legs. He would spend most of his time in his lab experimenting with all kinds of chemicals, hoping that one day, he’ll find the cure. But his frustration for failure would turn into his anger upon the kid itself. He’d be impatient with the child and snap at him for very small reasons. That made the kid even more rebellious and lonely. His mother was

a silent spectator to this psychological disaster of her son since there was no way she could help him. She would try her best to defend him, love him, and hope to probably be able to make him feel wanted and for once, normal. But the child was going deeper and deeper on the path of seclusion. So much so that he had started taking his meals too in his room. That room was beginning to become the only part of the world he would venture into.

One day, as the kid sat in his room, he began a game where he pretended to be a scientist like his father. To make the game authentic, he decided he would need some props. So he wheeled off to his father's laboratory, and quietly snuck some test tubes back to his room. While he was playing, one test tube accidentally slipped and fell on his table, splashing his storybooks with the chemical. Scared and angered with this little mishap, the kid got rid of the glass pieces and, having lost the mood for playing, just went to bed.

Now the chemical was actually his father's latest experiment. This chemical was a brilliant new concoction that could bring people in pictures and photos to life! When applied on a picture, the person inside that picture would swell and come out of the 2-dimensional world into the real 3-dimensional world. And sure enough, one little person did come out of the story book: Tom Thumb.

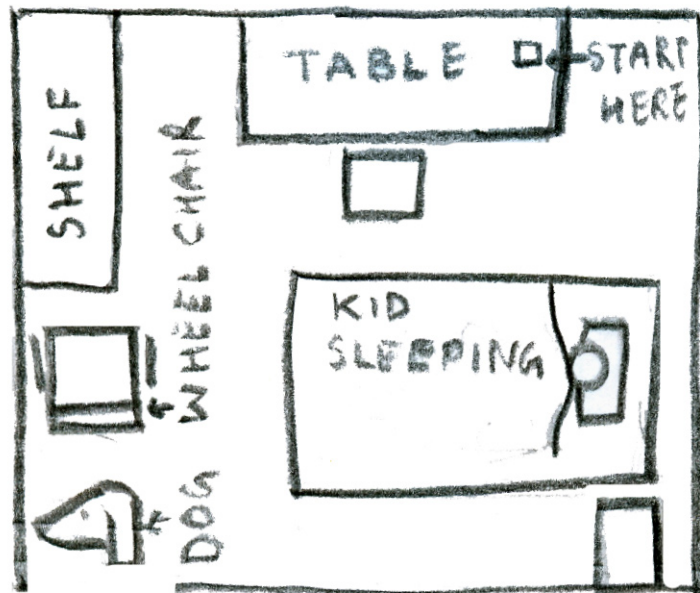
Now this is where the game begins. The player plays as Tom Thumb. Tom must find the antidote to this chemical that has brought him in this world. He must make his way safely across this huge room full of dangers for a little guy like him.

Gameplay:

The player, as Tom, must first make it safely across the table towards the other edge. He faces many dangers in this process. Firstly, since the kid had had meals in the room, there were crumbs all around. This had attracted a lot of ants, big and small. Initially, Tom has to face three or four small ants whom he can fight off with his bare hands. But later, there is a long portion of the table, covered with ants. To cross this part, he must find some other way to avoid the ants. The player must find a ball pen that is lying on some other part of the table. He'll face some other small adventures in terms of terrains and enemies in the form of bugs till he reaches the pen.

The ball pen is the kind where you must push the top to push the tip of the refill out of the pen. Hence, it has a spring loaded action that can be, for a person as small as Tom, be used as a pogo stick. So using this new pogo stick, Tom must hop across the patch full of ants.

As the game progresses, Tom gathers many such accessories. He finds the pen, a string, a safety pin, etc. At one point, he comes upon a collection of the kid's GI Joe figurines. In these he finds a toy rocket launcher. Once at the edge of the table, the player must find a way to reach the bookshelf along the other wall. To reach the bookshelf, the player must tie the safety pin to the rocket, and tie one end of the rope to the safety pin. He must then shoot towards the bookshelf so that the safety pin hooks itself to the shelf and the player has a ropeway across.



Progress of the story:

Once on the bookshelf, he hears voices from the adjacent room where the child's parents are having a fight. The father is furious because he has found out about the little theft from his lab. The mother is trying to defend the son.

"He stole from my lab," says the father, "Do you know how dangerous it was? Does he have no sense of responsibility at all? Its good that I have another beaker full of that solution or he'd have destroyed by three years work for his stupid play!" "Oh come on dear," pleads the hapless mother, "He's just a kid. He only wanted to play. I'm sure it didn't cause any harm." "I don't know about that. I'll have to look around his room now, to find if anything came out of those books and put them back using that antidote in my lab."

From this conversation, the player realizes the antidote is in the lab. Hence he must reach the lab and bring back the antidote. Once across the shelf, he has to go out the door. The problem with that is the kid's pet dog sitting in the doorway. The only way to go past him is this: The player must lower himself on the wheelchair kept next to the shelf, and then he must cause a basketball kept on the top shelf to roll and fall behind the chair. That will push the chair out of the room and carry the player safely across the dog. After this, he must find the lab and bring back the antidote. But the player has realized the loneliness of the kid by now and has a choice. He decides to help the kid and brings a cup full of the chemical and the antidote back. Before going back to the world, he writes a message to the kid using his pen, telling him that he has hidden a cup full of

the chemical and its antidote in the shelf.

Epilogue:

The kid finds the message and thus, later on, whenever he feels lonely, he just brings tom thumb in the world and talks to him. That way, he finds a peculiar friend to help him rid of his loneliness and gain enough courage to face the world.

The exciting features of this game were the limitless possibilities of missions and adventure that crop up when one looks at a child's room from the perspective of a two inch tall person. Apart from that, the game was a combination of surviving the room by moving ahead, facing dangers and enemies and of designing interesting solutions for some of the problems, such as the pen, the ropeway, the basketball etc. The game could have two modes: One the FPS mode and the other, a design mode where the interface shows the player what inventory he has and a two dimensional representation of his problem. The player may then design any solution as long as it works properly.

The Gaming Industry:

One of the aims of my joining a gaming studio for this internship was also to get a glimpse of how this industry functions. During the period of these forty days, I got to see what all goes into making a game. A game is a combination of creative storytelling, careful manipulation of gameplay tactics, limitless sketching and brainstorming for every detail right from how a character looks to what should the aim of the game be, a lot of artwork and lines and lines of complex programming.

Creating a game involves principally designing a game, developing its artwork and coding the game. Hence there are designers, artists and programmers who work collaboratively. The production manager is the one who looks after the progress of all these separate areas of expertise to make sure everyone stays on the same page for every aspect of the game.

The Design Department:

The game is designed by a game designer, who works along with the character designers and the level designers. The level and character designers, as their names suggest, take care of the smaller parts of the game. The overall story of the game, the gameplay and other higher level decisions are made by the game designer.

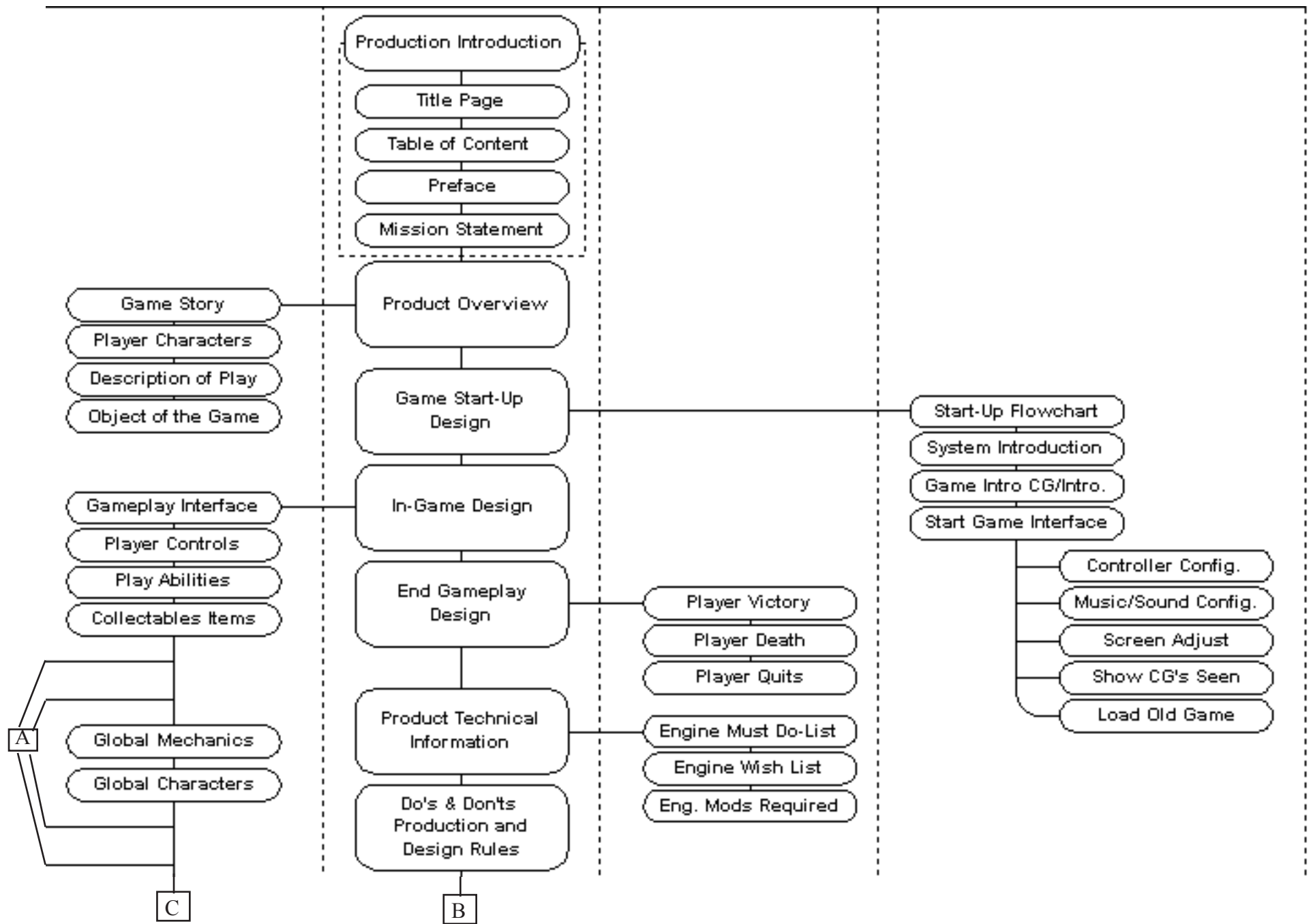
At the studio where I worked, the job of implementing the game design decisions was also being taken care of by the designer. This is carried out using an interface provided by the game programmers to communicate with the game engine. The game engine is the core of a game, which contains the code for all the principles of

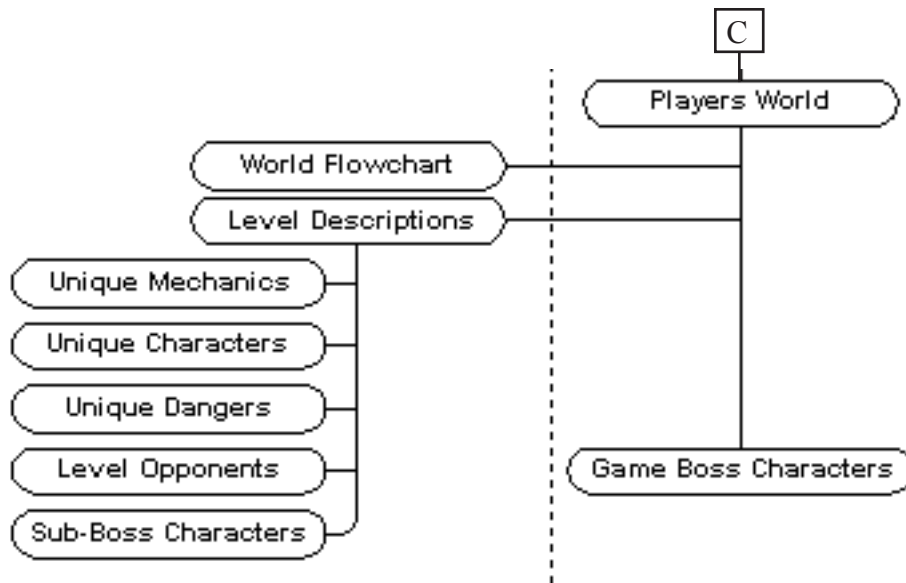
gravity, collisions and other details such as the combat techniques, shadows etc. In a nutshell, a game engine is the rules which will run the world of your game. Generally, a company may purchase one of many game engines available in the market (Unreal 3 for one). If at all necessary, a company might even go ahead and create their own engine to cater to their specific needs. The game designer uses an interfacing application to incorporate characters, quests and dialogues into the game engine.

The designer is the one who starts work on the game. He must first sit and design the gameplay techniques, the objectives, the dangers and the goal of the game. He must then also decide what level of difficulty the game must have, what should be unique about this game (eg, the strong story of Max Payne, the highly realistic setting of GTA, or the powerful combat system of Counterstrike) He must decide the number of characters, the storyline, the complexity of the plot, the various paths the story may take and their resolutions. When the designing of the game is completed, the designer creates a Game Design Document.

Writer:

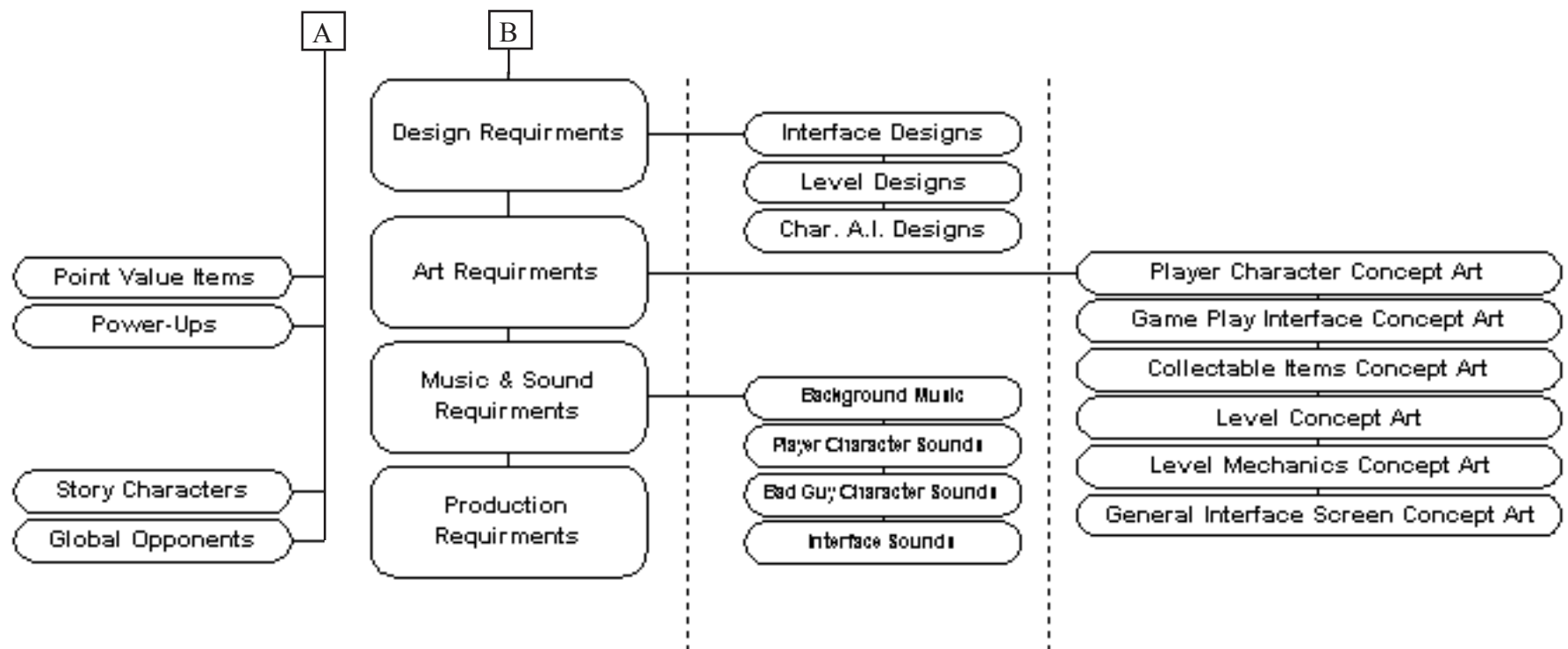
Sometimes, the design department also employs the help of a writer if the story so demands. Writers may be called upon to write good dialogues for the characters, authentic descriptions for the story, good narratives etc.





Game Design Document:

This document describes everything about a game, right from what is the main objective of the game to how many number of frames must be taken by an action of the player's character. The figure below will describe in a better way as to how detailed a game design document is. The designer at Trine also walked us through the design document of the popular sidescrolling game, Claw.



The Programming Department:

The programmers play a vital role behind the scenes of a game. The programmers are responsible for the proper functioning of the game. They code in everything right from making the character walk, to the way the leaves rustles. They are responsible for integrating the work done by the designers and the artists into the game to make it a complete, flawlessly running program. The programming department takes care of implementing the design decisions such as how much must a player move when the user presses the jump button, or how much must the enemy get hurt when the player hits him etc. The programmers make it possible for the user to be able to interact with the models that are created in the art department. Coding/modifying the game engine is done by the programming department.

The Art Department:

The artists give the game its look and feel. They design the characters according to the briefs that the designers give them. They design how the terrain should look, how the world should be, what the buildings and other entities in the world would look like, what will the player and the NPC's (Non-Playable Character) look like, etc. The art department uses people skilled in 3D modeling to implement the concept art which defines the look of the game. The 3D modelers use software such as Maya and 3D studio max to create the whole content of the game. This work is done based on the artwork given to them by the artist. The artists create artwork based on the design briefs given by the design department. . Finally, the content and the design decisions and

implementation are all passed on to the programmers to get integrated together to form the game.