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Internal Assessment Test III –Aug 2025

Sub:	Fundamentals of Game Design							Sub Code:	22MCA423
Date:	30/8/25	Duration:	90 min's	Max Marks:	50	Sem:	IV	Branch:	MCA

Note : Answer FIVE FULL Questions, choosing ONE full question from each Module

		MARKS	OBE	
			CO	RBT
	PART I			
1	Discuss Character dimensionality in detail.	[10]	CO3	L2
	OR			
2	Define Game Concept? Discuss the various key points for transiting from Idea to game concept.	[10]	CO3	L1
	PART II			
3	Compare and contrast between dramatic tension and game play tension.	[10]	CO3	L2
	OR			
4	What do you mean by interactive stories? What are the different kinds of events in interactive story?	[10]	CO3	L2
	PART III			
5	What is story telling engine? Explain in detail with its organizational structure.	[10]	CO4	L2
	OR			
6	What are the goals of character design?	[10]	CO3	L2
	PART IV			
7	Illustrate the need of branching story with its structure.	[10]	CO4	L2
	OR			
8	What are fold back stories? Explain how its different from branching story.	[10]	CO3	L2
	PART V			
9	Discuss the emotional limits of interactive stories.	[10]	CO3	L3
	OR			
10	Describe the different ways of getting an idea for the game and discuss the different principles of brain storming?	[10]	CO4	L2

1. Discuss Character dimensionality in detail.

Characters may be classified into four groups: zero-, one-, two-, and three-dimensional. A character's degree of emotional sophistication and the ways in which his behavior changes in response to emotional changes determine his degree of dimensionality.

Zero-dimensional characters exhibit only discrete emotional states. A zero dimensional character may exhibit any number of such states, but there is no continuum of states; that is, the character's emotional state never moves smoothly from one state into another or shows evidence of being in two states at the same time; there is no such thing as "mixed feelings." The nameless orcs in The Lord of the Rings feel only two emotions: hate and fear. The orcs hate the heroes and attack. whenever they feel they outnumber their enemies, and they fear the heroes and run away whenever they feel vulnerable or outnumbered. This minimal level of emotional variability is typical of the enemies in a simple shooter game. The emotional simplicity of zero-dimensional characters can make them comic.

One-dimensional characters have only a single variable to characterize a changing feeling or attitude; in other respects their character is largely fixed. In The Lord of the Rings, the dwarf Gimli is hostile and suspicious toward elves at first, but over time his respect for the elf Legolas grows until they are boon companions. His other attitudes don't change much. The movies make him a more one-dimensional character than the book does

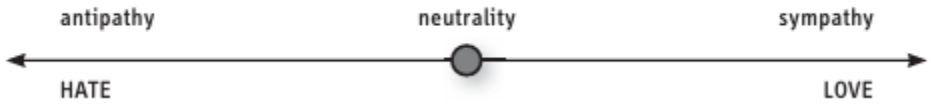


Figure 1 One-dimensional characters have a sin gle variable that describes an emotion that changes over time.

Two-dimensional characters are described by multiple variables that express their impulses, but those impulses don't conflict. Such variables are called orthogonal; that is, they describe completely different domains, which permits no emotional ambiguity. In The Lord of the Rings, Denethor is a two-dimensional character. He has a variety of strong emotions—pride, contempt, despair—but he never faces a moral dilemma. His senses of duty and tradition trump all other considerations, even when they are wildly inappropriate

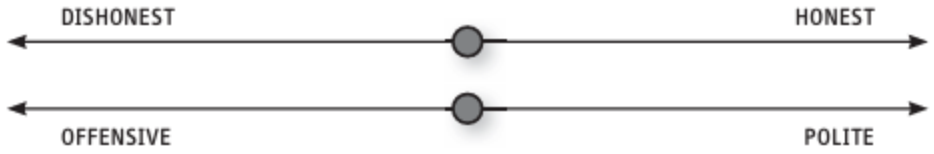


Figure 2 Two-dimensional characters have multi ple, non-conflicting impulses.

Three-dimensional characters have multiple emotional states that can produce conflicting impulses. This state of affairs distresses and confuses them, sometimes causing them to behave in inconsistent ways. Most of the major characters in The Lord of the Rings are three-dimensional, especially those who are tempted by the Ring. Frodo and, above all, Gollum are three-dimensional; Gollum's conflicting desires have driven him mad

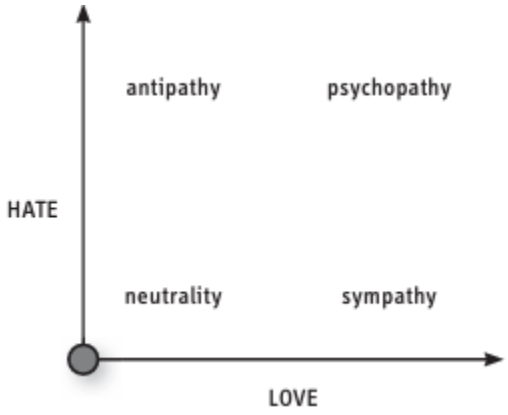


Figure 3 Three-dimensional characters can have conflicting impulses that produce inconsis tent behavior.

2. Define Game Concept? Discuss the various key points for transiting from Idea to game concept.

A game concept is a description of a game that is detailed enough that a group can begin discussing it as a potential commercial product—a piece of software that the public might want to buy. It should include, at a minimum, the following key points:

A high concept statement, which is a two- or three-sentence description of what the game is about. Here's a high concept statement for a game about street football: "The game at its grittiest. No pads, no helmets, no refs, no field. Just you and the guys, a ball, and a lot of concrete."
The player's role(s) in the game, if the game is representational enough to have roles. If the player will have an avatar, describe the avatar character briefly.

A proposed primary gameplay mode, including camera model, interaction model, and general types of challenges the player(s) will experience in that mode.

The genre of the game or, if you think it is a hybrid, which features it will incorporate from the different genres to which it belongs. If it is an entirely new kind of game, include an explanation of why its gameplay doesn't fit into any existing genre.

A description of the target audience for the game and perhaps the expected rating that it will get.

The name of the machine on which the game will run and details of any special equipment or features the game will utilize (for example, a camera or dance mat).

A brief statement of how you expect to make money with your game, if you intend to sell it commercially. "Making Money from Your Game," describes the different places around the world where you can sell games and looks at business models for making money with games.

Any licensed characters or other intellectual property that the game may be based on, such as a sports league or a movie hero.

The competition modes that the game will support: single-, dual-, or multiplayer; competitive or cooperative.

A general summary of how the game will progress from beginning to end, including a few ideas for levels or missions and a synopsis of the storyline, if the game has one. Do not spend too much time on the story. Many game developers spend too much time on the story and not enough on the gameplay.

A short description of the game world.

3. Compare and contrast between dramatic tension and game play tension.

DRAMATIC TENSION When a reader reads (or a viewer watches) a story, she feels dramatic tension, the sense that something important is at stake coupled with a desire to know what happens next. (Screenwriters call this conflict, but game developers use conflict to refer to the opposition of hostile forces in a game and prefer dramatic tension, which is more accurate in any case.) Dramatic tension is the essence of storytelling, whatever the medium. Cliffhangers—exciting situations at the ends of book chap ters or TV shows that remain unresolved until the next chapter or episode— increase the audience's sense of dramatic tension and ensure they stick around to see the situation resolve. At the climactic event of a story, the action turns, so that instead of the tension mounting, the tension begins to fall.

GAMEPLAY TENSION When a player plays a game, he feels gameplay tension, also a sense that something important is at stake and a desire to know what happens next. But gameplay ten sion arises from a different source than dramatic tension does; it comes from the player's desire to overcome a challenge and his uncertainty about whether he will succeed or fail. In multiplayer games, the player's uncertainty about what his oppo nents will do next also creates gameplay tension.

4. What do you mean by interactive stories? Explain different types of events of an interactive story.

An interactive story is a story that the player interacts with by contributing actions to it. A story may be interactive even if the player's actions cannot change the direction of the plot.

An interactive story includes three kinds of events:

■ Player events are actions performed directly by the player. In addition to giving the player actions to perform as part of gameplay—actions intended to overcome challenges—you can give the player additional actions to perform as part of the story. Role-playing by talking to other characters, for example, might serve the needs of the story even if overcoming the game's challenges does not require talking. If the player's actions can affect the plot of the story and change its future, they're called dramatic actions. Some player actions are not dramatic, however: Some player events aimed at overcoming challenges may not affect the plot.

■ In-game events are events initiated by the core mechanics of the game. These events may be responses to the player's actions (such as a trap that snaps when the player steps on a particular stone) or independent of the player's actions (such as a simulated guard character checking to see that the castle doors are locked). The player might be able to intentionally cause these events to occur, to change the way they occur, or to prevent them entirely—which is part of what makes the story interactive.

■ Narrative events are events whose content the player cannot change, although he may be able to change whether they occur or not. A narrative event narrates some action to the player; he does not interact with it.

5. What is story telling engine? Explain in detail with its organizational structure.

To design a game that includes a story, you must interweave the gameplay—the actions taken to overcome the game's challenges—with the narrative events of the story. Narrative events must be interspersed among the gameplay events in such a way that all events feel related to each other and part of a single sequence that entertains the player. If the gameplay concerns exactly the same subject matter as the narrative—and it should, in order to present a coherent and harmonious whole—then the entire experience, play and narrative together, will feel like one continuous story.

Just as the core mechanics generate the gameplay, the storytelling engine manages the interweaving of narrative events into the game. The core mechanics oversee the player's progress through the game's challenges; the storytelling engine oversees the player's progress through the game's story. The storytelling engine and core mechanics must work together to create a single, seamless experience.

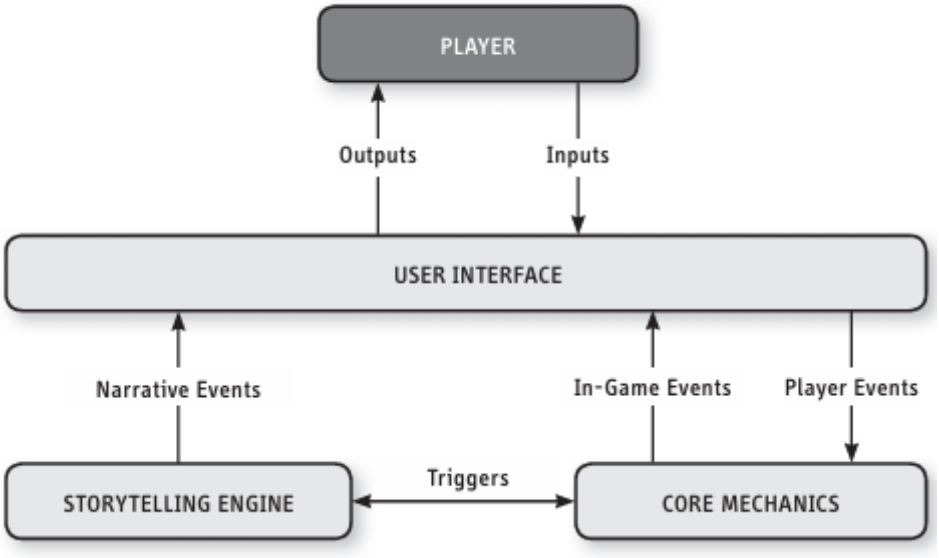


Figure 1 illustrates the relationship between the storytelling engine, core mechanics, user interface, and player.

An interactive story contains three types of events: player events, in-game events, and narrative events. The core mechanics manage the player events and in-game events, as the figure shows. The storytelling engine manages the narrative events. However, the storytelling engine does more than just play movies or cut-scenes; it also keeps track of the progress of the story and determines what part of the plot should come next.

A double-headed arrow labeled Triggers connects the storytelling engine to the core mechanics.The core mechanics may determine that the interaction should stop and the storytelling engine should present some narrative—for instance, when a player completes a level. The core mechanics send a message to the storytelling engine saying that the player finished the level and the storytelling engine should now display any interlevel narrative events. Likewise, the storytelling engine can send a trigger back to the core mechanics when a narrative event finishes (or when the player interrupts a narrative event), telling the core mechanics to resume play.

The storytelling engine doesn't sit idle during play, however. As the player progresses, the mechanics continually send triggers to the storytelling engine—that way, the storytelling

engine can keep up with what's going on. If, for example, the player makes a key decision that will affect the story later on, the core mechanics inform the storytelling engine of the decision.

Similarly, during play the storytelling engine can determine that the story has reached a critical plot point and trigger the core mechanics to cause changes to the internal economy of the game. Suppose the story says, "When the avatar reaches the bridge, he will be attacked by a highwayman in a cut-scene and robbed of all his property." The core mechanics, tracking the player's progress through the game world, send a message to the storytelling engine, "The avatar has reached the bridge."

The storytelling engine detects that this is a key point, halts play, and displays a cut-scene showing the robbery. Then it transmits a message back to the core mechanics saying, "Transfer the avatar's inventory to the highwayman and resume play." Normally, the level designers do the work that actually implements such events in the game. Among the level designer's tools for level-building will be a mechanism

6. What are the goals of character design?

In many genres, games structure gameplay around characters. Action games (espe cially the fighting and platform subgenres), adventure games, action-adventure hybrids, and role-playing games all use characters extensively to entertain. Players need well-designed characters to identify with and care about—heroes to cheer and villains to boo. The best games also include complex characters who aren't heroes or villains but fall somewhere in between, characters designed to intrigue the player or make the player think. If characters aren't interesting or appealing, the game is less enjoyable. Many factors combine to determine the degree to which a character appeals to peo ple. A character need not be attractive in the conventional sense of being pleasant to look at, but he must be competently constructed—well drawn or well described. His various attributes should work together harmoniously; his body, clothing, voice, animations, facial expressions, and other characteristics should all join toin the Conker series.) Characters should be distinctive rather than derivative. Even a stereotypical character should have something that sets him apart from others of the same type.

A good character should also be credible. Players come to know a character through her appearance and actions, and if that character then does something at odds with her apparent persona, players won't believe it. An evil demon from the underworld can't be seen worrying about orphans. For that matter, neither can James Bond.

Simple characters must be consistent. Richer characters, with more human frailties, may be more inconsistent, but even so, players must feel that the character holds certain core values that she will not violate. express him and his role clearly to the player. (Disharmonious

elements can be introduced for humor's sake, however, as with the cute but foul-mouthed squirrel

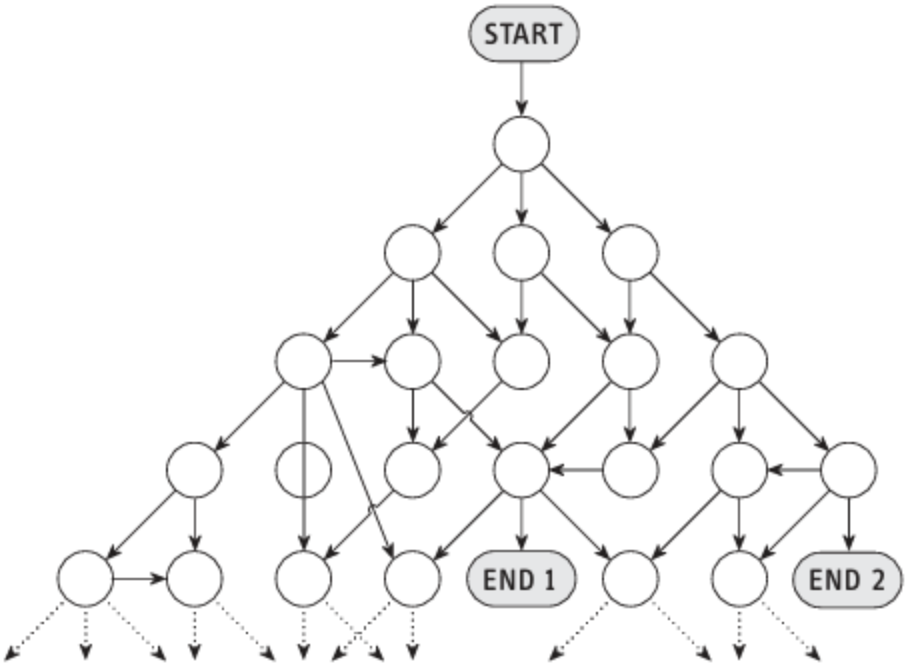
7. Illustrate the need of branching story with its structure.

A branching story allows the player to have a different experience each time he plays the game. The story offers not one plot line but many that split off from each other at different points. As the designer, you decide on the different possible plot lines and how they relate to each other. During play, the storytelling engine keeps track of which plot line the player is following at any given time. When the story reaches a branch point—a place where the current plot line subdivides—the core mechanics must send a trigger to the storytelling engine to tell it which of the possible CHAPTER 7 branches of the story the player will follow next.

Game events either player events or in-game events generated by the core mechanics (such as an action taken by an AI-driven NPC)—determine which branch the story will take. Player events that influence the direction of the story fall into two categories: efforts to overcome a challenge or decisions that the story asks the player to make. Branch points connected with player decisions have one branch for each option that you offer to the player. Typically, branch points associated with challenges have only two branches leading on from the branch point, one for success and one for failure, though you can also create different numbers of branches for different degrees of success if you want to. We'll consider the emo tional consequences of branches based on challenges versus those based on choices in the later section "Endings."

If an event in the game causes the plot to branch right away, that event has an immediate influence on the story. This is the most common kind of branch and the easiest to implement. The player makes an irrevocable decision—which road to take, for example—and the story promptly reflects his choice. However, sometimes the player can make a decision early in the game that influ ences a branch point much later, in which case that decision has deferred influence, or he can make a whole series of decisions throughout the game that cumulatively affect a branch point, such that his actions and decisions, taken together, have cumulative influence.

A diagram of a branching story looks somewhat like a tree, although by convention the root—the beginning of the story—appears at the top, so that the tree branches out as it goes down the page and the story goes forward in time. Figure shows a small part of the structure of a branching story.



The branch points don’t always have the same number of branches leading away from them. A story can branch in any number of directions at any given point.

■ The branches go down or sideways, but they never go back up again. The diagram depicts the possible progress of a story, and stories always move forward in time, never backward. In the course of playing a single game, the plot never follows the same branch or passes through the same branch point twice. This enforces the rule that stories must not contain identical repeating events and helps avoid the risk of continuity errors, as discussed earlier.

■ Unlike branches on a real tree, different branches can merge; that is, different plot lines can converge. Many branch points can be reached by more than one path.

■ The diagram depicts two possible endings that may be reached by different paths. The complete diagram would show additional endings farther down.

■ The diagram shows only one start point, but in fact a story could have several start points if the player made a key decision before the story actually began. The player might select one of several different characters to be his avatar, and that choice could determine where the story begins. Or the storytelling engine could choose from among several designated start points at random just to make the beginning different each time the player plays the game.The branching story mechanism is the classic method for creating interactive stories that give players lots of agency. Branching plot lines let you tell a story in which the player’s

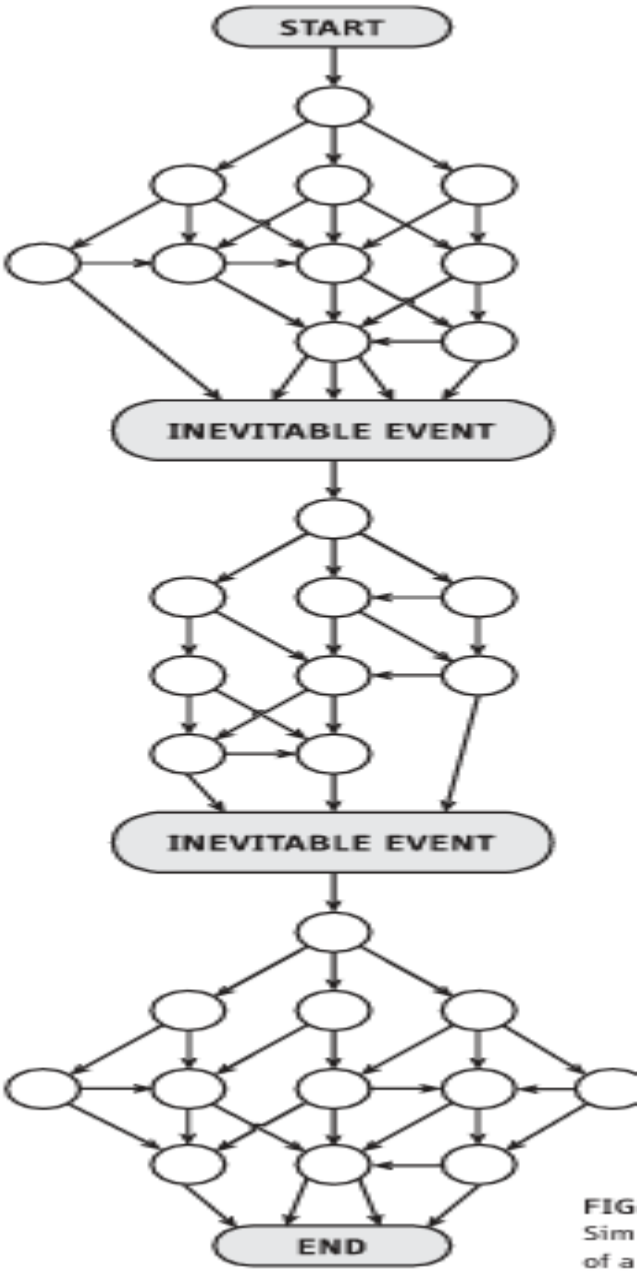
actions strongly affect the plot, and he can see the effect of his actions if he plays the game more than once and makes different decisions the second time through.

8. What are foldback stories? Explain how its different from branching story.

Foldback stories represent a compromise between branching stories and linear ones. In a foldback story, the plot branches a number of times but eventually folds back to a single, inevitable event before branching again and folding back again to another inevitable event. (These are also sometimes called multilinear stories.) This may happen several times before the end of the story.

The Secret of Monkey Island follows this format, as do many of the traditional graphic adventure games. Most foldback stories have one ending, as shown in the figure, but this isn't a requirement. You can construct a foldback story that branches outward to multiple endings from its last inevitable event. Foldback stories offer players agency but in more limited amounts. The player believes that her decisions control the course of events, and they do at times, but she cannot avoid certain events no matter what she does.

The foldback story is the standard structure used by modern games to allow the player some agency without the cost and complexity of a branching story. Developers routinely construct the interactive stories in adventure games and role-playing games as foldback stories. Of all forms of nonlinear interactive storytelling, it is the easiest to devise and the most commercially successful. If you want to create a foldback story, you should choose critical turning points in the plot to be the inevitable events. They need not always be large-scale events like the burning of Atlanta.



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9. Discuss the emotional limits of interactive stories.

Video games that don't include a story, that is, games that primarily entertain via the challenge and achievement of gameplay, don't try to arouse complex emotions in their audiences. They limit themselves to the thrill of victory and the agony of defeat, or perhaps to the frustration of repeated failure. But with a story, you can create other kinds of feelings as well.

When you tell a nonlinear story, you give the player the freedom to make choices that significantly affect the relationships among the characters, which may include decisions that feel emotionally wrong—or at least that don't conform to what you, as a storyteller, would like the player to do.

By offering the player the power to change the course of the story—or at least to change the ending—you agree to accept the player's decisions, even decisions that are not ideal in ordinary storytelling terms. You cannot guarantee that the player will experience the most emotionally powerful resolution you feel that your story offers unless you confine the player to a single resolution (and even then, the player may prefer a different ending because individual taste varies).

Designers often restrict otherwise nonlinear stories to a single ending simply to guarantee that the players experience the emotionally meaningful outcome the designer planned. That means that the player's agency before reaching the ending is merely an illusion. Players tolerate this in exchange for a satisfying ending, so long as you don't promise them that their choices will change an ending which, in fact, is fixed from the start.

Emotional Limits of Avatar-Based Games:

An avatar-based game is analogous to a story written in the first person. Reading a f irst-person story, the audience knows that regardless of what happens in the story, the narrator must have survived to write the story afterward. This isn't absolutely always the case—the narrator in the novel Allan Quatermain, for instance, dies near the end and another character finishes telling the story—but it does mean that whatever peril the narrator got into earlier in the book, you knew he would get out of it. As a result, first-person stories can't create quite as much concern for the life of the narrator as third-person stories can. A first-person story can have a depress ing ending, but the narrating character cannot die prematurely.

A similar limitation applies to avatar-based games. Players know that an avatar should survive to the end of the game. Over the years, the avatar's premature death has come to signify the player's failure to meet a challenge rather than being an actual element of the story, so the death of the avatar carries almost no emotional impact. The player simply reloads the game and tries again

Party-based interaction models offer you more freedom to kill off members of the cast than avatar-based ones because the other members of the party remain to carry the story along. Two different television shows serve as good examples. The Fugitive could not have tolerated the death of Dr. Kimble, the hero of the show— equivalent to the avatar in an avatar-based game.

10. Describe the different ways of getting an idea for the game and discuss the different principles of brain storming?

We can find game ideas almost anywhere, but only if you're looking for them. Creativity is an active, not a passive, process.

Dreams of Doing A lot of games are light entertainment, designed to while away a few minutes with a puzzle or a simple challenge. But larger, richer games begin with a dream. If you've ever thought to yourself, "I wish I could... " or "Imagine what it would be like to...," then you've taken an important step on the road to creating a video game. Computers can create almost any sort of visual and auditory experience you can imagine, even experiences that are physically impossible in the real world. The design of a game begins with the question, "What dream am I going to fulfill?"

Dreams from Other Media Books, movies, television, and other entertainment media can be great sources of inspiration for game ideas, so long as the ideas include plenty of activity. People dream of being Spider-Man, Harry Potter, or Nancy Drew, and all these characters have video games about them. But games don't have to have licenses from famous books or TV shows just to take inspiration from them.We should also look beyond the usual science fiction and fantasy genres and beyond the usual sources like novels and movies. How about poetry? Beowulf's epic battle with the monster Grendel and then his even more terrible battle with Grendel's mother in a cave at the bottom of a lake sound like the basis for a game.

Game ideas can crop up in all sorts of unlikely places. The smash-hit game franchise The Sims was partly inspired by a nonfiction book by Christopher Alexander called A Pattern Language (Alexander, 1977), which is about the way people's lives are affected by the design of their houses. Just as great scientists look at even the most common things in the world—light, air, gravity—and ask how they work, great game designers are always looking at the world and wondering what parts of it they can make into a game. The trick to finding original ideas, beyond the elf-and-wizard combinations that have been done so often, is to develop a game designer's instincts, to look for the fun and challenge even in things that don't sound like games at all.

Game Ideas from Other Games:

When you play a lot of games, you develop a sense of how they work and what their good and bad points are. Playing games is a valuable experience for a game designer. It gives you insight and lets you compare and contrast the features of different games.

The four principles of brainstorming are

Focus on quantity. The greater the number of ideas generated, the greater the chance of producing an interesting or useful one. Don't stop to discuss an idea, simply record it and move on.

Withhold criticism. Debating the value of an idea slows down the process, and if people feel that they will be criticized, they will be more reluctant to generate ideas.

Welcome unusual ideas. Part of the point of brainstorming is not only to find ideas, but to find ones that you might never have considered otherwise. This is particularly important for creative endeavors like game design.

Combine and improve ideas. Ideas don't have to be unique. Rather like a jam session in music, the participants can build upon each others' suggestions, adding features or combining them to make new ones.