

Turtle Escape

Game Design Document

Version 0.6

by

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CHANGE LOG

Version 0.2

26-08-2012

- Story Line has been changed.
- Players objective has been changed.
- Visual Style has been updated.

Version 0.3

27-08-2012

- Game Menu Flow chart added.

Version 0.4

23-11-2012

- GDD Reconstructed.
- Added High Content.
- Updated Game Mechanics.
- Added Level 1 art scenes.

Version 0.5

26-11-2012

- Updated content under Visual styles.
- Added image of a similar game under Visual Styles.

Version 0.6

28-11-2012

- Added Character Reference & Prop Images.
- Added POV Screen and Assets.
- Added Character turn around and Level Layout.



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HIGH CONCEPT



One Liner:

Escaped from the human Mountain trekkers, Torto must continue his escape from the high mountain back to the bottom shore before his wife Torola comes back from her long swim As she entrusted him to guard the nest.

Core Tenets:

Torto, Brave and strong as he is, makes his way down from the mountain top to the bottom of the shore line. He uses his Strong shell to protect him from rocks, tree logs and branches and to surf down the mountain.

- Snapper Jaw
- Hard shell bash
- Swift swimmer

Game Genre

This is an Action/Adventure game.

Games Re-Playability

The Games replay ability will depend on the player. If the player wishes to try getting a higher score or even try new alternative paths in game then he may do so. The player can even restart from a particular check point if he or she wishes to do so. A player would want to replay the game is he/she likes the UI, the game audio or even the visual appeal in terms of graphics. Here the game gives the player the choice to choose which path he/she wishes to take and helps in faster decision making. The player can perform stunts like jumps and score bonus points and earn achievement's. Thus, giving the replay ability option to the player.

Games Target Audience

The game is targeted to players of the age 6 and above. The game is adventurous and has small action abilities to bump crash in to objects like branches and wood logs. The game has a slight cartoonish feel making it fun to play for kids. Although young gamers will not be mature enough for quick decision making the game is still easy to play on easy mode. There is no violence in the game and hence also making it playable to kids and of ages 6 and above.



GAME CONCEPT

A Turtle name Torto was captured from the shore line of vanilla Island by human mountain trekkers and was taken right on to the mountain top. Getting a chance of escape from the human while they were distracted, Torto makes his escape. The player then deals with how torto will continue his escape from the top of the mountain by choosing which paths the player wants to take right till the shore line. In order to keep tortos shell stronger the player will have to find calcium power ups to maintain the strength of the shell.

GAME PLAY

The player takes the role of the turtle Torto and continues his escape from the top of the mountain. The player will have to guide the turtle by choosing which path he/she wishes to take and also keeping aware of Torto's shell strength.

The game is divided into 3 levels, Out of which at the ending of the 1st level the player will have 2 paths which he can travel from in level 2. These paths depend on the player's choice of path selection during the game progression of level one. Ultimately at the end of level 2 the player will come back to the same path which is level 3.

- 1) Snow Region
- 2) River/Forest Region
- 3) Grasslands

Each level has its own advantage and disadvantage. In the Snow region, Torto will suffer moderate damage to his shell and will reach the river or forest region (level 2). In the Forest region (player's choice one) Torto will suffer high damage but will reach the grasslands (level 3) faster. In the river path (players choice two) Torto will not suffer any damage but will take longer to reach the grasslands (level 3). In the grasslands Torto will suffer less damage and will reach his goal at a moderate speed (depends on player's use of power ups)

During jumps, if the player performs flips and high jumps he/she will get bonus points and even earn achievement. Bashing into wood logs, ice rocks and normal rock (using special power up) will also grant bonus points to the player.

During the end of the game, the time taken to complete the game will be divided and calculated with the bonus points earned in each level and then the total score will be displayed.

The player can achieve achievements for performing unique stunts, scoring a higher target score, finishing the game at a targeted time limit, and so on.

If the player reaches zero health or falls into holes and cracks of the mountain he /she will lose the game and will have to start all over again.

GAME MECHANICS

Here consist the abilities, movements and style of Torto.



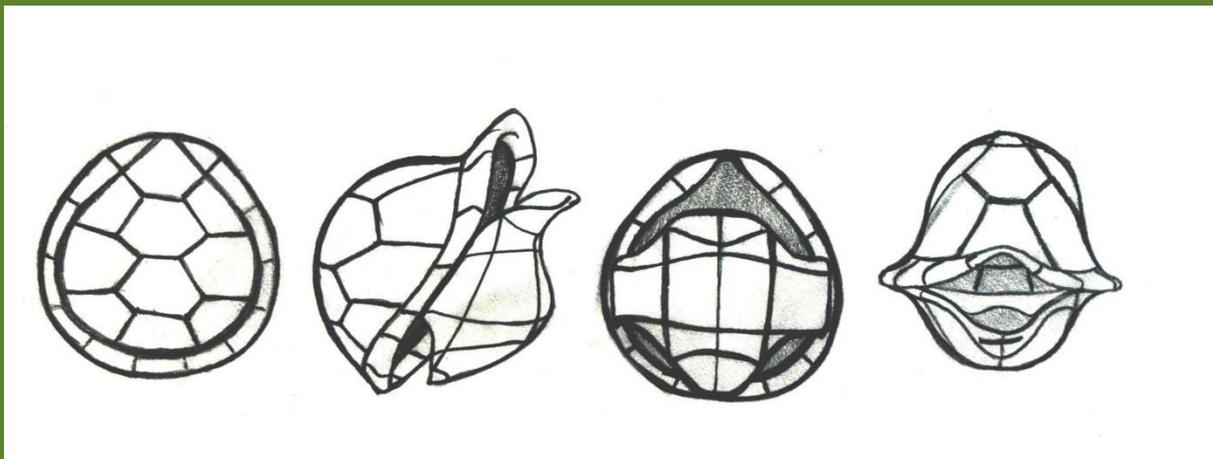
Movement:

Torto uses his strong shell to surf and move along from the mountain to the shore line of the island. Though he will not be able to withstand the high damage that will cause to his shell, he will have to acquire calcium power ups to stay up strong.

Traits:

Health bar: Torto has limited health, and relies on the defence of his shell. Once the defence of his shell is worn out his health bar starts to gradually decrease. Torto can regenerate his health if he gets into water or acquire health power ups which are rarely found in game.

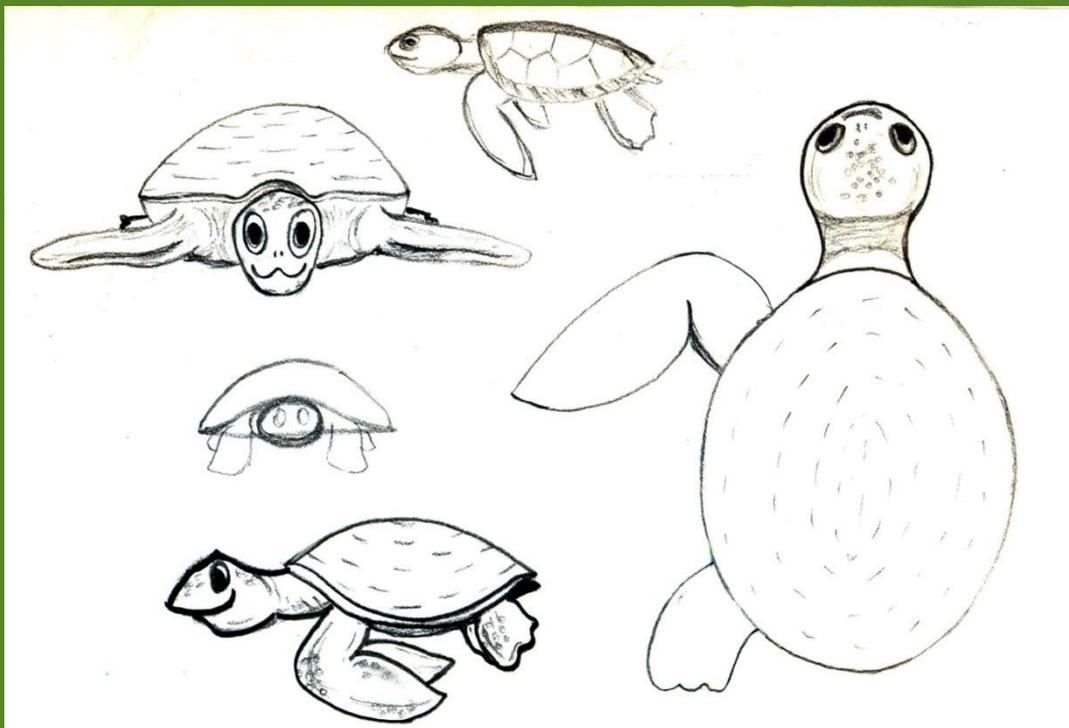
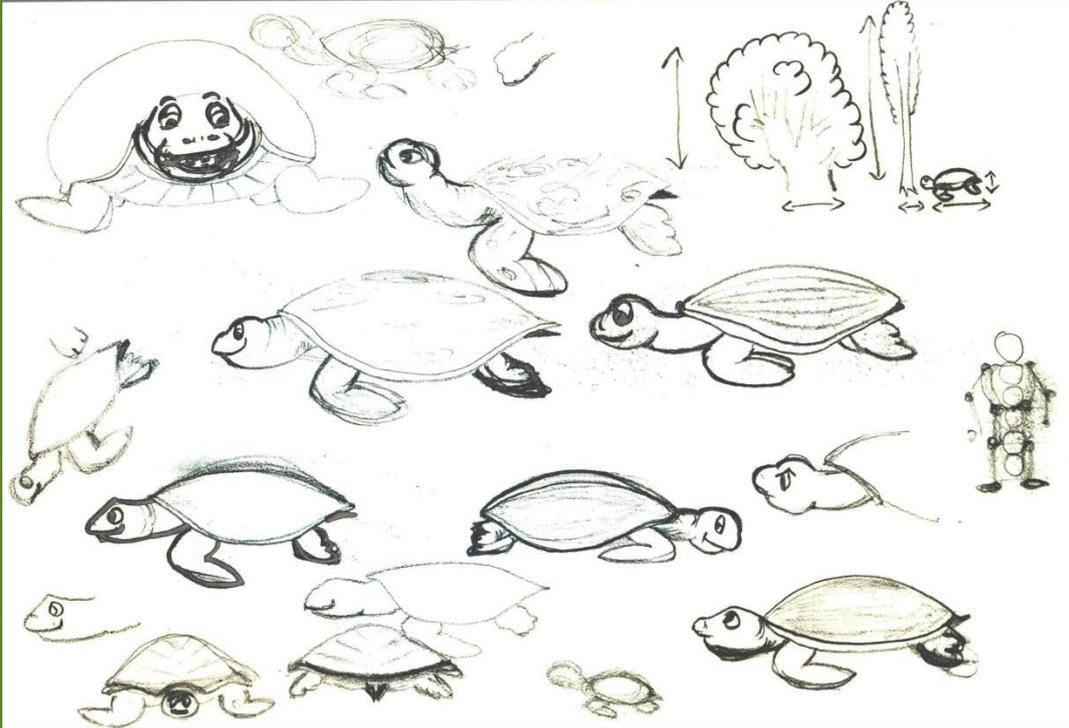
Defence bar: Torto has a defence bar that tell the strength of torto's Shell. If torto's defence bar decreases over time, he can acquire calcium power ups in game to regain the lost strength. If the defence bar is depleted then torto will suffer direct health damage which will drain faster than the defence bar.



Breath: Torto has Unlimited breathing time when on water or on land. But if torto swims underwater he will have a limited breathing time and hence will have to come to the surface to refill the breathing bar.

Rock Iron Defence bar: This special defence bar appears when torto acquires the rare power "Iron shell" it temporary gives torto max defence enabling him to bash into trees, large wood logs, rocks, and Ice rocks.





:::Skills:::

Jumping:

Torto Can jump at a short height but when he jumps during a normal jump torto can perform a jump in air to cause a double jump. He can use his ability to jump to perform stunts or even avoid hard obstacles.

Snapper Jaw:

Torto can use his snapper jaws to cling onto branches and roots to swing from tree to tree. To avoid getting heavy damage caused in the forest region.

Swift flippers:

Torto can swim faster on and underwater with his flipper like feet and hands. While on water his speed is increased by 60%.

Flips:

Torto can perform front and back flips in air, which can earn him extra point and may unlock unique achievements.

Checkpoints:

On reaching a certain distance, the player's progress will be saved. If the player dies he will not be able to start from the last check point, he will have to start from the starting of the game. If the player wants to restart from the last check point at any time during the game play then he can restart at the last check point for what so ever reason.

CONTROLS

Actions	Keys
Forward	W
Left	A
Back	S
Right	D
Jump	Space
Pause	Esc

If the player wishes to change and use different keys for the controls then he can edit them on the controls option menu



Back Story

The game is about a turtle named Torto, who was slacking of near a coconut tree. His wife Torola came up to him and gave him the responsibility to take care of the nest of eggs while she could go for a long Swim. The turtle Torto takes the responsibility and goes for a walk near the nest. Suddenly a group of humans capture torto and takes him with them to the top of the mountain. Torto somehow manages to escape from the humans but realizes he is right on top of a mountain and needs to get down to the shore line before his wife gets back.

Camera

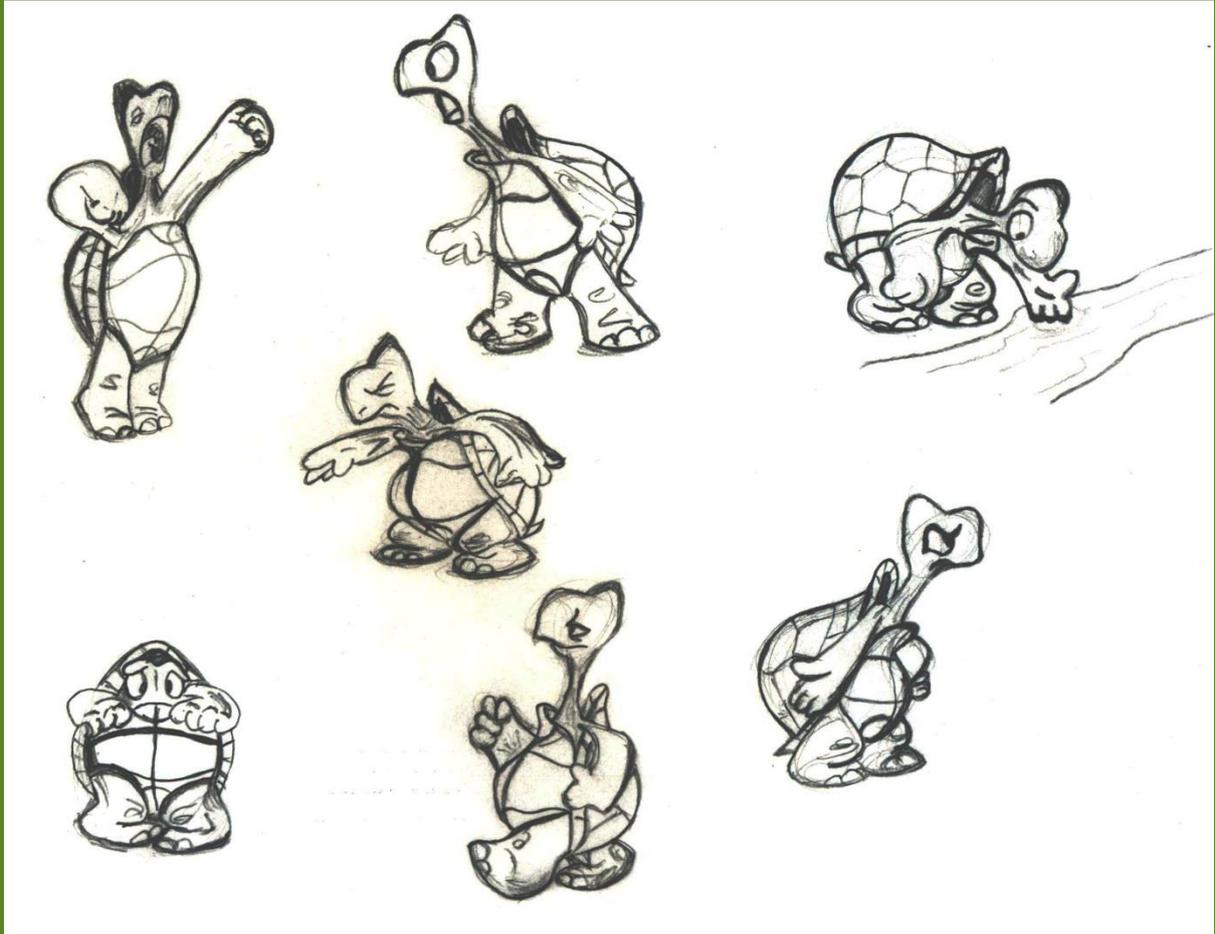
Third Person View. The player will be on the Centre of the frame and the camera is fixed. It follows the player controls. In Certain circumstances the camera angle will change like during the free fall from the water fall.

Visual Style

The game play is entertaining and fun to play. The visuals are all of a cool set, having most of the cool colors. The snowy mountains are more of a white tone having less green and slight black rocks around. The river has all the blue tones and the forests having the green tones. The game will be having a cartoonish graphics.

Turtle escape has the similar graphical representation of the game Mini Ninjas, having almost the same type of visual feel and colour sense.



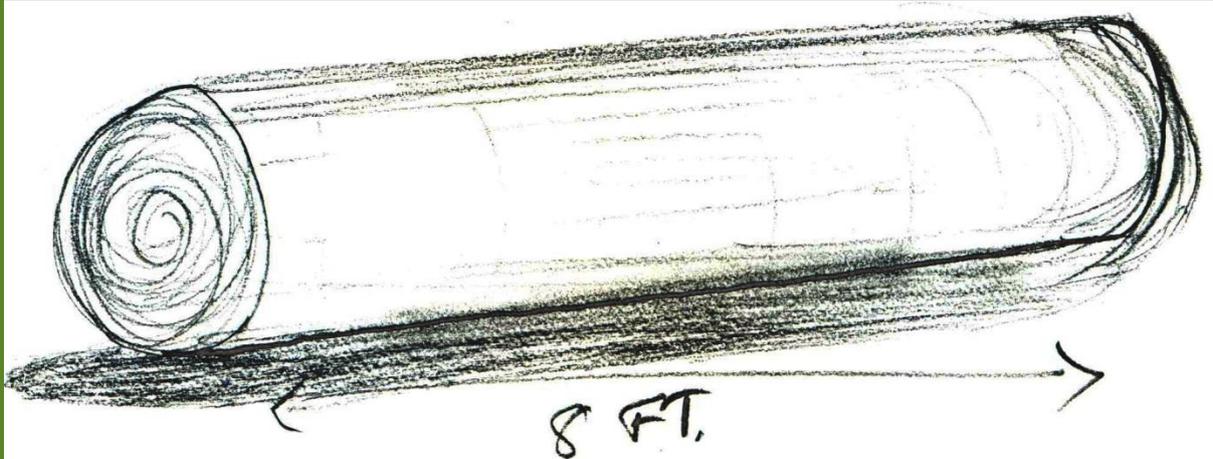


Screen shots from Mini Ninjas



Props

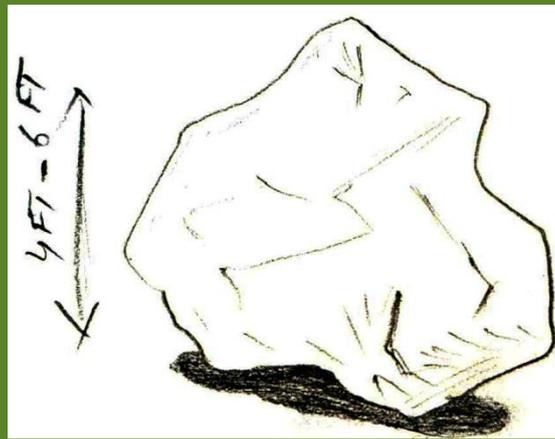
Wood logs:



the wood logs in game create an obstacle for the player, which the player will have to either dodge or bash into. The player can use power up shields to create a defense armor to help penetrate medium objects.

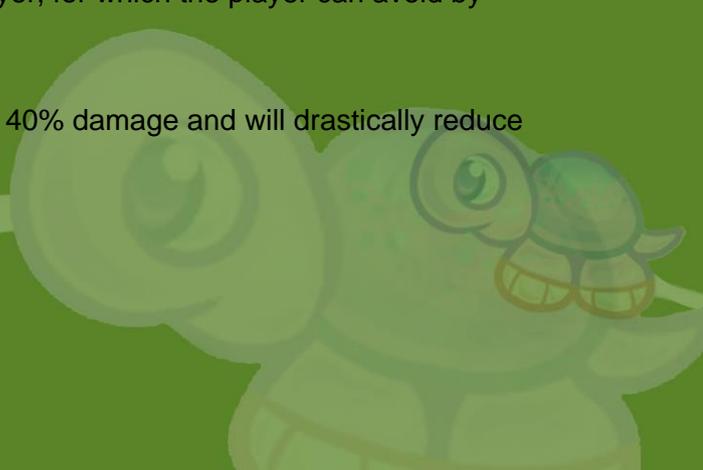
Effect: If the player doesn't acquire the shield power up he/she can still bash into medium objects but will suffer damage. Each wood log causes 25% damage and slows the player by 40%.

Rocks:



The rock in the game creates a blockage for the player, for which the player can avoid by jumping or dodging the rock.

Effect: If the player hits a rock that player will suffer 40% damage and will drastically reduce the speed of the player by 70%.

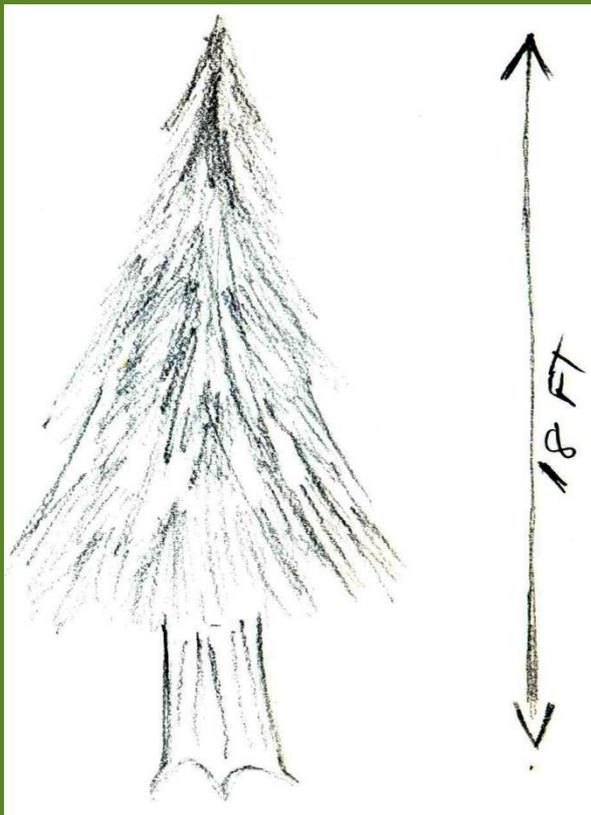


Hanging tree roots:

The hanging tree roots can be used by the player to help swing the player to catch high jumps or even to pick up momentum.

Non-Utility Props

Trees



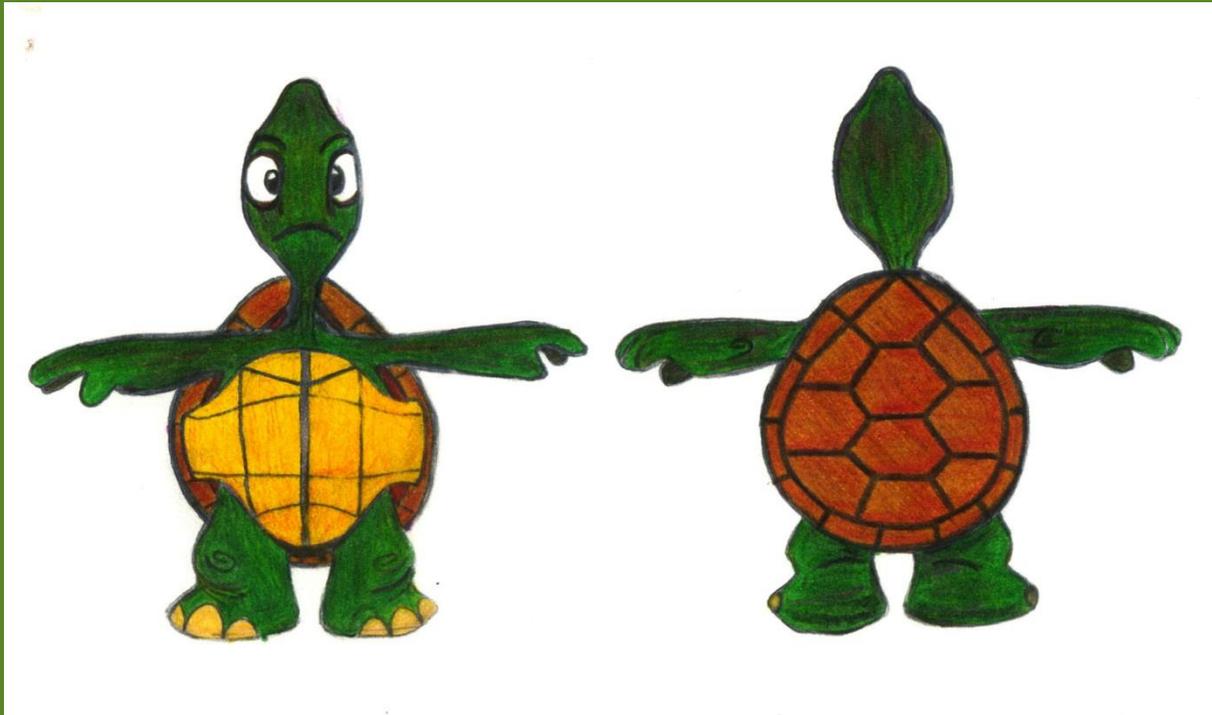
Ice rocks

wood logs

Fallen trees

Black Rocks





Player Character:

1. Name: Torto (Male Turtle)
2. Control Mode: Single Player (SP)
3. Height and width:
4. Age: 80 years
5. body: Round semi Oval shaped body (shell)
6. Colour: Greenish yellow shell and leaf green inside body
7. Eye colour: Grey
8. Behaviour: Torto has a brave and responsible nature, he loves eating sweet fruits and most of all he loves to slack off near palm trees. Though he is lazy, he makes sure to follow his responsibility to take care of his family. He is clever and isn't afraid of any situation that can put him down. He always has a plan and he always trusts his shell. He never gives up

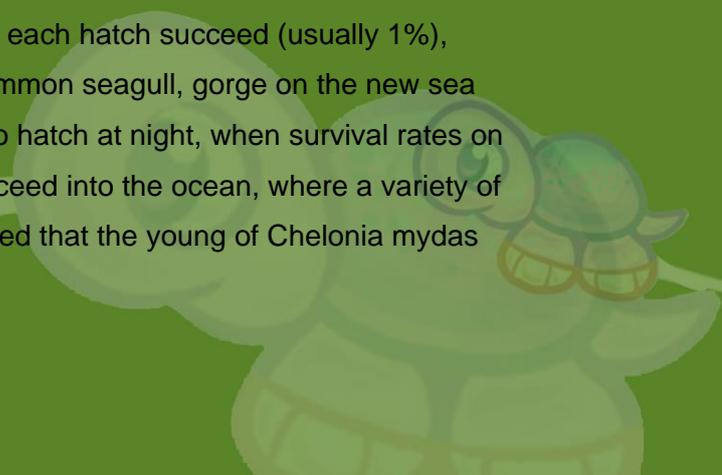
and is always ready to face a challenge. He loves the water, but prefers to always snooze near a palm tree.

9. Abilities: The character is able to jump, swim, dodge and grip on objects like tree roots with its mouth. When torto is in water he is able to move at a fast speed.

The above description is of a Sea turtle. The turtle is known for its hard shell, which is the important factor in the game. The shell is what keeps torto alive and give him the strength to take on the harsh damage that he faces while getting dragged down the mountain with high momentum.

Sea turtles or marine turtles are marine reptiles that inhabit all of the world's oceans except the Arctic.

According to SeaWorld Parks & Entertainment, a lifespan of 80 years is feasible for sea turtles. It takes decades for sea turtles to reach sexual maturity. After mating at sea, adult female sea turtles return to land to nest at night. Different species of sea turtles exhibit various levels of philopatry. In the extreme case, females return to the beach where they hatched. This can take place every two to four years in maturity. They make from one to eight nests per season. The mature nesting female hauls herself onto the beach, nearly always at night, and finds suitable sand on which to create a nest. Using her hind flippers, she digs a circular hole 40 to 50 centimetres (16 to 20 in) deep. After the hole is dug, the female then starts filling the nest with a clutch of soft-shelled eggs one by one until she has deposited around 50 to 200 eggs, depending on the species. Some species have been reported to lay 250 eggs, such as the hawksbill. After laying, she re-fills the nest with sand, re-sculpting and smoothing the surface until it is relatively undetectable visually. The whole process takes thirty to sixty minutes. She then returns to the ocean, leaving the eggs untended. The hatchling's gender depends on the sand temperature. Lighter sands maintain higher temperatures, which decreases incubation time and results in more female hatchlings. Incubation takes about two months. The eggs in one nest hatch together over a very short period of time. When ready, hatchlings tear their shells apart with their snout and dig through the sand. Again, this usually takes place at night. Once they reach the surface, they instinctively head towards the sea. If, as happens on rare occasions, hatching takes place during daylight, only a very small proportion of each hatch succeed (usually 1%), because local opportunist predators, such as the common seagull, gorge on the new sea turtles. Thus there is an obvious evolutionary drive to hatch at night, when survival rates on the beach are much higher. The hatchlings then proceed into the ocean, where a variety of marine predators await them. In 1987, Carr discovered that the young of *Chelonia mydas*



and *Caretta caretta* spent a great deal of their pelagic lives in floating sargassum beds, where there are thick mats of unanchored seaweed. Within these beds, they found ample shelter and food. In the absence of sargassum beds, sea turtle young feed in the vicinity of upwelling "fronts". green sea turtle hatchlings spend the first three to five years of their lives in pelagic waters. In the open ocean, pre-juveniles of this particular species were found to feed on zooplankton and smaller nekton before they are recruited into inshore seagrass meadows as obligate herbivores. Instead of nesting individually like the other species, Ridley sea turtles come ashore en masse, known as an "arribada" (arrival). With the Kemp's ridley sea turtles this occurs during the day.

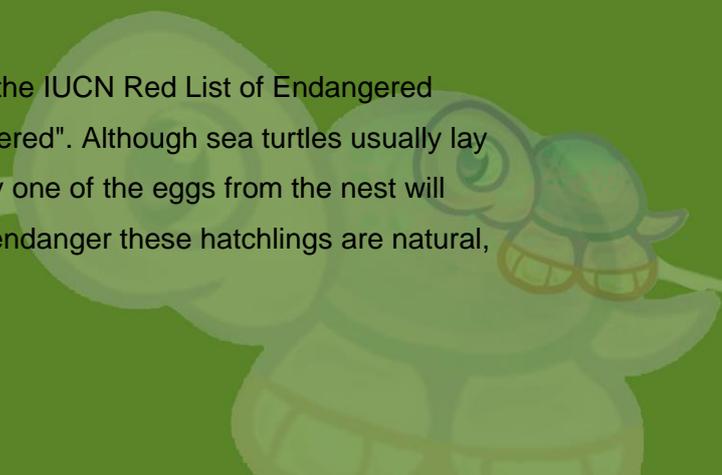
Salt gland:

Sea turtles possess a salt excretory gland at the corner of the eye, in the nostrils, or in the tongue, depending on the species; chelonian salt glands are found in the corner of the eyes in leatherback sea turtles. Due to the iso-osmotic makeup of jellyfish and the other gelatinous prey upon which sea turtles subsist, sea turtle diets are high in salt; chelonian salt gland excretions are almost entirely composed of sodium chloride 1500-1800 mosmol-1 (Marshall and Cooper, 1988; Nicolson and Lutz, 1989; Reina and Cooper, 2000).

Sea turtles play key roles in two ecosystem types that are critical to them as well as to humans—oceans and beaches/dunes. In the oceans, for example, sea turtles, especially green sea turtles, are one of very few creatures (manatees are another) that eat the sea grass that grows on the sea floor. Sea grass must be kept short to remain healthy, and beds of healthy sea grass are essential breeding and development areas for many species of fish and other marine life. A decline or loss of sea grass beds would damage these populations, triggering a chain reaction and negatively impacting marine and human life.

Beaches and dunes form a fragile ecosystem that depends on vegetation to protect against erosion. Eggs, hatched or unhatched, and hatchlings that fail to make it into the ocean are nutrient sources for dune vegetation. Every year, sea turtles lay countless eggs on beaches. Along one twenty-mile (32 km) stretch of beach in Florida alone, for example, more than 150,000 pounds of eggs are laid each year.

Of the seven species of sea turtles, all are listed on the IUCN Red List of Endangered Species as either "endangered" or "critically endangered". Although sea turtles usually lay around one hundred eggs at a time, on average only one of the eggs from the nest will survive to adulthood. While many of the things that endanger these hatchlings are natural,



such as predators including sharks, raccoons, foxes, and seagulls, many new threats to the sea turtle species have recently arrived and increased with the ever-growing presence of humans.

While capable of cracking turtle shells, the Jaguar may simply smash into the shell with its paw and scoop out the flesh. When attacking sea turtles as they try to nest on beaches, the jaguar will bite at the head, often beheading the prey, before dragging it off to eat.

Marine sea turtles are caught worldwide, although it is illegal to hunt most species in many countries. A great deal of intentional marine sea turtle harvests worldwide are for food.

Many parts of the world have long considered sea turtles to be fine dining. Ancient Chinese texts dating to the fifth century B.C.E. describe sea turtles as exotic delicacies. Many coastal communities around the world depend on sea turtles as a source of protein, often harvesting several sea turtles at once and keeping them alive on their backs until needed. Coastal peoples gather sea turtle eggs for consumption

Character, Terrain and Prop References:





Reference from the mountain tops of the Himalayas.

MOOD BOARDS
Mountain Trekkers:



Pine Trees:



Sea:



Rivers:



Wood Logs:



Water Falls:



Sea Turtles:



Rocks:



Birds:



Mountains:



Forests:



Grass:



Ice:



Non-Playable Character:

Name: Torola (Female Turtle)

Control mode: Non - Playable

body: Round semi Oval shaped body (shell)

Color: Greenish yellow shell and leaf green inside body

Human beings : Adventures/hikers (2 humans)

Birds: eagles

Main Menu Screen And Flow Chart:

Main menu:

Start/ Play single player mode

Score

Score list

Achievements

Achievements list

Store

Unlocked Equip able items

Settings

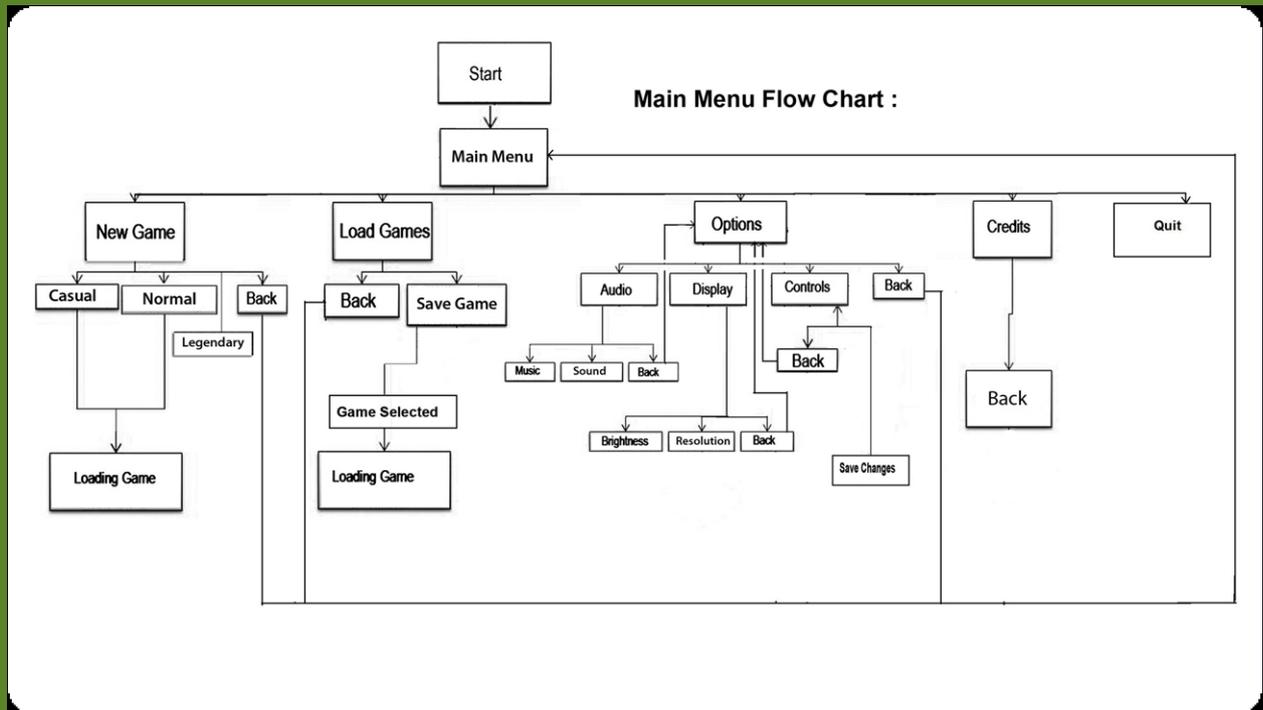
Audio/ Video/ Controls

[Game Sound/ Music] [Display resolution/Graphics] [Control menu]

Credits

Exit





Pause Game Menu:

Pause menu

Resume Game

Play

Restart Game

Settings

Audio / Video / Controls

[Display / Graphics] / [Game sound / Music / Action sound / Dialogue] / [Control List]

Exit

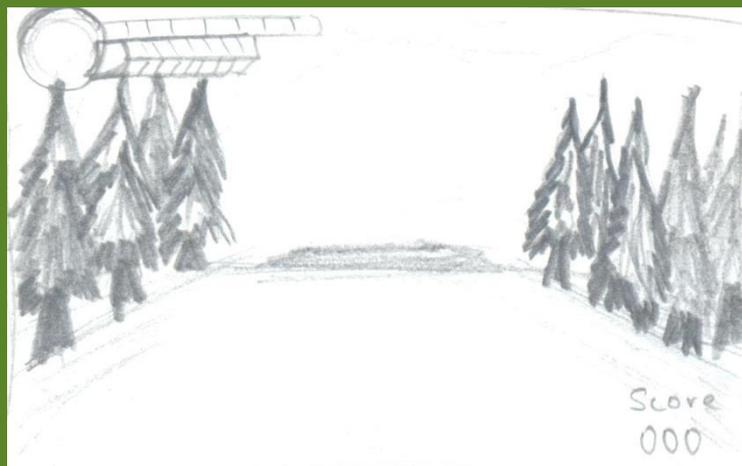
Exit game / Main menu.



POV SCREEN:



This is the Point of view that the player will see during game play. The above Image shows the location of the score and the health bars along with the power up and defence bars.

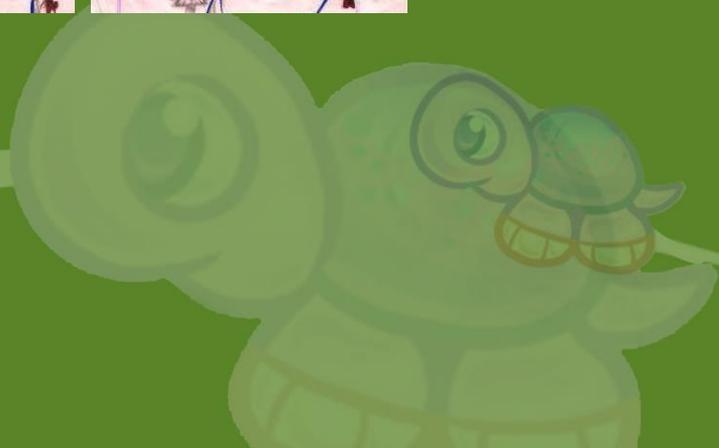
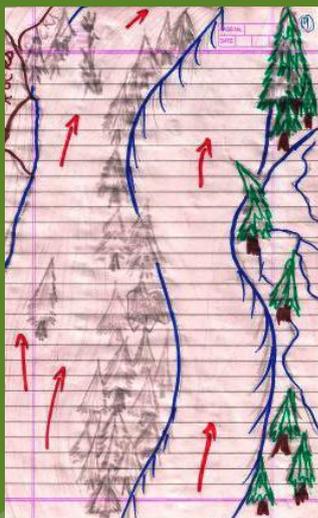
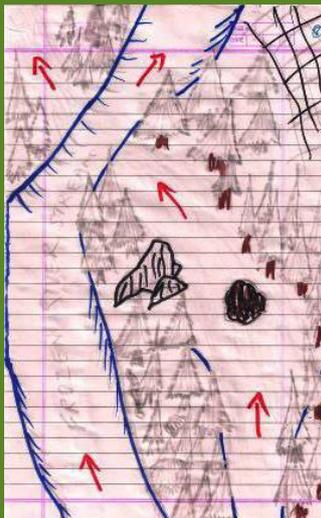
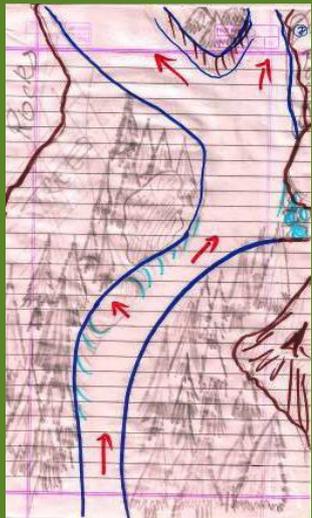
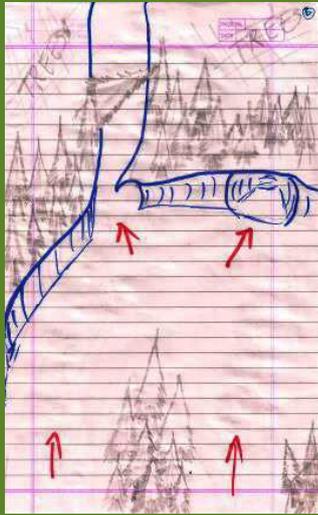
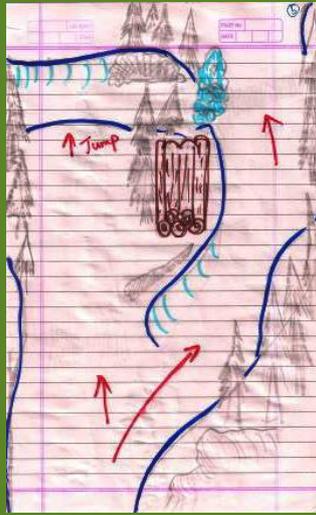
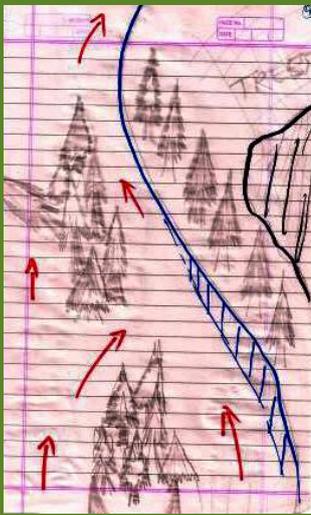
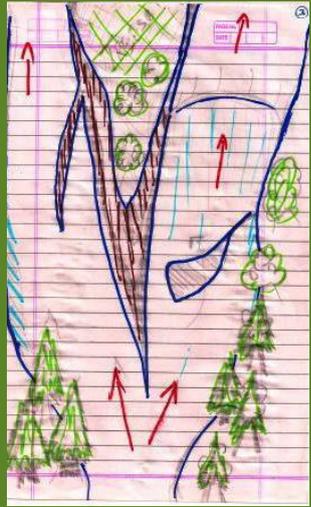
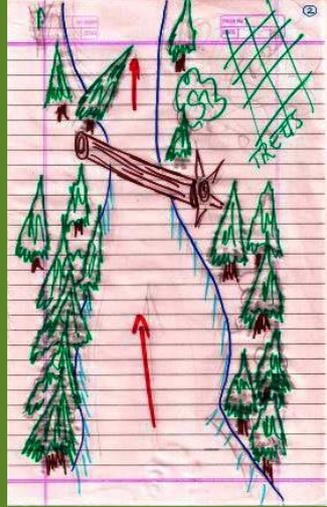
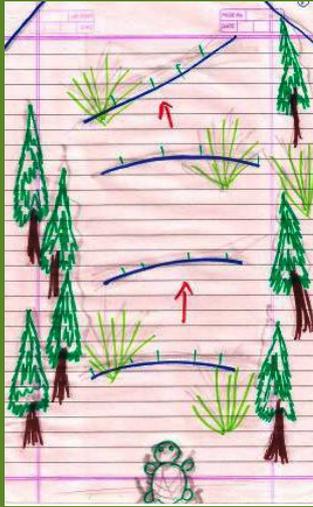


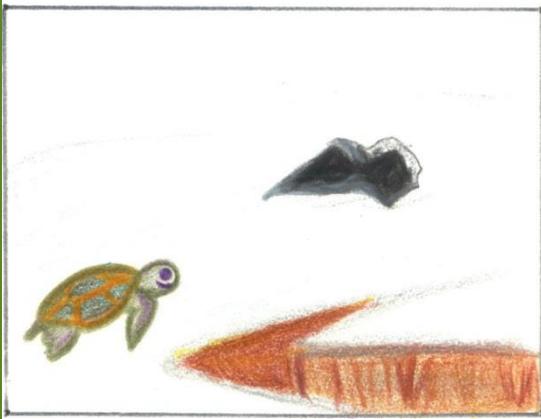
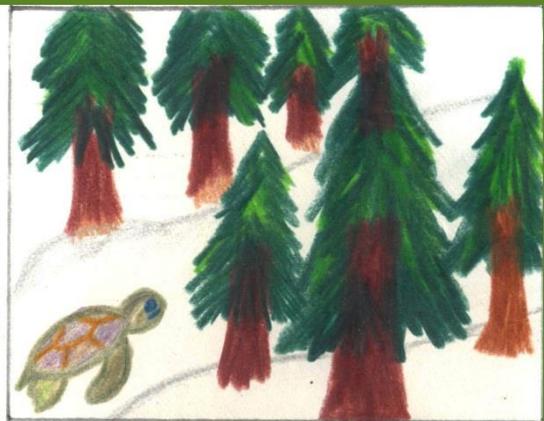
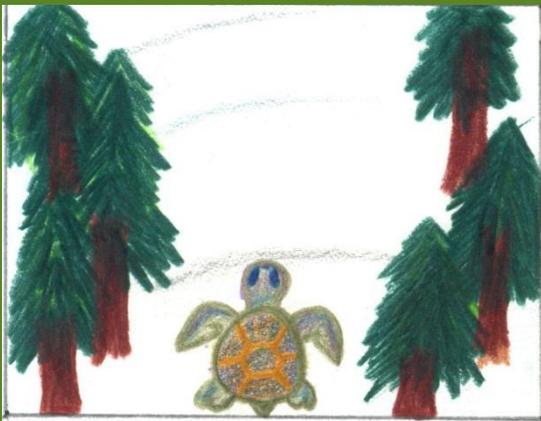
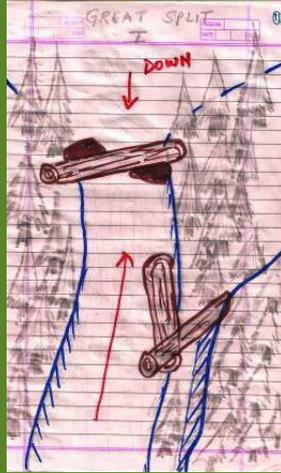
The First Level Scenes:

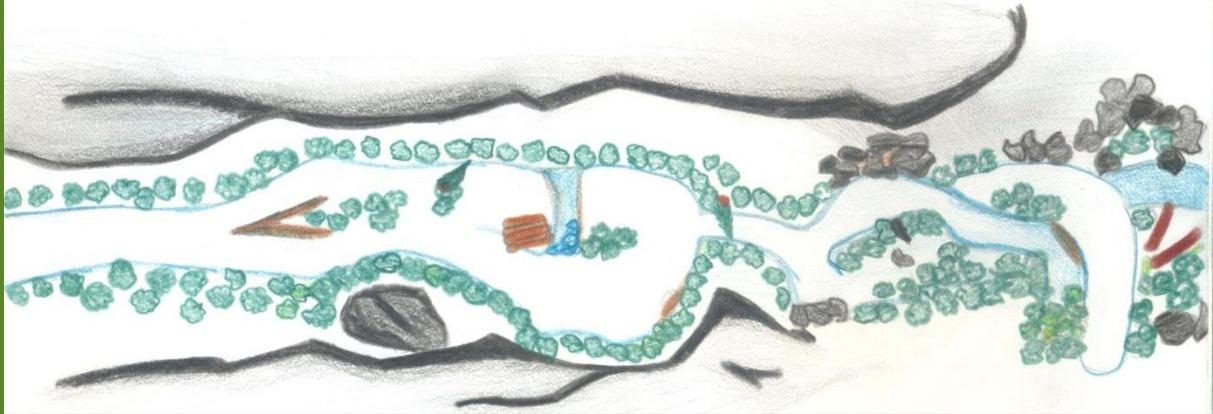
The Snowy Mountain Top:

Before the player gets to play as torto who has to reach to the bottom of the mountain, he will be on a small training path where the controls will be explained to him. During this session the player will know how to move left or right and perform jumps. Basically getting to know the mechanics of the character.









Above is the level one layout from top view. The image is illustrated with the exact colours in the game. The colours have the cool and pleasant feel in the level 1.

Technical Design Consideration:

A game engine is a system designed for the creation and development of video games. The leading game engines provide a software framework that developers use to create games for video game consoles and personal computers. The core functionality typically provided by a game engine includes a rendering engine ("renderer") for 2D or 3D graphics, a physics engine or collision detection (and collision response), sound, scripting, animation, artificial intelligence, networking, streaming, memory management, threading, localization support, and a scene graph. The process of game development is often economized, in large part, by reusing/adapting the same game engine to create different games, or to make it easier to "port" games to multiple platforms.

The game engine I have chosen to develop my game with is UDK, mainly because my game requires more heavy lighting and better game physics. UDK has also a better terrain editor and has better in-build resources.



Unique Selling:

The game play takes place on a mountain right from the top of the snow region to the grazing grass lands at the bottom with dense forests in between, similar to the game SSX a snow board game which has real mountain terrain specially taken from NASA. Although SSX has the realistic mountain terrain, this game has a different terrain which not only lets the player glide on the snow region of the mountain but also through the forest or rivers and the grasslands at the bottom of the mountain. The game is a bit cartoonish. The unique story line sets the game into an adventure that is left for the player to play and make his/her own choice as to which path the player wishes to take. The games Goal of saving the eggs.

My point of View:

I love playing adventure game, not just adventure but a mix genre. As I just like playing games with attractive visuals, catchy tunes, interesting story lines that gets the player to be a part of the story.

During the production of the game, soft-wares such as Unreal Engine (UDK) Maya 3D and Adobe Photoshop will be used. And for the Android and iOS platform Unity Engine will be used.

