

# Design Document: Labyrinth

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## Introduction

In this document I will attempt to describe the current design of *Labyrinth*, the game. This is intended as a supplementary document to Brenda Laurel's *Labyrinth Game Scenario and Design Issues* document. Where there is a discrepancy, this document takes precedence.

## Overview

*Labyrinth* is a form of action adventure game. The player must find his/her way through a complex maze, solve puzzles (both verbal and physical), and escape through the center of the maze after confronting Jareth, the Goblin King, all before the clock strikes thirteen.

At the beginning of a game, the player will first decide the appearance of his/her body in the game. Depending on the space available on the disk and how much time we have near the end of the project, this may consist of a choice between a male and female character (not much space/time left) or we may also allow the person to be young/old, large/small, etc. The player will choose a name for this character. The animation frames for the character and for the bodies of all the goblins will be stored in memory at this point and kept there throughout the rest of the game.

The player will also select a wish or goal for the game. There will probably be three goals to choose from (see below). The player's name, body type, and list of successfully completed wishes will be stored on the disk. To win the entire game, the *metagame*, the player (using the same name and body) must successfully make it through the *Labyrinth* three times, once for each of the possible goals. There will then be a final animated reward screen announcing the player's overall score.

Each of the "wish games" will have a newly created maze. However, anything which the player changed in the *Labyrinth* will remain changed for successive games of the metagame. For example, if the player leaves an object in a specific room, it will still be there when he/she returns. Or, if the bridge over the bog previously collapsed, it will still be in ruins when the player next moves through that scene. In addition, characters who the player previously met should be able to recognize him and call him by name.

## Layout

The *Labyrinth* is made up of vast number of corridors arranged in concentric circles with Jareth's castle in the center. Short passageways connect the various circular corridors. In addition, the *Labyrinth* is several levels high (or low, as the case may be). The player may use trap doors, stairways, ladders, or magic to move up and down through the levels.

The game will use two sides of a single diskette, providing approximately 260K of storage for the Apple version and 320K on the Commodore 64. The gameplay will be such that the

player will not need to flip the disk back to side two once side one has been completed. This will be accomplished by splitting the Labyrinth into several regions. Once a player moves from an outer region to an inner region, he/she may not return.

The maze is designed such that all of the connecting corridors are one-way paths. When a player enters one, the camera will stay fixed and we will see his body scaling down as it walks away from us. Once the player has gone past a certain point, there will be a cut and we will see him in the next circular corridor. Since the camera never sees the wall on the screen side of the player, the player can never re-enter any connecting corridors. It is possible, however, for the player to enter a corridor or trap door and be magically popped back to an outer corridor in the same region.

The outermost layers of the maze are the most sparsely populated and least cared for regions. In addition to 3 different types of corridors, there will be 2-3 different nexus scenes, 2 major characters and 3-6 minor characters (excluding the goblins). This section will be stored on side one of the disk, along with the initialization routines.

The center part of the Labyrinth will be more heavily populated with goblins and will be more difficult to traverse. It will have about the same number of corridors, scenes and characters as the previous section, and will most likely contain the Bog of Eternal Stench and Junkland. This and the innermost region of the *Labyrinth* (the goblin village, Jareth's castle, and the Escher Room) will be on side two of the disk.

## The Three Goals

The number of goals and what they will be has not been finalized. Three possible goals would be riches (lots and lots of gold), love (rescuing the prince/princess from Jareth), and glory/power (becoming the new king?, having a bunch of goblins asking for your autograph?, having everyone call you by name?). Various elements of the game should be altered based on which goal the player is seeking. Maybe the goal is chosen by the player when he/she decides to go with a certain character (Hoggle = gold, Ludo = love and friendship, Sir Didymus = glory). Or maybe it's decided in an early conversation with Hoggle. Or, the player may not have a choice as to what order the goals will be in. Riches might be first, then love, and finally, while seeking glory/power, Jareth will be destroyed.

## The Screen

The screen will be set up in the following manner: four text lines at the top (for displaying word bubbles), then the active graphics area (128 scan lines), five scan lines of a short range map, and finally four more text lines at the bottom (icons, choices of messages to say).

The active graphics area provides a horizontally (fine) and vertically (coarse) scrolling window into the Labyrinth. Your body will always be near the center of this window.

The map will only be used while the player is in the corridors. It will allow the player to see straight ahead (or straight behind), but only in the current corridor. This will allow him/her to see approaching creatures and branching corridor openings that are outside the active graphics area.

The icons at the bottom of the screen will represent objects which the player has picked up or unusual actions which he/she may want to execute.

## Clipping

Each background scene will have a corresponding clipping table. By using this table while drawing the animated characters, we can determine where not to draw them, allowing a character to walk through a doorway and be properly obscured.

## Characters

All moving characters will be displayed using sprites on the Commodore 64 (and, of course, bitmap on the Apple). This will provide the most flexibility in displaying multiple colors, but, since there can be no more than eight sprites on a scan line, this forces a size limitation on the characters. For optimum speed, we are allowing a maximum of two, four-sprite wide characters on the screen at any time. The height of the characters, however, is not a limitation under Kevin's interrupt-based sprite positioning routines.

All characters will be animated using Charlie Kellner's scaling animation driver. This will allow us to watch the character change size as it approaches or walks to the distance. Individual cells will be used for various body parts (head, arms, legs, torso) as they were in *The Eidolon*. It would be possible to render a group of goblins as one "character" using this scheme.

A major character will most likely have the following minimal animations in side, front, and back views: walking, standing, bending forward, reaching, throwing, climbing, and falling. Additional frames for facial expressions and talking will be added. A minor character will have very limited animation, and may be partly rendered as background (e.g., the wise man's body) with sprites or character set animation added as an overlay.

## SCROLLING CORRIDORS

These will be implemented using the Commodore 64's multi-colored character set mode (without colormap RAM) and in software on the Apple. By using "panels", we will be able to construct different elements (doors, ladders, blank walls, animated wall images) which will occupy a minimum amount of storage. Animated wall images might include torches, talking statue heads, watching eyes, switches, levers, and trap doors.

## Wall of Hands

This device was used as an elevator in the film. It can also be used to obtain information (the hands form faces and can talk).

## NEXUS SCENES

These rooms will be drawn in the same mode, but will include colormap RAM. Fine scrolling will not be possible here, however coarse scrolling in either direction will be allowable when a nexus scene is larger than the active graphics area.

## Oubliette

These are time wasters which contain physical puzzles. The player must do something special, and generally not very obvious, to escape from an Oubliette. Besides using the scene from the movie (placing a bench against a wall and then using it as a door), we will come up with other gags. (Throwing a bucket of water at the wall and seeing the paint wash away, revealing a door. Walking through a wall. Climbing under a bench and vanishing. Climbing into a bucket.)

## Alf and Ralph

This will mostly consist of trying to solve mental puzzles. It would be nice to have at least a dozen different ones stored on the disk.

## Wiseman Garden

The garden is a physical/mental puzzle - how to get out of the garden. The wiseman will say something terribly obscure and clever. The player will have to figure out the meaning and act on it. We could use the same riddle that's in the movie as well as several others.

## Bog of Eternal Stench

This scene has a skill and action element in it. The player will need to talk with Sir Didymus, and then, if permission is obtained, cross the bridge. The bridge is very unstable and about ready to collapse. It can support a certain amount of weight for a limited time. The player can cross it while carefully balancing, but the more weight the player is carrying, the harder it will be to cross and the sooner the bridge will collapse. Several trips across the bridge might be necessary for the player to transport his/her riches across. A running total of weight/time units will be kept. When the limit has been exceeded, the bridge will collapse. Once the bridge is down, the player must cross on the stones. Again, the more weight the harder it is to balance.

The bridge crossing may be represented as a first person subgame.

## Goblin Village

This scene will require getting past all the goblin residents. Ideas are welcome!

## Castle and Humongous

The object here will be to climb up to Humongous' head and remove its goblin occupant, or else trying to get past Humongous' legs. Definitely a skill and action game.

## Escher Room

This last scene will be implemented as if it were a multi-level corridor and will scroll both horizontally and vertically. It will be designed such that all edges wrap to the opposite side, giving the impression of a continuous enclosed space. The player will have to find the right path out while being blocked and thwarted by Jareth.

## User Interface

The following descriptions represent the first pass at the user interface and will most likely be changed.

The game will use the joystick and keyboard, however, since all joystick actions can be duplicated using the keyboard, the player may choose to never touch a joystick.

Moving the joystick will control the position of a cursor on the screen. When the player moves the cursor over something and presses the button, the player's body will walk to that location. If the cursor is on a closed door, the body will open the door. If it is on an object, the player will pick up the object.

If the player "clicks" on the body itself, the player will have direct control of the body until he/she "clicks" again. While in direct control mode, moving the joystick to the left or right will cause the body to turn and move in that direction. Pulling the joystick forward while in a corridor will cause the body to move towards the player. Pushing the joystick back will cause the body to move away from the player. If the body is touching a ladder, then pulling the stick will make it climb down and pushing will make it climb up.

One area of the icon screen will contain pictures of the various actions the player can execute (SPEAK, THROW, WALK, RUN, DROP, ??). The player may choose an action by positioning the cursor over it and clicking, or by typing the first character in one of these action words. Another area of the icon screen will contain all the objects the player is carrying (rock, biter stick, gold, plastic trinket, peach, crystal ball). THROW and DROP require the player to select one of these objects.

If SPEAK is chosen, the icons will be temporarily replaced by a selection of phrases which the player may say. These will change according to the circumstances.

## **Disk Routines**

For the Commodore 64, Kevin has developed interruptable disk routines which will allow us to load/save files while music is playing, the screen is showing, and the gameplay continues.