Robot Dungeon (1985) – Anschuetz/Weisgerber/Anschuetz

Game Play

The following description of the gameplay was written by the A/W/A Team to be submitted to a computer magazine along with the game.

> *ROBOT DUNGEON is known for its deadly robots, electrified walls, and teleports. Rumor has it that no one has ever escaped alive! Nobody knows for sure, but the best estimations are that ROBOT DUNGEON is comprised of 3 levels of 400 rooms each, arranged in a 20x20 format.*
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> *The object of the game is to traverse from the lower-left room of each level to the upper-right room, all while amassing as many lives and as high a score as possible. Upon reaching the upper-right room of the 400 rooms on Level 1, you must touch the staircase and you will then procede automatically to walk down to the next most treacherous level, Level 2. At this point there is an animation sequence that will give you time to relax. Sit back and enjoy your figure as he jumps down the stairs, approaches the door, and slips through just in time!*
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> *Similar to what you did on Level 1, you must also reach the upper-right room of Level 2 (labeled room #800). Touch the staircase here and you will be rewarded with viewing the animation sequence once again, and will proceed to the very dangerous Level 3!*
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> *If you manage to guide yourself to the upper-right room of Level 3 (labeled room #1200), and touch the escape key, you will be greeted with an ending animation sequence showing yourself leaving the dreaded ROBOT DUNGEON (and as you will see, apparently just in time!).*
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> *ROBOT DUNGEON is no ordinary dungeon, either! No, ROBOT DUNGEON is rather a 3 level MAZE with only 1 escape route possible for each level. Therefore, it is heartily recommended that you map each level.*
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> *Throughout ROBOT DUNGEON there are various treasures and traps which with you must be acquainted with. The most abundant of these figures is the "SYMBOL OF LIFE". (It looks like a sideways figure eight). Touching this symbol will up your hit point total by one.   The hit point total (which is found on the lower-left of the score window) decreases by one every time you touch a robot, touch a wall, or touch a teleport (more on teleports later). It is very important to get the "SYMBOL OF LIFE" in each room or you will have a very short adventure in ROBOT DUNGEON, indeed!*

A symbol closely related to the "SYMBOL OF LIFE" is the "TREASURE CHEST". Within the "TREASURE CHEST" lies 5 hit points. Needless to say, don't pass up many of these!

Another symbol is the "ASSORTED GOLD". This pile is worth 250 points! Akin to the "ASSORTED GOLD" is the "DIAMOND", which is worth 1000 points!

Perhaps the most useful symbol is the deadly "ROBOT ZAPPER". This symbol looks like a zig-zag line and kills every robot in a room when touched!

Something to definitely stay away from are the dreaded "TELEPORTS". These are shaped like black bits and bring you back to the first room of the level which you are on! They also cost you one hit point! Stay away from these at all costs!

You are not defenseless as you wander ROBOT DUNGEON. You are equipped with a pistol which can be aimed in any direction. To shoot, point your joystick in a direction and press the fire button. The killing of each blue robot is worth 10 points. Notice how I said blue robot. The orange ones are indestructible! On Level 1, there is one orange robot and 4 blue robots in each room. On the second level, there are2 oranges and 3 blues. And on the third level, there are 3 oranges and only 2 blue ones!

You will note that as you pick up symbols, they are gone forever but robots are resurrected each time you enter or reenter a room.

By pressing any key during the course of play, you can freeze the action. Press another key and play resumes. You may also save the game in progress by pressing any one of the console keys (START, SELECT, or OPTION). Note that on a disk system, saving a game will overwrite the previous version of your maze. If you want to have several different stages of your progress, you will have to change disks. Be sure to save your game very frequently!

When your hit point total reaches zero, your game is over. Pressing the start button will give you the choice of loading in a new dungeon or replaying the old one at the same point it was at when you began. If it was a saved game in progress, you start where the saved game started. However, all symbols that you had gotten since you began the session will now be gone.

The following Robot Dungeon gameplay instructions were published in Antic Magazine in a special Disk add-on. This was not the exact write-up that the A/W/A submitted with the game, but most of these instructions were borrowed from their original write-up.

ROBOT DUNGEON is known for its deadly robots, electric walls, and teleports. Rumor has it that no one has ever escaped! Nobody knows for sure, but most believe that ROBOT DUNGEON is comprised of three

levels of 400 rooms each. Rooms are arranged in a 20 x 20 grid on each level. The object of the game is to traverse from the lower-left room of each level to the upper-right room while collecting as many lives and points as possible. Upon reaching the upper-right room of Level 1, touch the staircase to get to Level 2. Here, you'll see a cartoon that will give you time to relax. Sit back and enjoy the figure as he jumps down the stairs and slips through the door just in time!

Complete Level 2 the same way you completed Level 1. (The upper-right room is #800). Remember to touch the staircase to see the cartoon and advance to Level 3. If you manage to get to the upper-right room of Level 3 (room #1200), touch the key and you'll see another cartoon! ROBOT DUNGEON is no ordinary dungeon, either! It is a 3-level maze with only one escape route on each level. (We recommend you map each level.) ROBOT DUNGEON has many treasures and traps which with you must be acquainted. The most abundant of these is the "SYMBOL OF LIFE." (It looks like a sideways figure eight). Touching this symbol will increase your hit point total by one. The hit point total (on the lower-right of the score window) decreases by one every time you touch a robot, touch a wall, or touch teleport (more on teleports later). It's very important to get "SYMBOL OF LIFE" in each room or you'll have a very short adventure! A symbol closely related to the "SYMBOL OF LIFE" is the "TREASURE CHEST". Each one holds 5 hit points. Another symbol is the "ASSORTED GOLD". This pile is worth 250 points! The "DIAMOND," like "ASSORTED GOLD" is worth 1000 points. The most useful symbol is the "ROBOT ZAPPER." It looks like a zig-zag line and kills every robot in a room when touched! Stay away from "TELEPORTS." These are shaped like black pits and return you to the first room of the current level. They also cost you one hit point.

You are not defenseless as you wander ROBOT DUNGEON. You have a pistol! Aim and fire it with your joystick. Each blue robot you destroy is worth 10 points. Orange robots are indestructible. Level 1 has one orange robot and four blue robots in each room. Higher levels have more orange robots and fewer blue ones! NOTE: When you pick up symbol, it's gone forever, but robots are resurrected each time you enter a room. By pressing any key during the course of play, you can freeze the action. Press another key and play resumes. To save a game in progress, press a console key (START, SELECT, or OPTION)!

Saving a game will overwrite the previous version of your maze. If you want to save several different stages of your progress, you will have to change disks. Be sure to save your game very frequently! When your hit

point total reaches zero, the game is over. Pressing the START button gives you the choice of loading a new dungeon or replaying the old one from the last SAVE. NOTE: All symbols of the previous game are lost.

To play ROBOT DUNGEON, you first need to make a maze with the MAZE CREATOR PROGRAM, DUNGEON.CRT! This program will ask you to name your dungeon. This is NOT the disk filename. Type in a name for the dungeon, and press return. Next, you are asked to give a disk filename for your dungeon data. After pressing [RETURN], there will be a 15-20 minute wait for the maze to be created. Don't worry about the numbers being printed. For those of you who are interested, the first column stands for the level, the second is the room number, and the third and fourth are used for determining exits. Once the program is through, you can RUN the main game, ROBOTS.BAS. When the computer asks you for a filename, type in the same name you gave it in the Maze creator program. Load the maze by pressing RETURN several times. You do not need to make a new dungeon every time you play, use the same one over and over until you complete it. When you're done with one maze, you can create a new one!

Recollections

Robot Dungeon features a hexagonal maze generation game that borrows heavily from game elements of the arcade game Berzerk, as well as Adventure for the Atari 2600. John Weisgerber discovered a BASIC maze-generating algorithm he read in the Ypsilanti High School library in the June 1981 issue of Creative Computing in an article called "Bee Amzazed." The "Bee Amazed" algorithm generated a maze with hexagonal rooms that when pieced together looked like a honeycomb, with the entry point in the lower-left corner of the maze, and a single exit point at the upper-right corner of the maze.   Each room in the generated maze has 1 to 6 exits leading to adjacent rooms. John used the basis of this algorithm to create a maze generator at the heart of the game.   Instead of representing each room as a six-sided hexagon, each room is represented as a rectangular shape with the two potential doors on both the top of each room, two potential doors on the bottom of each room, and one potential door on each on the left and right sides of each room.   Therefore, a total of 6 potential doors in each room corresponded to the 6 sides of a hexagon that was part of the maze. The rooms fit together like staggered puzzle pieces. When you exit a door in the upper right of one room, you enter the door in the lower left of the room above.

Robot Dungeon was a really long game for the player to complete. There were three levels of 400 rooms, for a total of 1200 rooms.   To reward the player, the A/W/A Team actually programmed cut-scenes at the end of each level with humorous cartoons much like the Pac-Man intermissions. Besides the cut scenes, the programming of this game provided two additional advanced features for a BASIC game. The game offered a "pause" feature and it also provided an "auto save" feature.

The robot movement algorithm was written so that with each iteration of the main processing loop, the robots compared their location to the location of the player and headed toward him.   The robots were large redefined characters.   The main player was a Player/Missile graphic, as was the shot that the main player could shoot at the monsters.

A separate maze generation program was written to accompany the main program.   This needed to be run to create a maze, prior to being able to start the game.   The maze could be saved to either cassette or disk.   When the A/W/A Team wrote Robot Dungeon, they hadn't yet bought a disk drive.   Knowing that there was a limitation of filename length in Atari DOS 2.0, but not knowing if it was 8 characters or 6 characters, the A/W/A Team instructed the player to name the file as "DUNJIN.DAT" instead of "DUNGEON.DAT" just to be safe.

In order to remember the contents of each of 1200 rooms, a novel technique was developed by John. By using just one 8-bit byte for each room, individual bits represented which of the treasures or obstacles were in the room. This saved up to eight times the memory a traditional technique would have used. This game was also pretty buggy. Because the characters were jumping around, the algorithm for computing whether a missile hit a monster was not always accurate and the missile would just pass through the monster. Another bug would occasionally allow the player to go right through a wall and be trapped outside the playfield. This was because the comparison of a player collision with a wall or door was too slow to run every loop. One day, Eric and Robert received a phone call from Antic magazine where a game evaluator was stuck outside of a wall and asked what to do!   The good news with that phone call was that it was a positive indication that the game was being considered for publication. Ultimately, it was published in a "Add-On Disk" edition that provided a floppy disk with the magazine to avoid typing in the complete program.

One of the issues that prevented good gameplay with this game was the massive amount of rooms that must be traversed to complete the game.   In the end, the A/W/A Team should not have made each maze 20x20. That is just too large to allow for satisfying game play. In 2017, Eric addressed this issue and updated both the main game and the maze creator to allow the user to create any maze size from 5x5 up to 20x20, instead of the previous 20x20 maze. Eric also modified the game to allow a cheat to walk through walls and monsters so that you can relatively easily make it to the end of each level. A tricky part of the programming changes was that the code placed the random treasures in each room and the number of treasures was set based on a 20x20 maze, so he had to scale the number of treasures appropriately, and there was some tricky math in the code.