

DONKEY KONG

REPORT

BY JAKE GAVIN, RYAN MORAN, JAMES HARKINS, AND RYAN TICK



WE WOULD LIKE TO THANK ALL OF THE TA'S, AS WELL AS PROFESSOR ENRICH, FOR ALL OF THE HELP THEY PROVIDED ALONG THE WAY. OUR PROJECT WOULDN'T BE THE SAME WITHOUT THEIR INSTRUCTION AND GUIDANCE.

HERE IS A LINK TO OUR GITHUB REPOSITORY:

[HTTPS://GITHUB.COM/JGAVIN/DONKEYKONGPROJECT](https://github.com/JGavin/DonkeyKongProject)

HERE IS A LINK TO OUR TIME LOG: [HTTPS://DOCS.GOOGLE.COM/A/ND.EDU/SPREADSHEET/CCC?KEY=0AMPY1BWWC019DFCXY0X5EVYZMTVATLNQTTLCSLRFSKE#GID=0](https://docs.google.com/a/nd.edu/spreadsheet/ccc?key=0AMPY1BWWC019DFCXY0X5EVYZMTVATLNQTTLCSLRFSKE#gid=0) FOR CONVENIENCE, IT IS REPRODUCED ON THE FOLLOWING PAGES.

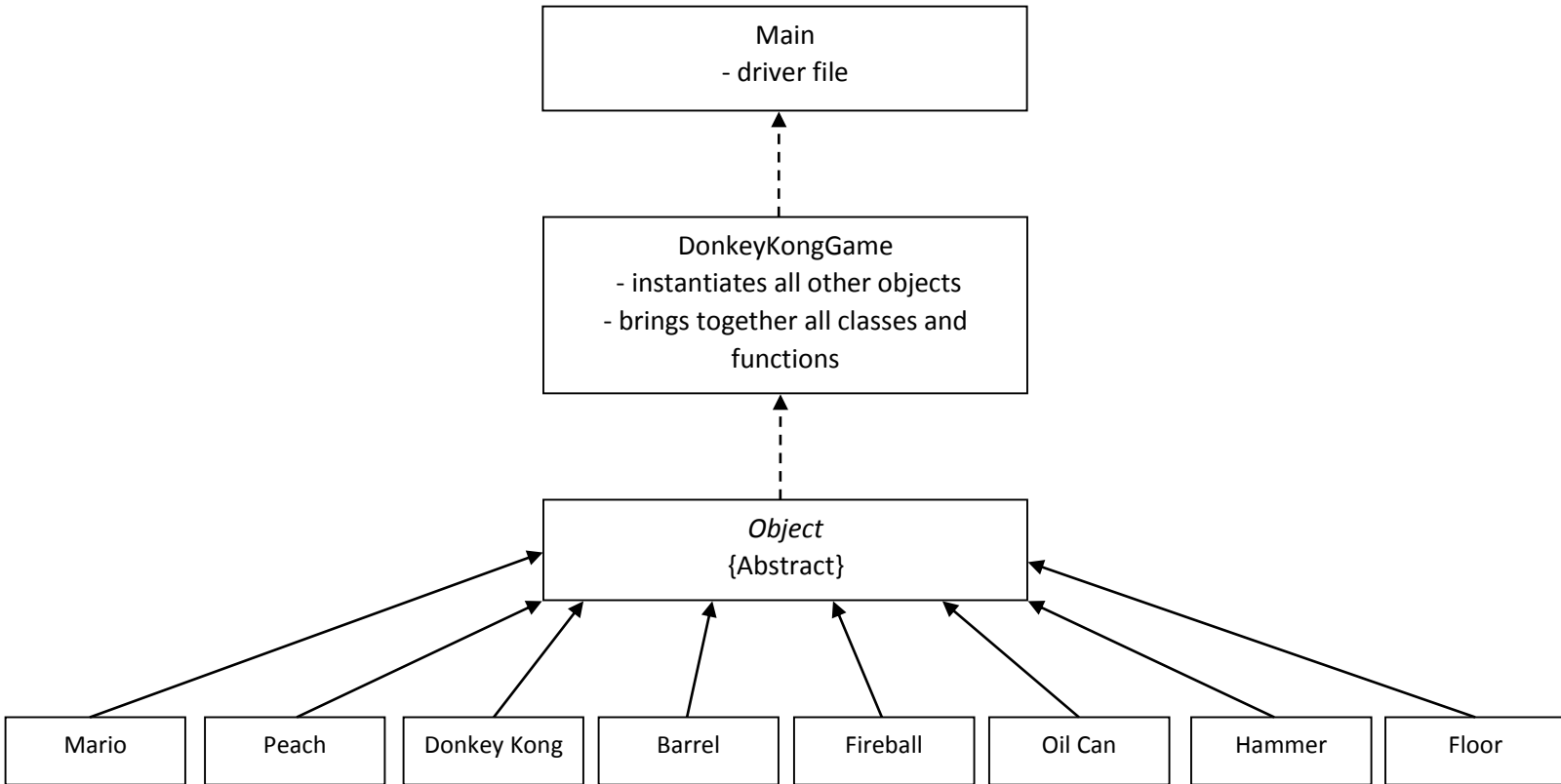
WE SPENT 175.75 HOURS TOTAL, AND HAVE HAD 9 FULL GROUP MEETINGS.

Date	Group Members	Description of Work	Time
4/30/2014	Group Meeting: Jacob Gavin, Ryan Tick, Ryan Moran, and James Harkins	Finalizing Project, Drafting Report, Creating Game Manual, Fixed Background in Paint	4 hours
4/29/2014	Ryan Tick	Fixed ladder glitches, made it so mario couldn't climb broken ladders with hammer, can now exit out of death screen, changed a bunch of sound (into and death screen) and indented all .cpp and .h files to make it consistant across code.	3.5 hours
4/29/2014	James Harkins	Commented code	1 hr
4/29/2014	Ryan Moran	Added comments to code so that others can more easily interpret it	2 hrs
4/28/2014	Jake Gavin	Commented code	3 hrs.
4/27/2014	Group Meeting: Jacob Gavin, Ryan Tick, Ryan Moran, and James Harkins	Group meeting to put together Powerpoint presentation and discuss final remaining issues moving into the last few days of work. Only minor changes, bug fixes, and code commenting left	1.5 hrs
4/25/2014	Ryan Moran	Made it so Mario dies when he runs into oil can or donkey kong. Explored potential for storing high score online so that high score is independent of machine being played on (still working on this potential addition)	2 hrs
4/24/2014	James Harkins	Made it so barrels randomly fall down ladders, which made our game much harder	4 hrs
4/22/2014	Jake Gavin	Worked on some finishing touches	2 hrs.
4/21/2014	James Harkins	Added complexity to game over screen	1 hr
4/21/2014	Ryan Tick	Added majority of sound to project	4 hrs
4/20/2014	Ryan Moran	Finished working on strings and surfaces for level and score besides minor adjustments to come. Also, added ability to save and display high score from one game to another even if program is closed using file io	3 hrs
4/20/2014	James Harkins	Added in lives and a game over screen when you run out of lives	4 hrs
4/19/2014	Ryan Moran	Added collision detection for fireball character so that mario dies when he runs into him. also started work on strings and surfaces necessary to display score and level on screen	2 hrs
4/18/2014	James Harkins	Added in second barrel movement and fixed bugs that came from it	2 hrs
4/16/2014	Jake Gavin	Finished up Title Screen and other bugs	
4/16/2014	Ryan Moran and Jake Gavin	Debugged Issues with Title Screen	1 hr
4/16/2014	Ryan Moran	Developed randomization for movement of fireball character	2 hrs
4/15/2014	Jake Gavin	Worked on Title Screen	2 hrs
4/15/2014	Ryan Moran	Finished collision detection for creation of fireball when barrel collides with oil can. worked on movement of fireball.	1.5 hrs
4/14/2014	Jake Gavin	Worked on Title screen	2 hrs.
4/13/2014	Ryan Moran	Worked on Fireball class and collision detection	1 hr
4/10/2014	Ryan Moran	Fixed speeds of mario movement/jumping, donkeykong movement, barrel rolling, etc to look smooth on student machines. also fixed mario's jumping so that he can successfully clear a barrel more frequently (easier for user). Wrote .h and .cpp for an Oil can class and implemented the display and fire animation of the oil can on the screen. Began writing Fireball.h and Fireball.cpp files so that a barrel can turn into a fireball when it hits the oil can on the bottom floor.	2.5 hrs
4/9/2014	Ryan Moran	Worked in lab on refining various elements. Altered hammer behavior including making it easier for mario to grab it. Started looking into best way to refine Mario jumping ability. Currently too hard to jump over a barrel.	1 hr
4/9/2014	James Harkins	Investigated a second option for having two types of barrels. Instead of two different objects, having one barrel object that would have a "type" variable that would determine what behavior the barrel should have.	1 hr
4/8/2014	Jake Gavin	Created a function to determine mario's animation dynamically instead of whenever a key is pressed or released	1 hr.

4/8/2014	James Harkins	Began implementing Donkey Kongs second type of barrel throw. Created a new type of barrel, in fBarrel.h and fBarrel.cpp, that uses different motion, collision detection, etc than other barrel	1 hr
4/8/2014	James Harkins	Began creating algorithm for second barrel movement. Barrel should fall down the map until hitting the floor above Mario. Once hitting this point the barrel is deleted, an "old barrel" type is created in its place, and the old barrel continues through the game.	2 hr
4/7/2014	Group Meeting: Jacob Gavin, Ryan Tick, Ryan Moran, and James Harkins	Worked on Progress Report	.5 hr
4/6/2014	Jake Gavin	Made vector of barrels to allow for multiple barrels, created collision detection function, and implemented dying motion	4 hrs.
4/6/2014	James Harkins	Improved Donkey Kongs motion. Created algorithm that allows Donkey Kongs actions to depend on the location of Mario (for example he speeds up if Mario gets close to the end). Made motion cleaner.	2.5 hr
4/5/2014	Ryan Moran	finished up work on a single barrel rolling down all of the floors with animation after being placed by dk at the top floor	2 hrs
4/5/2014	Ryan Tick	Started working on Sound	1.5 hr
4/4/2014	Ryan Tick	String and Sound animation work/ tutorials	2 hrs
4/3/2014	Jake Gavin	Fixed the ladders so that you can move on broken ladders, but only to the points where they are broken	2 hrs.
4/3/2014	James Harkins	Began working on Donkey Kongs barrel throwing, including randomizing when he does certain types of throws, animating multiple types of throws, improving speed, etc	2.5 hr
4/2/2014	Ryan Moran	Finished writing basics of Barrel.h and .cpp and began implementing barrel appearing on screen at correct dk movement; also worked on barrel rolling along first floor	3 hrs
4/2/2014	Ryan Tick	Lab- General bug fixes and worked on animation	2 hrs
4/2/2014	Ryan Tick	Messed with Ladders for movement and fixed a few of the broken ladders. There was only one left when I checked last.	2 hrs
4/1/2014	Ryan Tick	Messed with Mario movement and animation fixes	1 hr
4/1/2014	Ryan Moran	Refined parts of donkeykong behavior and animation and began basic structuring of barrel.h and .cpp	2 hrs
4/1/2014	Jake Gavin	Worked more on the ladders, trying to make them so that you could not past the points where they were broken	1.5 hrs.
4/1/2014	James Harkins	Worked on fixing various bugs in Marios movement	2 hr
3/31/2014	Jacob Gavin	Fixed ladders so that they could be climbed down as well as up	3.5 hrs.
3/31/2014	Ryan Tick	Bug fixes with floors	1.5 hrs
3/30/2014	Jacob Gavin	Fixed all of the bugs in mario's movement along the floors	2 hrs.
3/29/2014	Group Meeting: Jacob Gavin, Ryan Tick, Ryan Moran, and James Harkins	Discussed status of project moving forward and what to work on	.75 hrs
3/28/2014	Ryan Tick	Worked on fixing Mario movement & worked on implementing strings in the game. Downloade DK arcade style ttf and made a test program where it worked	2 hrs
3/28/2014	Ryan Tick	Uploaded all arcade sound .wav files	.5 hrs
3/28/2014	Ryan Tick	Implemented Background Sound	1 hr
3/27/2014	Jake Gavin	Fixed the check on floor function and was able to implement Mario running across all floors, and up ladders	3 hrs.
3/26/2014	Ryan Tick	changed make file, changed mario movement, started with strings	2 hrs
3/26/2014	Ryan Moran	Added Donkey Kong class and worked on getting DonkeyKong to appear on screen. Still working on getting him to transition between various animation states	1.5 hrs
3/26/2014	James Harkins	Worked on fixing various bugs that appeared in the game after adding in floor mapping	2 hrs
3/25/2014	Ryan Tick	Did SDL tutorial on strings	2 hrs
3/25/2014	Ryan Moran	worked on implementing inheritance for polymorphism: added object class and Peach class. Peach now appears on screen	3 hrs

3/25/2014	Jake Gavin	Worked on creating functions in the DonkeyKongGame class which checked to see if a character was on a floor of the game, making sure they did not fall through	2 hrs.
3/25/2014	Ryan Tick	Investigated sound	1 hr
3/25/2014	James Harkins	Worked on mapping first floor and ladder, including changing Mario's behavior based upon his location.	3 hrs
3/24/2014	Group Meeting: Ryan Moran, James Harkins, Jake Gavin, Ryan Tick	Group meeting and coding session. Some members working on animation, others working on class hierarchy and strings to display score on screen	1.5 hrs
3/24/2014	Jake Gavin	Worked individually on adding climbing motion for mario	2 hrs
3/23/2014	Group Meeting: Ryan Moran, Ryan Tick, Jake Gavin, James Harkins	Group meeting to discuss progress and work together on various parts of project, including reconciling different pieces from different members into one cohesive whole	2 hrs
3/23/2014	James Harkins	Worked on animating Mario's running left and right	2 hrs.
3/19/2014	Jacob Gavin	Created Mario class and set up mario for animation	3 hrs.
3/19/2014	James Harkins	Added some additional functionality to the code, starting Mario at the correct position, only allowing him to move left and right when not near a ladder, etc.	2 hrs
3/18/2014	Jacob Gavin	Set up project repository for SDL	3 hrs.
3/18/2014	Jacob Gavin	Worked implementing game background during and after lab	1.5 hrs.
3/18/2014	Ryan Tick	Investigated using the use of sound in our project	1.5 hrs
3/15/2014	Ryan Tick	Created basic game in which background image is loaded and mario is loaded and then mario can move around the screen	2 hrs
3/14/2014	Ryan Moran	Actually implemented foundations of tutorials from lazyfoo with Mario specific elements such as level background and movable Mario	4 hrs.
3/13/2014	Ryan Moran	Spent time going over tutorials on SDLTutorials.com	3 hrs.
3/13/2014	James Harkins	Applied SDL knowledge to our actual project, creating a basic game where Mario can move around.	3 hrs
3/12/2014	James Harkins	Went through SDL tutorials on LazyFoo and created some basic SDL code	4 hrs
3/12/2014	Jacob Gavin	Worked through SDL Tutorials on SDLTutorials.com	6 hrs.
3/11/2014	Jacob Gavin	Worked on setting up SDL on personal computer (Ran into quite a bit of difficulty)	6 hrs.
3/11/2014	Ryan Moran	Looked for viable images to be used for project including blank levels, character images, etc	.5 hrs
3/11/2014	Ryan Tick	Worked on all of the SDL tutorials from http://lazyfoo.net/SDL_tutorials/	6 hrs
3/4/2014	Group Meeting: Jacob Gavin, James Harkins, Ryan Moran, Ryan Tick	Worked more with GitHub to make Project Repository	1 hr.
2/25/2014	Jacob Gavin	Did GitHub tutorials and downloaded Github software to local computer.	1 hr.
2/16/2014	Jacob Gavin	Practiced SDL using Lazy Foo tutorials	1 hr.
2/13/2014	Group Meeting: Jacob Gavin, Ryan Tick, Ryan Moran, and James Harkins	Further discussed project and formalized project Proposal	1 hr
2/5/2014	Group Meeting: Jacob Gavin, Ryan Tick, Ryan Moran, and James Harkins	Discussed project ideas, decided that project would be to create Donkey Kong game	.5 hrs

UML DIAGRAM:



DONKEY KONG

USER MANUAL



★ONCE YOU LOAD THE GAME, YOU WILL
SEE THE SCREEN ABOVE.
PRESS **ENTER** TO
★CONTINUE. YOU PLAY AS
MARIO★, AND YOUR JOB IS
TO★ CLIMB ALL THE WAY TO★ THE TOP★
★OF THE LEVEL AND RESCUE THE
PRINCESS PEACH. YOU CAN MOVE★
LEFT AND RIGHT BY USING THE
ARROW KEYS. YOU ARE ALSO★ ABLE



TO CLIMB UP AND DOWN THE LADDERS BY USING
THE ARROW KEYS.



THROUGHOUT THE GAME,
DONKEY KONG WILL TRY TO
STOP YOU. HE
WILL THROW
BARRELS THAT
YOU HAVE TO
JUMP OVER



USING THE SPACE BAR. EVERY ONCE



AND A WHILE, A BARREL
WILL CATCH FIRE AND TURN
INTO A FIREBALL. YOU CAN ALSO GRAB
THE HAMMER TO SMASH THE BARRELS.



TRY AND CLIMB AS HIGH AS YOU CAN! YOU HAVE
THREE LIVES. GOOD LUCK!

NOTE: NO SPECIAL LIBRARIES WERE USED FOR THIS PROJECT; THE ONLY ONES WE USED WERE THE ONES INSTALLED ON THE STUDENT MACHINE. TO COMPILE THE GAME, USE THE MAKEFILE IN OUR GITHUB REPOSITORY. SIMPLY TYPE MAKE TO COMPILE, AND THEN ./MAIN TO RUN THE GAME. ENJOY!

KNOWN BUGS: WHEN MARIO GETS THE HAMMER, HE IS ABLE TO JUMP TO THE LEVEL ABOVE HIM. THIS IS NOT SUPPOSED TO HAPPEN. MARIO SHOULD ONLY BE ABLE TO GET TO THE LEVEL ABOVE BY CLIMBING THE LADDER. ANOTHER ERROR, AND IT HAS ONLY HAPPENED ONCE, IS THAT IF THE GAME IS RUNNING FOR A WHILE (HOURS ON END) THEN THE SOUND MIGHT STOP WORKING. TO FIX THIS, SIGN OUT OF THE STUDENT MACHINE YOU ARE WORKING ON AND SIGN BACK IN. RUN THE PROGRAM AGAIN AND THE ERROR SHOULD BE FIXED.