

Monkey Marathon Wrap-Up Report

Instructions

We have added a button in the menu screen called “How To Play” which provides the player with instructions on how to play the game. Please look there for detailed instructions regarding our game. We have also decided to leave in the following developer commands in-order for the grader to reach higher levels of the game a lot faster than in a normal playthrough:

- 1-4: switch to pistol, slingshot, shotgun, and AR (assuming the weapon has been purchased in the store)
- Numpad 0-2: switch floor level to 0, 7, and 15 respectively. Note that the change will only take effect on the next generated map.
- delete: kills yourself (easiest way to exit to store/main menu)
- G: adds \$100 when in game scene (can click multiple times)

Changes in design since the progress report

By balance-testing the game, we found it necessary to make the gold gained through distance traveled scale with the floor number, to add an incentive to progress to harder floors. We also noticed that there was no level indicator and decided to add that as well.

We were not able to implement explosives, blockades, lockers, or ultimates. Although they were mentioned in the playtesting report, they were seen more as other ideas that we could implement if we had time, but not something that was a priority. If this was a real game being published, these features would be added in the next major update.

We also didn't have sufficient time to implement a more advanced level generation and guard AI as we hoped to do. We instead wanted to spend time ensuring the game is polished and complete.

Known problems with the game

Under rare circumstances, a bug occurs where a guard can push the player out of the map. This is specifically when the guard is constantly moving towards the monkey who is in a corner.

What we would do differently in hindsight

Our only regret is not being able to complete everything we wanted to such as the explosives, ultimates, lockers, more lighting and animations, and especially more advanced map generation and guard AI. In hindsight, we would have liked to spend more time on the game mechanics, and less time on the UI, especially the main menu.

Outline of who did what

Andrew Hunter

- Regarding the game proposal document, I wrote the “Brief Statement of Game Concept,” “Target Platform,” “Development Tools to be Used,” and “Group Coordination Plan” sections.
- Also helped edit the game proposal document
- With the exception of the gun pixel art (the pistol, shotgun, and assault rifle), created artwork for the entire game, using photoshop and UI design inside Unity, including:
 - All UI, including the main menu, store UI, other main menu subpages, and everything on the in-game UI overlay
 - All sprites, including sprite sheets for animation, and hallway chunks
- Implemented player movement
- Made the camera follow the player (through a script, not by making it a child)
- Made the player rotate to look at the mouse
- Implemented the bullet prefab (was later split into 2 different prefabs: playerBullet and guardBullet)
 - playerBullet and guardBullet are copies of the original bullet prefab with minor changes specific to the player/guard
- Implemented all weapon shooting, bullet instantiation, and bullet collision
 - Including the pistol, slingshot, shotgun, and assault rifle
 - Including the rock prefab that the slingshot shoots, but I did not implement the sound the rock makes
- Implemented the health bar for the player
 - Health bar for guards are copies of the health bar for the player, with minor changes to allow it to work with instantiated guards
- Implemented takeDmg function for the player, as well as the player’s health
- Set up a lot of the ignore layer collision parts in many gameobject’s scripts, including player bullets avoiding the player, other player bullets, gold coins avoiding guards and bullets, etc
- Fixed many bugs, including guard bullets not damaging the monkey, max value of guard health bars weren’t correct, an issue where bullets were passing through walls without colliding, errors caused by some variables being static previously (made them not static anymore), including the changes in other scripts required (since the variables weren’t static anymore), added default values to some PlayerPrefs retrievals, and guard’s health bar not being destroyed when the guard died
 - Note: I did not mention some bugs associated with implementations/features solely implemented by myself
- Implemented the entirety of level generation, including:
 - Generating a continuous path of hallway chunks
 - Spawning guards, including spawning patrol points for the guards to patrol between
 - Spawning clusters of gold coins
 - Made the frequency of guard spawns depend on the floor number (more difficult the farther the player progresses)

- Implemented the entirety of the menu scene (both art and functionality), including the store UI (this took an especially long time), main menu screen, How To Play screen, Credits screen, and options screen, resetting the save file to a new game (wiping progress), with the exception of:
 - Making the price of upgrades increase the more that upgrade is purchased, and loading that information from the save file when loading the store (to display the price tags)
 - Adding menu music
 - The content written in the “How To Play” screen (although I did move this content from a Google Doc into Unity)
 - The content written in the “Credits” screen (although again, I was the one who actually added the content into Unity)
- Implemented saving the data from the store UI into the save file (PlayerPrefs)
- Implemented loading data from the save file to set the store UI to the correct state (showing what is purchased, and what isn't)
- Implemented loading data from the save file to set the parameters in the actual game (monkey health, speed, weapon damage, etc)
- Edited the script for the Video Demo
- Got gameplay footage for the Video Demo
- Edited the Video Demo
 - Edited audio placement
 - Edited gameplay footage
- Worked on guard prefabs and AI scripts, including:
 - Only having guards shoot at the monkey if they are a certain distance from the monkey
 - Implemented guard aimbot (making guards aim at the monkey before they shoot)
 - Implemented setIntriguePoint function (based off previously written code) for the purpose of generalizing the purpose of this function
- Changed the gold and distance tracker UI to scale with the resolution of the screen
- Implemented the floor indicator UI (top left corner of screen)
- Implemented the ammo tracker UI (bottom left corner of screen)
 - And functionality of ammo, not allowing player to shoot if they've ran out of bullets
- Implemented the hotbar, including indicating which weapon was selected (bottom middle of screen)
- Implemented toggling between sprinting and sneaking
 - Implemented both sneaking when holding shift, and using shift to toggle between sprinting and sneaking, depending on the setting to enable/disable toggle for sneak/sprint
 - Based off the original holding shift implementation
- Implemented gaining gold based on distance traveled
- Conducted all playtesting surveys and recorded feedback from all playtesters
- Editing/quality-control for playtesting and progress report
- Implemented death screen and level completed screen (including functionality, and when they are triggered)
 - Including restart button, which resets all elements of the scene, as if the scene had just been loaded
 - Made the floor tracker increment by +1

- Scaled volume on all audio sources, as 100% volume was way too loud, and 60% of the volume (as the actual Unity volume) was sufficient for the maximum volume (scaled to 100% of player controlled volume)
 - 60% is just an example, each audio source was scaled differently
- Conducted the majority of balance testing
- Edited the Final Video Script
- Editing/quality-control for the Wrap-Up Report
- Got gameplay footage for the Final Video
- Edited the Final Video

Navin Pandey

- Wrote outline of gameplay portion of game proposal
- Wrote script for video demo
- Blocked video demo (wrote down cues for clips, what clips to use)
- Wrote script for Final Video
- Blocked final video
- Wrote Executive Summary of progress report
- Wrote Game Design section of progress report
- Wrote Development Status section of progress report
- Wrote Milestones to Completion section of progress report
- Wrote how to section to teach new players how to play
- Gathered and credited sound bytes for the game
- Implemented sound effects for:
 - Shooting pistol
 - Shooting AR
 - Shooting Slingshot
 - Shooting Shotgun
 - Rock hitting wall
 - Hitting guard with bullet
 - Monkey taking damage
 - Picking up gold
 - Guard dying
 - Monkey moving
- Implemented music for:
 - In game
 - Store/Menu
- Applied animation for:
 - Monkey idle/sneak
 - Monkey sprint
 - Blue Guard movement
 - Green Guard movement
 - White Guard movement
 - White Guard attacking

- Created different states for each animation
- Applied logic for switching between animation states
- Implemented volume bar for sound effects
- Implemented volume bar for music
- Implemented first guard into game
- Added astar grid to game to allow for pathfinding
- Applied pathfinding to each guard
- Created and implemented different AI for 3 guard states:
 - Patrol
 - Guard will walk back and forth between two points of the map
 - Investigate
 - Guard will walk toward point of intrigue and watch it for a few seconds
 - Chase
 - Guard will chase monkey until its in the guard's shooting range, in which case it will shoot at the monkey
- Created toggle variable that will indicate guard state and easily switch ai of guards
- Applied algorithm to change between guard states
 - When monkey is in cone of vision, chase
 - When monkey leaves, investigate with last seen location point of intrigue
 - When at point of intrigue for an amount of time, return to patrol
 - In patrol state by default
- Allowed guards to change speed variable depending on which state they are in
- Allowed guards to take damage and be killed when shot by player bullet
- Implemented shooting for green guard prefab
- Applied base version of melee attack for white guard where it would deal damage to monkey through collison (not in current game)
- Added new melee attack for white guard where it will execute attack animation and deal damage to monkey within a given range
- Implemented laser sight for monkey to show where monkey is aiming by creating laser point and hit point objects
 - Applied effect so that, you can tell how close or far you are pointing
 - Reworked laser sight so it only is applied when using ar or pistol
- Implemented original base noise mechanic where, guards will enter investigate state when near a noise made at monkey position. (Some code removed, some reused)
- Added gold gained from distance travelled (was reworked later)
- Fixed multiple bugs:
 - Changed monkey's firepoint to avoid bug where it will shoot through guards that are up close
 - Allowed guards to move through each other to avoid bug where guards will get stuck to each other won't move
 - Fixed bug where guards will get stuck at wall
 - Fixed bug where gold would not be saved between levels
 - Fixed bug where animation states would change at a delay

- Fixed bug where other objects would increment distance counter
- Fixed bug where guard would not face monkey while shooting
- Fixed bug where pathfinding grid would not account for size of randomly generated map
- Fixed bug where footstep sound effect was always playing
- Re-sized guards and colliders when implementing new guard sprites
- Re-sized monkey sprite and colliders when implementing new monkey sprite
- Constantly playtested game and provided necessary feedback and suggestions

Lucas Papadatos

- Wrote Novelty portion of game proposal
- Added pictures and formatted game proposal
- Voiceover for the video demo
- Wrote Playtesting portion of the progress report
- Added pictures and formatted playtesting and progress report
- Found music for the store and gameplay in-game
- Filled out creative computing show form which includes the banner and video as well as originally uploading the game to the caslab servers
- Added polygon collider to the monkey
- Created the GuardBullet script based off of the original bullet script
- Made the guard aimbot to shoot in the direction of the monkey
- Made monkey take damage when guard bullet collides with the monkey
- Implemented original sneaking movement when holding shift
- Created the first/basic version of the green guard script and green guard prefab
- Created the first/basic version of the white guard script and white guard prefab
- Did a rough implementation of the white guards melee attack where the white guard will shoot the monkey at a very close range (no longer in game)
- Roughly implemented the distance traveled using a function that takes the distance the monkey has moved from his start position and dividing it by 10 (no longer in game)
- Created the distance traveled text at the top right of the screen which updates every frame
- Implemented health bars on blue, green, and white guards
 - Based off the player health bar implementation
- Created ScreenOverlayCanvas with distance traveled and gold count texts displaying on screen
- Created gold coin prefab
- Made gold count increment when monkey collides with gold coin on the floor
- Made player and guard bullets ignore collision with gold coins on the floor
- Revamped distance traveled to increase when the monkey collides with the map chunk. The collider is disabled upon impact to avoid incrementing distance traveled for previously visited map chunks.
- Added a global light to all game objects except for the monkey and gold coins
- Implemented guard flashlights (field of vision cones) and created polygon collider of the same size to detect when monkey is in the guards field of vision
- Created “noise” prefab (a circle displaying the area the sound reaches)
- Instantiated “noise” when slingshot rock collides, monkey fires a weapon, and monkey sprints

- Made “noise” deactivate when the pistol is shot and the silencer is purchased
- Made noise circle delete after 0.1 seconds upon being created in level
- Created setIntriguePoint function in all guards scripts that sets guards state to investigative and changes guard path to location of the where the noise was
- Polished noise circle by disabling the sprite when the monkey is sneaking
- Updated setIntriguePointfunction for all guards by using investigative state variables
- Resized guards field of vision colliders to align with guard flashlights as before
- Made upgrade prices increase when upgrade has been purchased once
- Added upgrade prices to the save file so they will be there the next time the player enters the store
- Made upgrade prices reset to base values when player resets stats

Lucas Papadatos

Andrew Hunter

Navin Pandey