

# **Job Hunter: A Game about Getting a Job (Jan 2020 Version)**

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## **Summary**

Many college students worry about getting a job after graduation. A video game about "getting a job" could help students see the humor in an often competitive and stressful process. Therefore, the author will be creating *Job Hunter*, a 3D action platformer that will be built in Unity and written in C#. Players will seek out the scattered pieces of their resume across wacky, surreal mindscapes. Many challenges await players as they strive to put their resume in front of the right eyes, get an interview, and defeat the Interviewer in verbal sparring. *Job Hunter* tackles the daunting task of gaining employment in a stress-free and relatable way, so it will be especially enjoyed by college students that are anxious about finding a job after graduation.

## **Background and Motivation**

Getting a job is often considered a vital part of the human experience in developed nations. Hundreds of millions of Americans have at some point been employed or sought employment [2], and in America alone, the size of the work force is over 163 million [2] [3]. It is not surprising, therefore, that many college students feel the pressure to get a job as soon as possible after graduation. Indeed, a 2016 study in the UK found that over half of university students worry about finding a job after they graduate [4].

*Job Hunter* will address college students' common fear of finding a job after graduation. *Job Hunter*'s wacky characters and tasks will aim to ease students' anxieties by bringing a much-needed sense of humor and fun to the situation. Many scientific studies have shown that laughter reduces anxiety and promotes learning [5]. By making people smile, *Job Hunter* can improve students' well-being and allow them to approach job-hunting with increased confidence.

## **Features**

In *Job Hunter*, players explore the varied mindscapes of a person seeking employment. Environments and their inhabitants are not constricted to realism; instead, this wacky world is crafted through metaphor and parody. For example, one level consists of gigantic floating office supplies which the player must navigate through to construct their resume. Another level challenges players to infiltrate the heavily guarded Human Resources department. *Job Hunter* will be full of life and humorous characters. For example, players will defeat cartoonish alligator-shaped "Allgorithms" that try to keep their resume away from the Human Resources department. Additionally, the player can jump on Allgorithms in certain locations to reach new locations, just as one might use keywords in their writing to get noticed by potential employers.

Mechanically, *Job Hunter* is a 3D action platformer with collectathon elements. The player can jump and engage in simple combat. For example, they can harm enemies by throwing their resume like a throwing star. The player can also pick up and place certain objects. The player can perform contextual actions, such as interacting with Non-Player Characters (NPCs). Boss battles will also feature contextual actions, such as choosing a dialogue

response to an interviewer. The game is controlled by a standard controller, such as a PS4 controller.

Players can save their game or load previous game files to continue a playthrough. During gameplay, players can pause to take a break or exit a level. They can also replay levels at any time by choosing the level from a menu.

## **System Requirements**

### **Hardware**

The creator of this project will require the following hardware:

- A computer capable of running the most recent version of Unity
- A computer mouse for interfacing with Unity and Blender
- A mousepad
- Standard controller to play the game

A standard controller will be used as they are readily available to gamers and they are more ergonomic than keyboard controls.

### **Software**

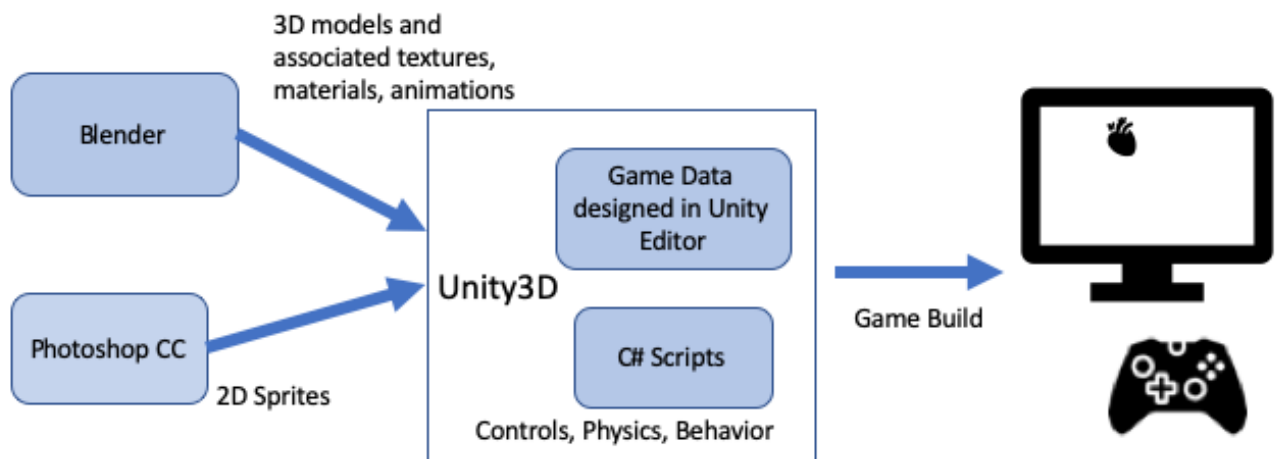
The creator of this project will require the following software

- Most recent version of Unity
- Photoshop CC for 2D art, such as textures
- Blender, an open-source 3D modeling software
- Text editor for code editing

Unity will be used as the game engine for this project because of several advantages it has over other free game engines. Firstly, Unity does not impose any royalties to sales of games made through their software, however their rival Unreal Engine 4 imposes a 5% royalty of sales (Except on the first \$3000 per quarter) [7]. Unity is also considered to be more user-friendly and suitable for beginners. Unreal Engine 4 is lauded for its ability to render more realistic graphics, but since *Job Hunter* will be cartoony, this does not present much of an advantage. Finally, Unity supports over 25 platforms, so porting the game would be very easy [9].

Blender is the modeling software of choice because it is free, even for commercial use, unlike other top products which have fees or restrictions on commercial use [8]. Photoshop CC will be used for any two-dimensional artwork because the author is familiar with it.

Each software will contribute to the final project in various ways (Figure 1). Artistic assets will be created in Photoshop and Blender, whereas game behavior will be built using Unity and C#. Finally, the game will be "built" or compiled into a portable playable form through Unity, resulting in a single file.



*Figure 1 - Various software will be utilized in building the final game.*

### **Current Status (1/25/2020):**

Player movement and jumping is fully implemented, and allows for precise, snappy control. In addition to jumping, the player can throw their resume at enemies as an attack.

The first level, in which the player explores a strange environment of giant office supplies, is fully functional. The level contains 3D models, such as a desk, a keyboard, a computer monitor, and scissors, to suggest the environment. However, some areas are still "blank" and need to have 3D models created. Additionally, the protagonist character "talks to themselves" at appropriate moments to explain the story of the game, or to explain controls such as how to jump and how to pick up and place items. To beat the level, the player must collect all three pieces of their resume, which they find as they move through the level, and submit their resume online by pressing (jumping on) the submit button on the in-game keyboard. However, the submit button is missing at first, and so the player must defeat an enemy to retrieve it, and carry the item back to the keyboard. The game has been coded to track which items the player has obtained, so the level will not complete unless all requirements have been fulfilled. For example, it is possible to skip one of the resume pieces and get the missing "submit" key. When the player tries to press the key, the message "You don't have all the resume pieces" will display, so they know they have to go back and find the piece. The level also has checkpoint flags throughout; when passing over such a point, the flag will raise, indicating that the player will return there if they die. The player can die in two ways, either by running out of health (by sustaining enemy attacks) or by falling off the platforms into oblivion. When the player dies, a screen appears allowing the player to either resume or quit to the menu. If they resume, they will start from their last checkpoint. Also, moving through certain areas can trigger changes to the environment; for example, collecting

the first resume piece causes a book to open so that the player can cross a previously uncrossable gap.

Various obstacles are implemented in level 1, such as scissors that cut the paper on which you walk, so the player must jump quickly to avoid falling. New obstacles will need to be created to suit the theme of the second level.

The second level, in which the character navigates through a forest and infiltrates The Company in order to get their resume delivered, is just starting development. The landscape, containing hills, cliffs, and trees, and through which a river flows, has been formed using Unity's terrain system. Creating the enemies and the actual platforming challenges of the level will be the next step.

A user interface has been created, including the Pause Menu, Death Screen, and the Level Select menu. The menus are fully functional. For example, selecting "Quit" from the Pause Menu while in a level will return you to the Level Select menu. Also, during gameplay there is a simple HUD display that shows the player's current health as a bar.

Two enemies have been created: a walking Alligator which paces back and forth, and will charge at the character if he sees them, and the Eraspider, which moves towards the player (using Unity's NavMesh system). The Eraspider can carry items, but currently it must be manually assigned this item; it does not pick up items on its own. The Eraspider drops its item when it is hurt by the player. There are at least 3 more enemies to implement (swimming Alligator, jumping Alligator, and the Security Guard), and the current enemies could be improved aesthetically and behaviorally.

In the spring semester, the creator must finish level 2 and create the boss battle, both of which will involve scripting new mechanics and enemies. Afterwards, they will be able to indulge in creating many aesthetic improvements to the game.

## Timeline

**Note:** The first semester is focused on building the game mechanics. The second semester is focused on visual design.

### Reflection on FALL SEMESTER

#### Task Status

Task	Status	Notes on Status
Create first draft of project proposal and timeline.	COMPLETE	
Gain basic understanding Unity Physics	COMPLETE	
Create a health stat and display health bar on UI	COMPLETE	
Create an enemy that harms player	COMPLETE	Walking Alligorithm
Start working on designing the story progression of levels and the role of different NPCS.	COMPLETE	
Design and prototype player movement.	COMPLETE	Jump and 360 degree movement.
Design and prototype player attacks.	IN PROGRESS / Possibly COMPLETE	The Resume Throw attack was completed, but Resume Flash was not started.  Resume Flash may be cut.
Design additional enemies and create prototypes.	IN PROGRESS	Eraspider and Scissors prototyped.  Some enemies yet to be prototyped, specifically Jumping / Swimming Alligorithms and the HR security guards.
Create a prototype of level one.	COMPLETE	Not only is it prototyped - it's essentially complete.
Gather feedback on level one.	COMPLETE	
Implement feedback from previous sprint, if necessary.	IN PROGRESS	Most of the feedback was related to the controls, which were improved upon by switching to controller input. However, health-restoring items have only been partiality implemented.
Continue working on designing the story progression of levels and the role of different NPCS.	COMPLETE	



Build UI for selection Levels	COMPLETE	New levels will only be unlocked after completing the previous level; a small animation plays when the level is first unlocked.
Start learning blender	COMPLETE	
Prototype Level 2	IN PROGRESS	The second level takes place in a forest. I learned terrain forming in Unity and the level is physically "there" however the actual challenges of the level need to be implemented, which will take a lot of time.
Add NPCs with dialogue.	IN PROGRESS	The NPCs themselves have not been added but Dialogue animations have been built and scripted and used with objects (for example, you approach a sign and the text appears above it) & tested. The same scripts can be used for any object, so adding NPCs is simply a matter of creating the models.
Add level introduction camera movement	IN PROGRESS	Completed for level 1, not started for level 2, but the same scripts can be used, I merely must design the animation.
Gather feedback for Level 2	NOT STARTED	Level 2 is not yet ready to receive feedback.
Refine levels 1 and 2	IN PROGRESS	<p>Level 1 has begun to be refined; I've added a few aesthetic enhancements which greatly improve the environment (ex: fully modeled keyboard, giant stapler on the desk, pencil holder, papers on the desk).</p> <p>Level 2 has (perhaps prematurely...) already begun to be refined; the grass and trees have texture and the water of the river is animated.</p>
Add contextual camera movement	CUT	Instead, a fully controllable 3D camera has been implemented (controlled by the right joystick), in contrast to the previous static camera locations. However, this does have the disadvantage of

		making the game unplayable on keyboard. Rather than working to allow the game to be playable on keyboard (which could be done by allowing the mouse to pivot the camera, as in Minecraft), I will focus my energies only on the controller controls.
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### Revised SPRING SEMESTER

Start Date	End Date	Goal	Deliverable	Notes
1/25/20	2/1/20	Finish Level 2 "Backbone"	A barebones 3D layout of all areas of the 2 <sup>nd</sup> level, with most if not all complex elements missing. (No collectables or enemies, moving parts might not move)	
2/1	2/8	Implement Jumping Alligorithms and Swimming Alligorithms	Jumping Alligorithms and Swimming Alligorithms will be throughout level 2 and function as intended.	
2/8	2/15	Implement Security Guard; build player character model	hulking security guard(s) that patrol(s) the area around the Company, carry flashlights, and kick you out if you are seen; player character model	
2/15	2/22	Implement the remaining "moving parts" of level 2; place checkpoints; animate character model	Fully-functioning Level 2, animated player character (jump, walk)	
2/22	2/29	Gather feedback on level 2; polish Level 2	Feedback report for Level 2.	

			A refined version of Level 2.	
2/29	3/7	Start work on the Boss Battle / "Verbal Combat"		
3/7	3/14	Finish the Boss Battle	A battle with unique platforming challenges, as well as some "questions" for which the player must select the correct response, simulating an interview	
3/14	3/21	Aesthetic enhancements; gather feedback on Boss Battle	Additional models, textures, and animations for the game added. No surface left a white cube!  Feedback report for Boss Battle.	
3/21	3/28	Implement Game Save and Load	Save and Load options from the Level Select menu, that work.	
3/28	4/4	More Aesthetic Enhancements, General Debugging	More particle effects, additional animations. Go wild!	
4/5	4/21	Gather last-minute feedback and complete final changes.	Final Deliverable:  A 3D platformer game with two levels and a boss battle; a functioning user interface; a checkpoint system; a health bar; enemies to defeat; the ability to save your progress, a simple story; and snappy controls.	



## References

- [1] Entertainment Software Association. 2019. *2019 Essential Facts About the Computer and Video Game Industry*. Entertainment Software Association, Washington DC. **Not cited in paper.**
- [2] Bureau of Labor Statistics. 2019. Table A-1. Employment status of the civilian population by sex and age. Retrieved September 14, 2019 from <https://www.bls.gov/news.release/empsit.t01.htm>
- [3] Bureau of Labor Statistics. 2015. How the Government Measures Unemployment. Retrieved September 14, 2019 from [https://www.bls.gov/cps/cps\\_htgm.htm#definitions](https://www.bls.gov/cps/cps_htgm.htm#definitions)
- [4] Microsoft Surface. 2016. Two-thirds of university students worry about finding a job, study reveals. Retrieved September 14, 2019 from <https://news.microsoft.com/en-gb/2016/09/16/two-thirds-of-university-students-worry-about-finding-a-job/>
- [5] Brandon M. Savage et al. 2017. Humor, Laughter, learning, and health! A brief review. Retrieved September 14, 2019 from <https://www.physiology.org/doi/full/10.1152/advan.00030.2017>
- [6] Luther Elliot et al. 2015. More than Just a Game? Combat-Themed Gaming Among Recent Veterans with Posttraumatic Stress Disorder. Retrieved September 14, 2019 from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601548/> **Not cited in paper.**
- [7] Unreal Games. 2019. Unreal Engine 4 Commercial Game Deployment Guidelines. Retrieved September 14, 2019 from <https://www.unrealengine.com/en-US/release>
- [8] ufo3d.com. 2019. Top 5 Modeling Software for Unity. Retrieved September 14, 2019 from <https://ufo3d.com/3d-modeling-software-for-unity-top5>
- [9] Unity. 2019. Build Once, Deploy Anywhere. Retrieved September 14, 2019 from <https://unity3d.com/unity/features/multiplatform>