



# THE BUNKER POST-MORTEM | NATHAN TUBB

First Person Escape Room Game

## ABSTRACT

An in-depth review into the success, pitfalls and learning out comes from development of The Bunker.

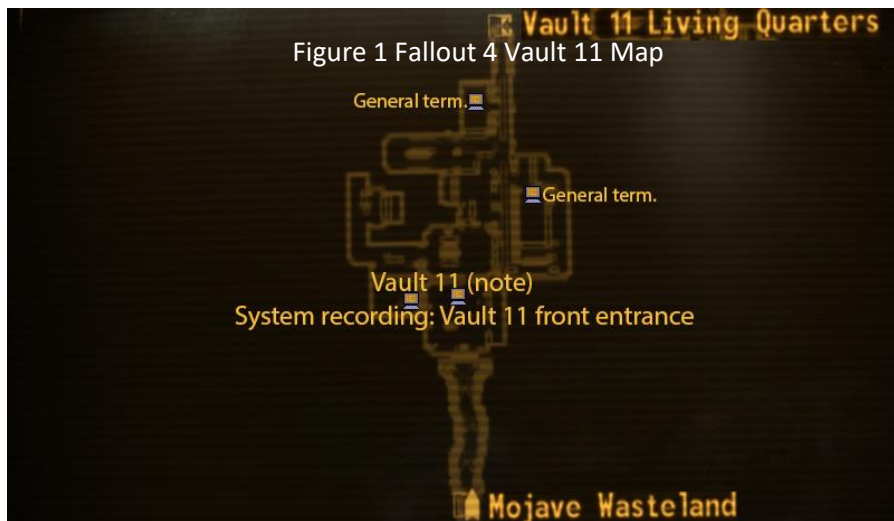
## Nathan Tubb

Digital Game Design and Prototyping

## What went right:

### Level Design:

Level Design was a very smooth phase for the project, the final design changed very little from the initial grey box. I put this down good research as I drew inspiration from fallout four's vault system. Figure 1 is an example of one of these vaults, it consists of narrow corridors with both detached and attached rooms for the player to explore. I used this to try and incorporate a similar system into my level and it meant that I had a working design very quickly. Researching existing content to inspire my own work will be a step when working on projects in the future due to this. The only thing I may do differently from this would be to do a wider range of research as they may be additional things, I could have missed by focusing on 1 game.



### Flow:

Trying to get a good balance in flow and difficulty was a challenge from the very beginning of the project, hinting to the player at what they should do next whilst also not giving them the answers was a balance I really wanted to get right. The approach I took was mainly hinting to the player through the in-game notes and dialog from the player character. Feedback from testers was positive to this approach (Figure 2) and allowed further development. This has made me confident in future projects that I have the knowledge and experience in order to generate good flow in a game.

What were your thoughts on the games flow and how it progressed through puzzles?

5 responses

### Figure 2 Playtest Feedback

At the start of the game it flowed really well, it was nice a rewarding to find a lot of the different pieces. However, for me, a person who rarely plays any scary/puzzle games. I found it difficult when it came to the safe and the lock on the chest. I still feel like I struggled mainly because of my lack of experience with puzzle games.

I thought the flow of the game was good, not too long not too short, right amount of time to challenge me but not bore me.

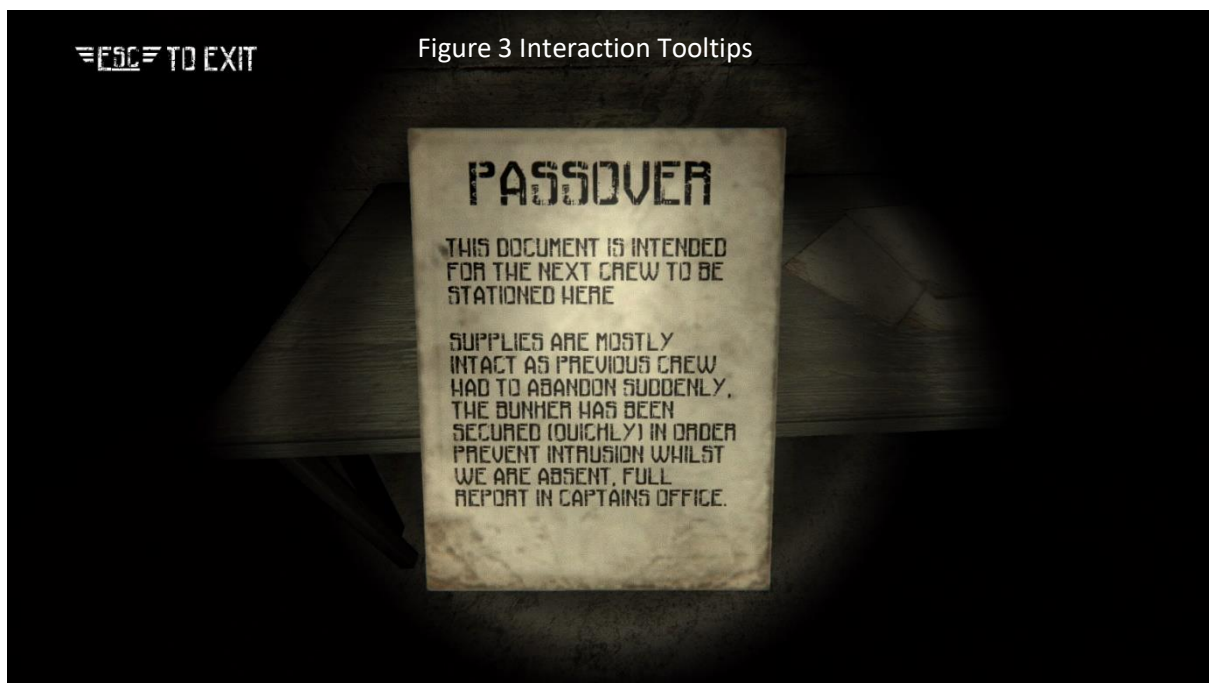
I enjoyed the pace of the game, I liked how you had to double back on things and go back over notes.

Ok flow good did not need to spend long time wondering around looking for things

Good, logical flow from one puzzle to the next. Enjoyed the morse puzzle and it all feels very rewarding.

### Playtesting:

Building from my last point I also feel like I did some great playtesting on this project, initially I got my parents to playtest, they are not gamers at all and would reveal the biggest flaws in my user experience and flow. This worked perfectly as they had a lot of issues with not knowing/remembering key press' nor understanding what they should be doing or how to operate certain aspects of the game. They acted as a "worst case scenario for a player". I then changed everything they had problems with making things clearer and adding more information for the player, an example of this is the "Esc" tooltip (Figure 3) that you will now see on all interactions in the game.



Next I sent an improved build out to friends and industry contacts, I created a google form questionnaire for them to fill out which can be accessed here ([Feedback1](#)) ([Feedback2](#)). Not everyone filled out this survey, some gave face to face feedback whilst others submitted word documents. Overall, 17 people played tested the game all with positive feedback leading to big and small changes. Many suggestions wanted the inventory be mouse usable, previous to this I was happy with the inventory being W,A,S,D but feedback said it was clunky and pushed me to change it to mouse interaction which is now far more user friendly. Seeing how useful playtesting should have started it sooner as the game may have turned out even better in the long run. In future I will give myself plenty of time for testing as in this instance it has made such a big difference to the game.

**What went wrong:****Puzzle Design:**

Having little experience playing this genre of game made puzzle design especially difficult, I did not research existing puzzle games as I should have. This resulted in puzzle design and production taking much longer, It also meant that earlier puzzles designed such as the storage room or shelf move puzzle were too simple and lacked substance compared to later puzzles such as the safe or generator puzzles. Initially I was trying to get a many puzzle as I could into the game but soon changed to getting what felt like the right amount for the level and developing them. I feel as though this was a good decision as It allowed me to concentrate more on really refining my work and getting the best results and quality. In future I will do more research on mechanics associated with the genre of game I am developing in order to save time and improve quality when designing my own version.

**Lighting:**

Although lighting turned out well in the final build of the game it was a time consuming and problematic area in production. I had not dealt properly with lighting in unity before so had no idea what I was doing when deciding to have a level in which transition from being unlit to lit. With no knowledge of light maps or how generating lighting in unity worked this soon became problematic. As can be seen in figure 4 I could not get the scene to go completely dark when the lights were off, in figure 5 we can how the torch is broken and has no torch beam, instead is lights up non-static objects only.

Figure 4 Lighting Issues

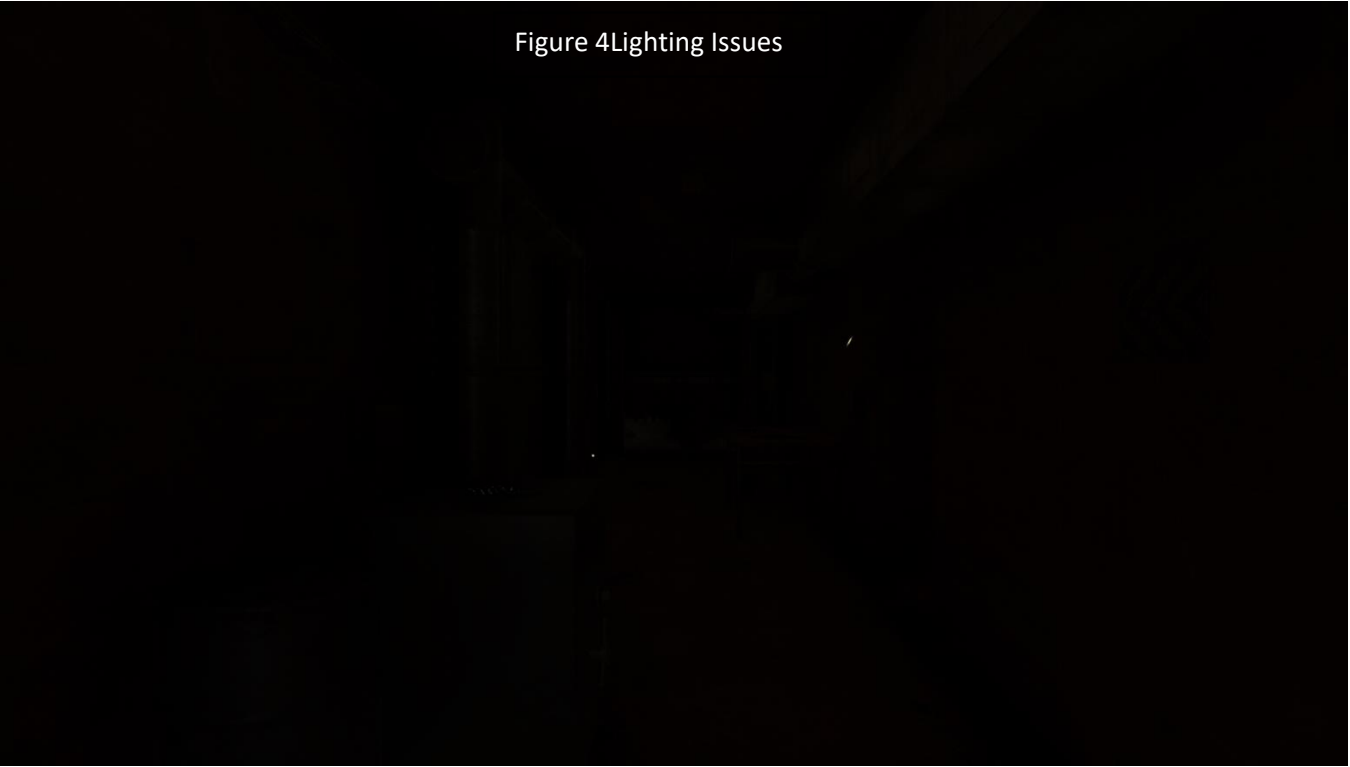
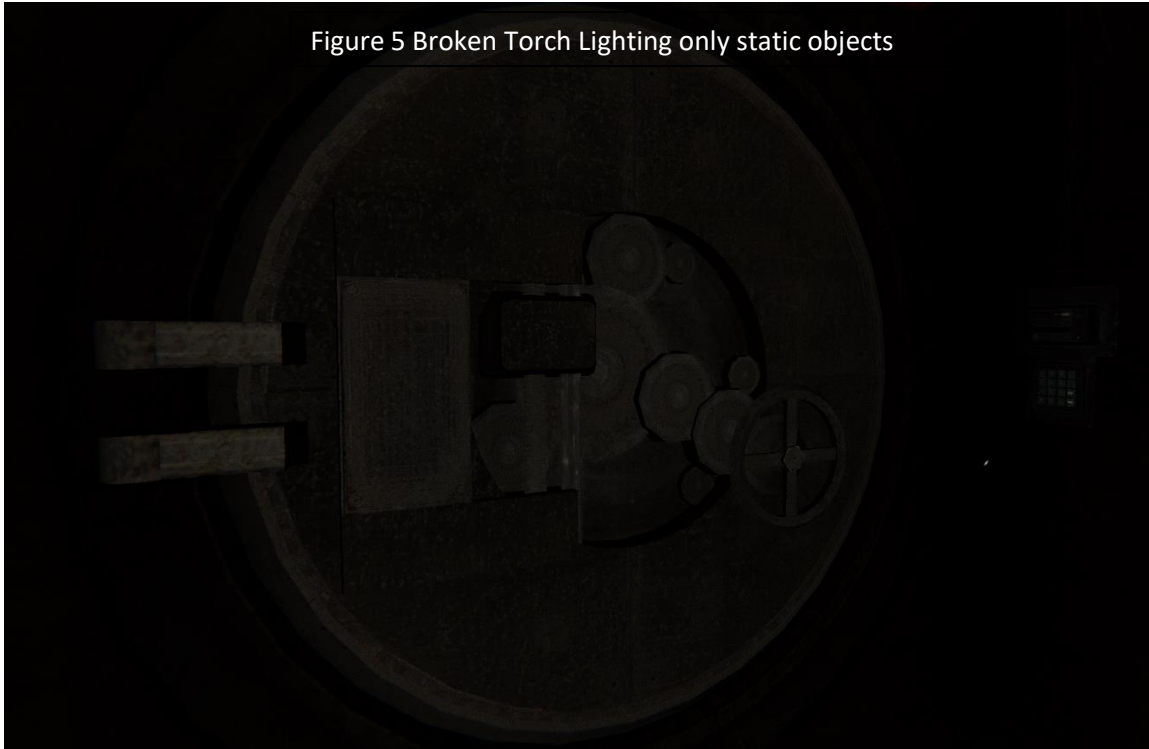


Figure 5 Broken Torch Lighting only static objects



I spent days trying to figure out these issues, changing lighting settings and re-building the scene, this cost valuable time that could have been spent developing other features. It finally turned out to be a bug with unity's quality system which was defaulting to very low when built. At the time I tried to watch videos on unity lighting as well as reading the unity Application programming interface on certain aspects. Looking back this was a good choice as I learnt a lot and really improved the lighting in the final product, In retrospect I should have done more research into how lighting worked in unity to better understand what was required my aims for before starting the project.

#### **Project Organisation (Assets):**

As my first big unity project I had not dealt with large amounts off assets and scripts before, this resulted in my project becoming clustered and un-optimised, there were many scripts and assets brought in as part of packs that I did not use or need. Overtime these resulted in me having to go through the project deleting things I was not using. This wasted time that I had to plan for. Towards the end of the project I began only importing things I was going to use as I had realised by then what was happening. However, it was too late as I already had most of the assets that I was going to use. In future I will be more vigilant and control my project assets to maximise space.

#### **Testing:**

Although I was on top of all the bugs that came up in my game, I should have done a better job to log and keep track of them. My testing mainly consisted of working on a puzzle or mechanic until it worked exactly as intended then moved on to the next. This worked with individual mechanics however I sometimes ran in to bugs where two mechanics crossed over. Also, when I was doing larger playtests, I would run into bugs but not remember all of them as I did not create a report or note of them and just tried to fix what I remembered happening. In retrospect this cost me time as I had to keep going back to fix small bugs I kept overlooking, it also gave a higher chance that bugs ended up being in playtest builds. In future when doing playtests, I will use tools such as defect reports that I picked up from producing games in order to make sure I keep track of what needs fixing.

**Overview of learning:**

Coming into this project I had limited experience with unity and even less with C#. To limit the effects of this on the quality of my work I spent a lot of time researching and learning about good practices and efficient ways of doing things within the engine. Not only has this now meant I have a much greater skillset for future projects, but I have also learnt about the importance of making sure you are up to date with the software and programmes you are using.

The most important thing I would say I have taken away from this is how useful playtesting is, the results I got after implementing changes suggested from playtesting has really improved the game, it is something I always make sure I do plenty of future.

**Overview of Future Practice:**

The main changes I will make to my practice in future to avoid mistakes made here are:

1. Ensure I do further research into the mechanics related into genre I am producing (In this case Puzzles) in order to better design my own versions.
2. Better research mechanics I wish to produce before designing them into my game to avoid having problems implementing them later.
3. Organising my project better to optimise space and usage of assets.
4. More organised testing to ensure bugs are not overlooked.

**Solent Scale:**

I have poured all of myself into this unit in order to learn and achieve as much as I can. I have produced high level work that with some small adjustments I believe could be put on a platform such as steam. Feedback from those I have used to playtest has all been positive as all around have said I have made a very enjoyable experience. I have put a lot of work into the creation of my GDD and development video and feel they are both very detailed. Overall, I would hope to achieve a high A from this unit as I feel I have really given absolutely everything in order to complete it at such a level.