

DAIRISEKI

大理石 - DESIGN DOCUMENT



An Unreal Tournament deathmatch map by
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BACKGROUND

So first and foremost, the title. 大理石 or *Dairiseki* as spelled in romaji is the Japanese word for Marble. Why marble you might ask! Well, early on in development, I the designer came across a quite peculiar game. On Twitch (a live streaming service) there is a channel called [MarbleRacing](#) which piqued my interest. In this so called game, you enter your “marble” in a race with as goal to finish first at the bottom of a hill. You have no other influence other than the timing you enter your marble into the race. The rest is mere luck. I ended up playing this game for inordinate amounts of time (whilst I should have been working on the level) and as such, decided my level should in one way or another feature this aspect of the design process. Hence, due to it and the Japanese theme of the level, I ended up calling it Dairiseki!

...Thus goes my original intention. I later found out that marbles are actually called ビー玉 or *Bi-dama* in Japanese. But due to the fact that everything had been named Dairiseki already, I figured I would keep the name and spare myself the effort of renaming everything.

THEME

Reasons for picking this theme

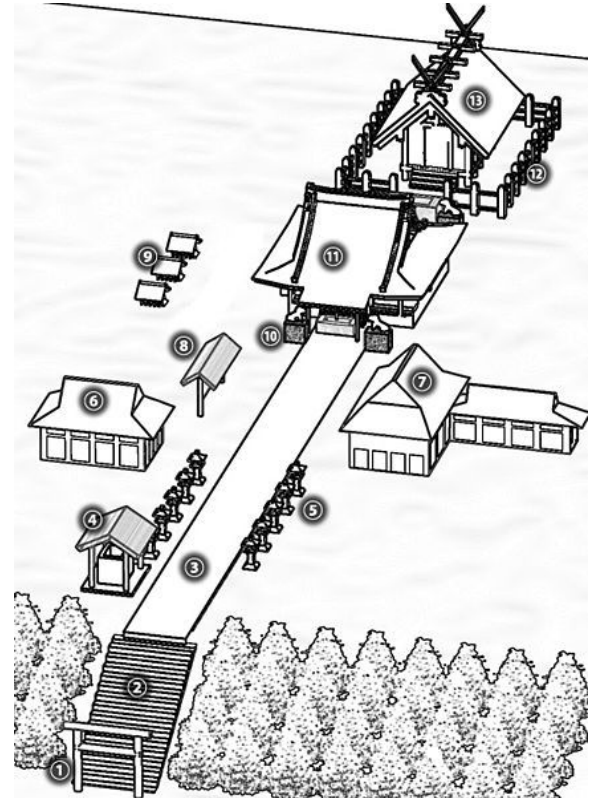
First and foremost, I have taken an interest in Japanese culture in general lately. The [architecture](#) is definitely a part of that. It often offers itself for beautiful pictures, in combination with the local flora. Secondly, it seemed like a more challenging theme to work with. Verticality is not all that easy to incorporate directly into this theme. But because I have been creating maps before, it would seem like a nice opportunity to make mistakes and learn through this process. Lastly, I have barely seen any game use this theme for levels unless they are directly related with Japan. I feel like it is a rather unique theme that has not been overdone.

Elements of the theme

The key elements of this theme will be the various buildings within the landscape. [Shinto shrines](#) are the most common, thus here I will add a list of the various buildings used within these shrines. This does **not** mean that they cannot be used outside of a shrine, only that they are commonly found within one.

Common shrine features

1. [Torii](#) - Shinto gate
2. Stone stairs
3. [Sandō](#) - the approach to the shrine
4. [Chōzuya or temizuya](#) - fountain to cleanse one's hands and face
5. [Tōrō](#) - decorative stone lanterns
6. [Kagura-den](#) - building dedicated to [Noh](#) or the sacred [kagura](#) dance
7. [Shamusho](#) - the shrine's administrative office
8. [Ema](#) - wooden plaques bearing prayers or wishes
9. [Sessha/massha](#) - small auxiliary shrines
10. [Komainu](#) - the so-called "lion dogs", guardians of the shrine
11. [Haiden](#) - oratory
12. [Tamagaki](#) - fence surrounding the *honden*
13. [Honden](#) - main hall, enshrining the [kami](#). On the roof of the *haiden* and *honden* are visible [chigi](#) (forked roof [finials](#)) and [katsuogi](#) (short horizontal logs), both common shrine ornamentations.



Other commonly found structures within the traditional Japanese architecture are Pagoda (tall, multi-layered buildings), Zen gardens, buildings with walls made from Shōji (paper walls).

Reference

Google maps (several locations)

- Tsukinowa-dera Temple - <https://goo.gl/maps/zjrzb2eLwSn>
- Kiyomizu-dera - <https://goo.gl/maps/wHkm7iUr3k62>

TF2's koth_suijin

While researching this theme, I came across this map. It features pretty much exactly all elements that I want to use in my design. It also showcases how verticality can be achieved within this theme, in fact, it does so excellently by enforcing players to get up on the rooftops and keeping them there. This is done through power ups and connecting the various rooftops with each other



Sources

https://en.wikipedia.org/wiki/Shinto_architecture#Common_features

https://www.reddit.com/r/tf2/comments/1v6oj5/continuing_the_trend_heres_my_new_japanese_themed

ITERATIONS AND CHANGES

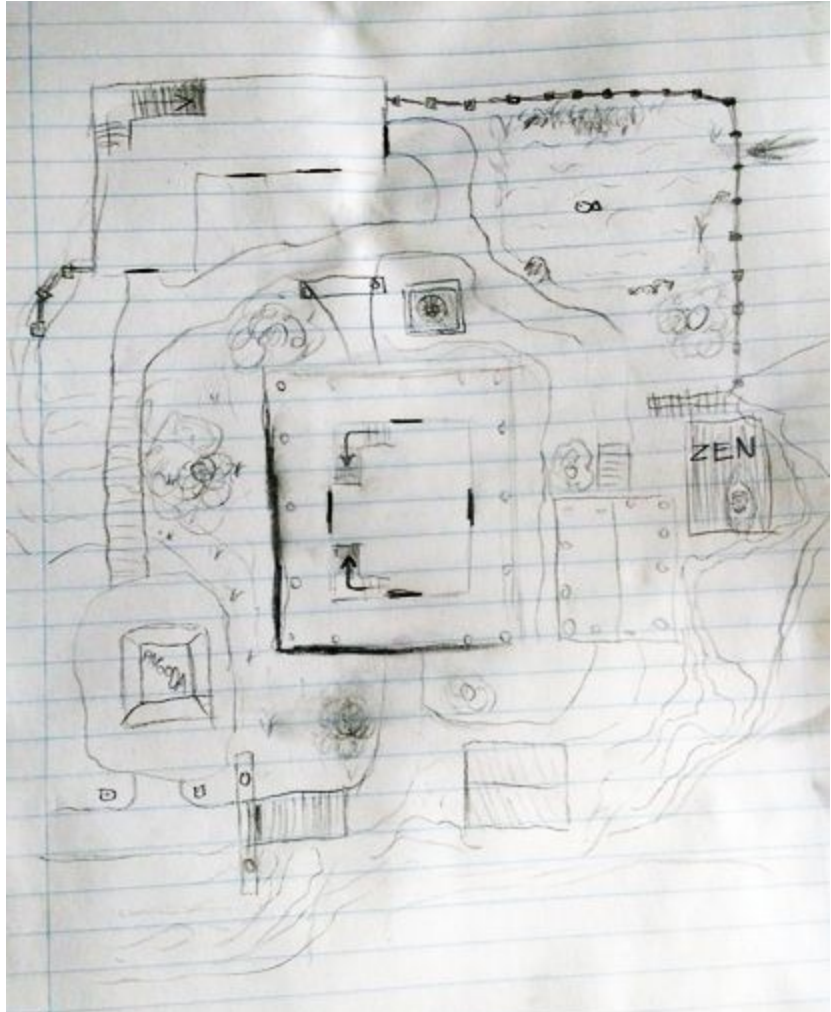
The iterations are presented in a chronological order. For instance, I worked on iteration C after B.1, but then moved back to B, creating B.2.

Level layout - Iteration A.1

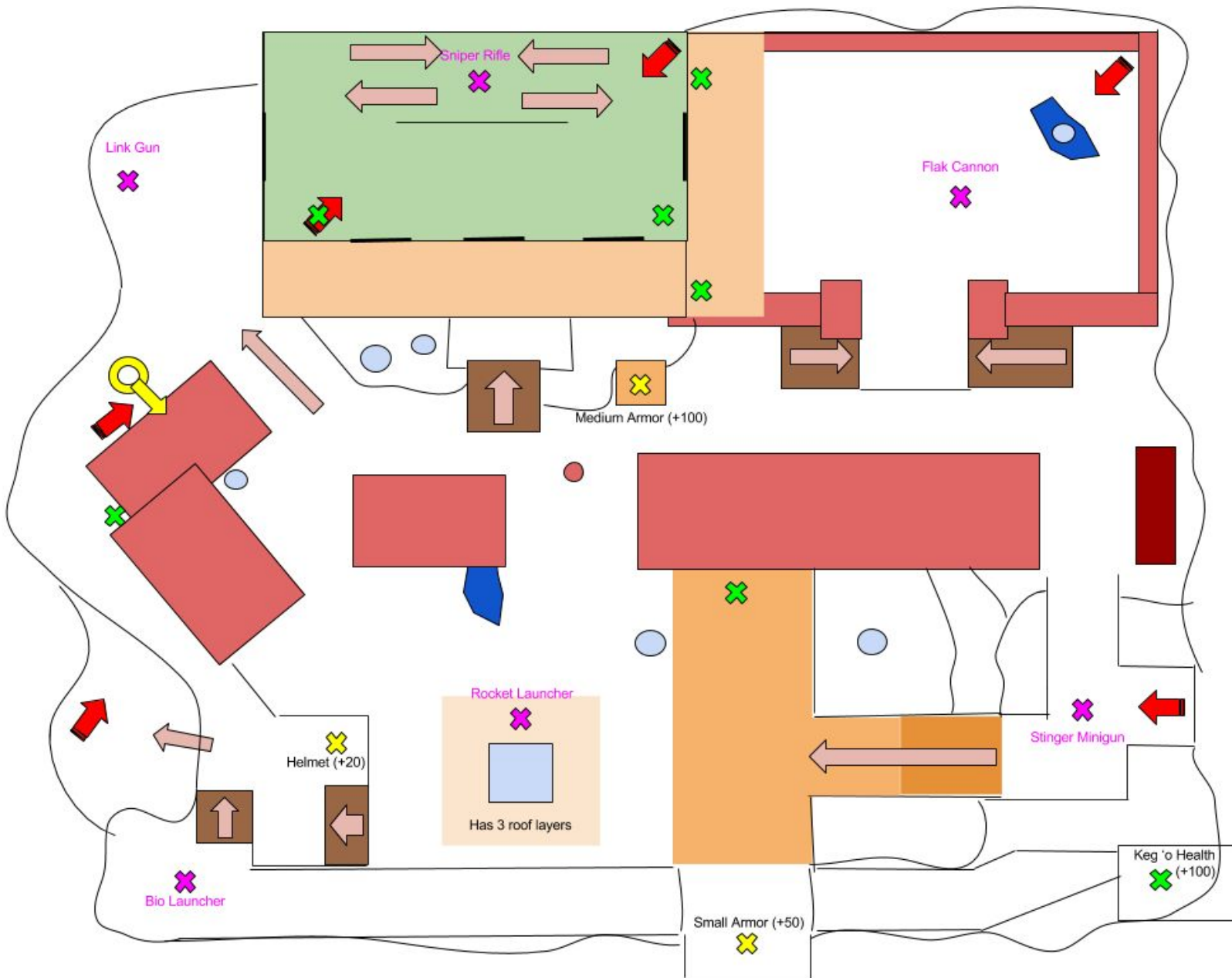
This is the very first sketch of the level I made. I wanted to prominently feature the main temple in the center. This allows for spatial awareness (a main building the player can orient on), a main battle area and various ways to get up on the rooftops and increase verticality.

Continuing with verticality, I included height differences within the terrain itself. Cliffs, rocks and hills are an important feature.

I quickly scrapped this version because the verticality felt rather forced in. It also doesn't feature much cover and thus is very open. Not ideal for a shooter game.



Level layout - Iteration B.1 (dm_dairiseki02)



A complete top-down layout of this level iteration. You might want to keep it open next to this document. To open it in another tab/window, [click here](#). And [here](#) for the legend.

This is the layout of the first iteration. An actual sketch (that this layout is based on) can be found at the end of this section. The design allows for much better verticality and more 8-figures, while the previous design was more based on real-life shrine layouts.

Geometry & routes

In this first version, all buildings except the big temple are closed. This is because the level is rather big already and I did not want more areas for players to hide in. The southern part of the level looks like a very long corridor, but it is in fact a trench filled with water that the player can jump out of at any time. There are also a few ways to get on top of the roofs, which is ideal for ambushing players.

Weapons

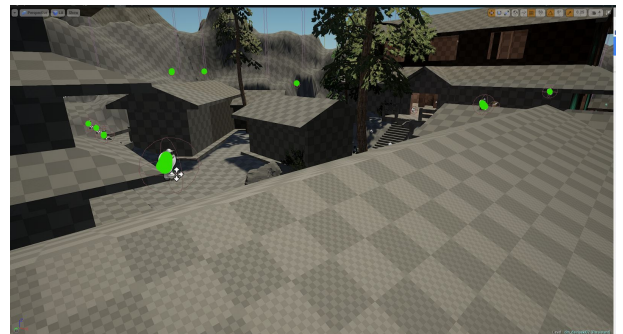
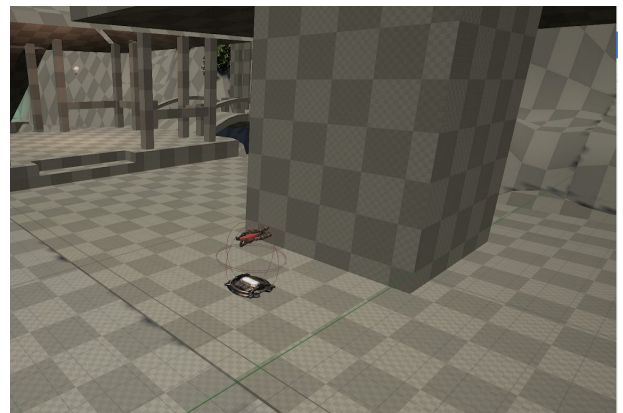
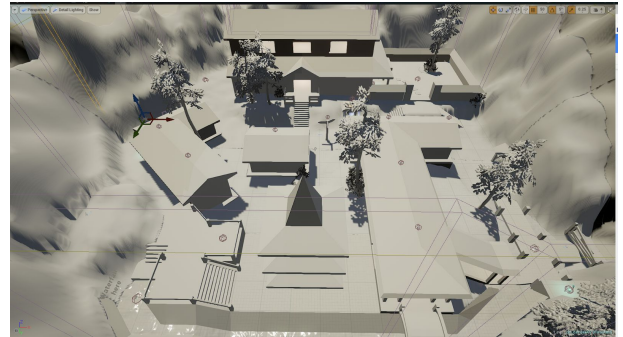
I aimed for every weapon to be close to a spawn point. It might not be directly in sight, but it should not be very far from grabbing. I wasn't sure on what types to place in the level, so it's a bit random to see what players would and would not like. I tried placing the rocket launcher in a central area. Hence I placed it near the pagoda. The sniper is placed in the large temple to encourage sniping from the upper floor.

Health

I tried to place the main health items out of the way, but still accessible easily from areas nearby. Again, I went for a bit of trial-and-error with this. However, the thing I definitely planned was adding health vials on top of the roofs, to really enforce players to go up there. They cannot be seen on the map, but you can see it in the screenshot to the right.

Armor

For armor, I felt there wasn't a risky enough place to have the Shield Belt, thus I didn't add one. Armor I placed based on the risk the player has to take. The medium armor is placed in sight, where it is hard to sneakily get away with picking it up. The small armor is placed at a dead end, also putting you at a risk. The helmet placed in the line of sight from the



upper level of the big temple, thus allowing you to survive a headshot of a sniper.

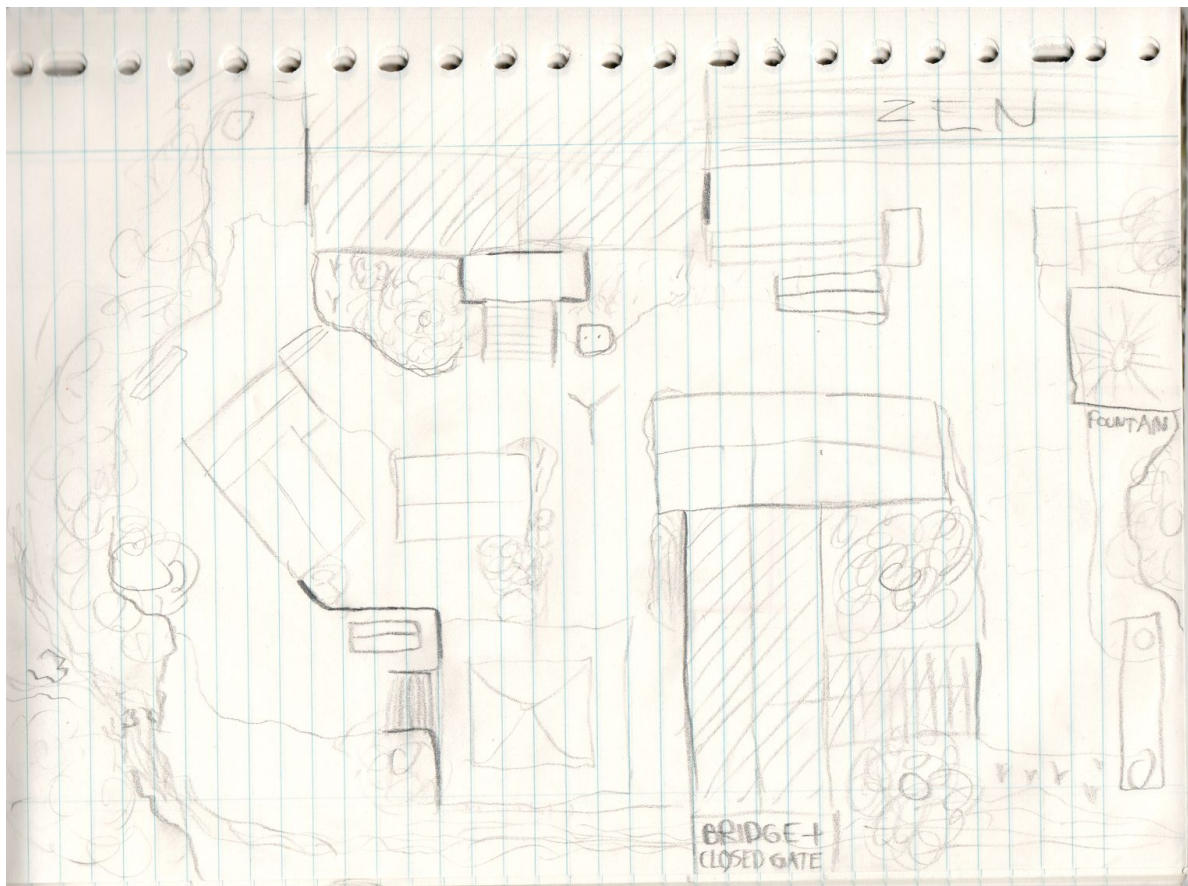
Spawn locations

For the spawn locations, every single one provides cover in the back. There's no place you spawn without a wall behind your back. I also wanted weapons close to the spawn, but I already mentioned that in the weapons section.

Feedback received

"It looks really nice, but the verticality is limited to merely two levels. On the ground, or on the roofs. If more levels are implemented in the roofs, it would already allow for much more dynamic gameplay verticality-wise. There are also quite a few places that lack choice in player movement. For example, the zen garden has only two entrances/exits. There are two main areas that are considered long corridors: The area west next to the houses and the area south, which is a trench filled with water."

Based on this feedback, I scribbled in my layout, what to keep and what to remove for the next iteration.



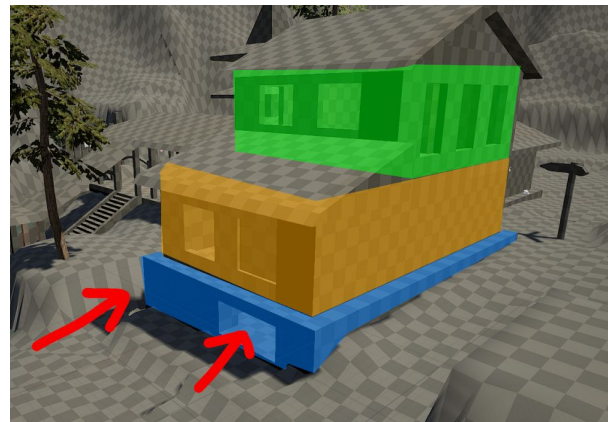
The original sketch of this version of the level.

Level Layout - Iteration C.1 (dm_dairiseki03)

The main reason why I think this specific part feels good is due to the layered levels of gameplay. You can both get on top of the roof or be below it, which works great vertically-wise. The terrain difference also really helps with varying things.

Geometry & routes

As mentioned in the previous iteration, I have scrapped about 60% of my level and kept the best 40% to start working from there. The first thing I changed was opening up the building on the corner. It now has three layers: A **basement**, **main floor** and a **second floor**. The **openings to the basement** allows players to escape from the “corridor” on the very east side of the level. Inside, there are stairs from the basement leading up to the main floor. A second set of stairs can be found from the main floor to the second floor.

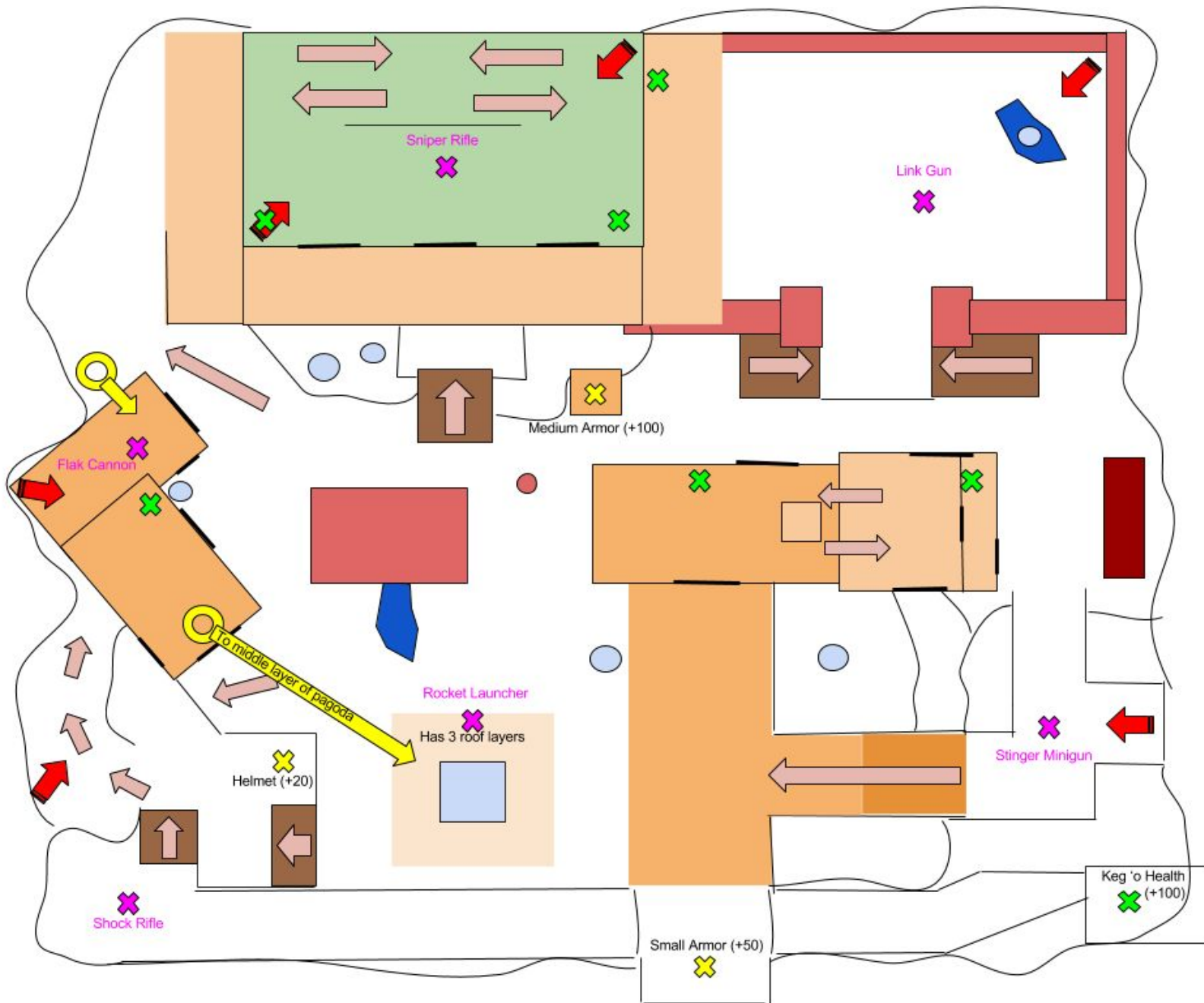


Around the corner, at the leftmost arrow, there is another entrance to the basement

The basement led to new issues, being that it only had a single exit once you committed to the area.

This is as far as I had iterated this level. After doing a playtest with the previous iteration, it became clear that it was in fact a very good starting point. There was no need to scrap the entire level, I only had to improve on certain areas. Hence, I scrapped this iteration rather quickly. I did take note of the pros and cons of the new opened up building and used it in my next iteration.

Level layout - Iteration B.2 (dm_dairiseki05)



A complete top-down layout of this level iteration. You might want to keep it open next to this document. To open it in another tab/window, [click here](#). And [here](#) for the legend.

Geometry & routes

This was one of the biggest leaps in the project. The first thing I did in this iteration was to scale down the level. Essentially, I grabbed the west side of the level and dragged it all in towards the center. The second thing I did was to close the path behind the westmost building. This was the most obvious and worst of corridors.



Again, I opened up the eastmost building. But instead of three separate floors, I opted to go with only two floors. I lowered the **main floor** near the eastern path. I added **another floor above it**. Then, with **stairs**, the floors meet up halfway and connect to the **rest of the building**.



In response to closing up the westmost pathway, I opened up the house nearby to keep the route available, without the consequence of too big of a map or corridors. I also added a path that leads up to the roof, so that players have multiple options for level traversal.



Weapons

- Stinger Minigun
 - No changes.
- Rocket Launcher
 - Moved slightly away (north) from the pagoda for better visibility and easier to pick up.
- Shock Rifle
 - Replaced the *Bio Launcher* from the previous iteration.
- Link Gun
 - Moved to location of *Flak Cannon* in the previous iteration.
 - This allows for better distribution of weapons. Not all of the favorite weapons are close to each other (Far away from *Flak Cannon*'s current location).

- Sniper Rifle
 - Moved to the second floor of the large temple so that it is no longer in direct movement to avoid accidental pickups.
 - Improves distribution (Further away from other weapons).
 - Enforces sniping from the windows at the upper floor of the large temple.
- Flak Cannon
 - Moved to the newly opened up house in the east.
 - New location allows for much better ricocheting shots off the walls inside the house.

Health

I moved most health inside the buildings, providing places to retreat from battle. I did not want players to heal up quickly, so I removed medium health pickups that were too close to each other.

Armor

No changes

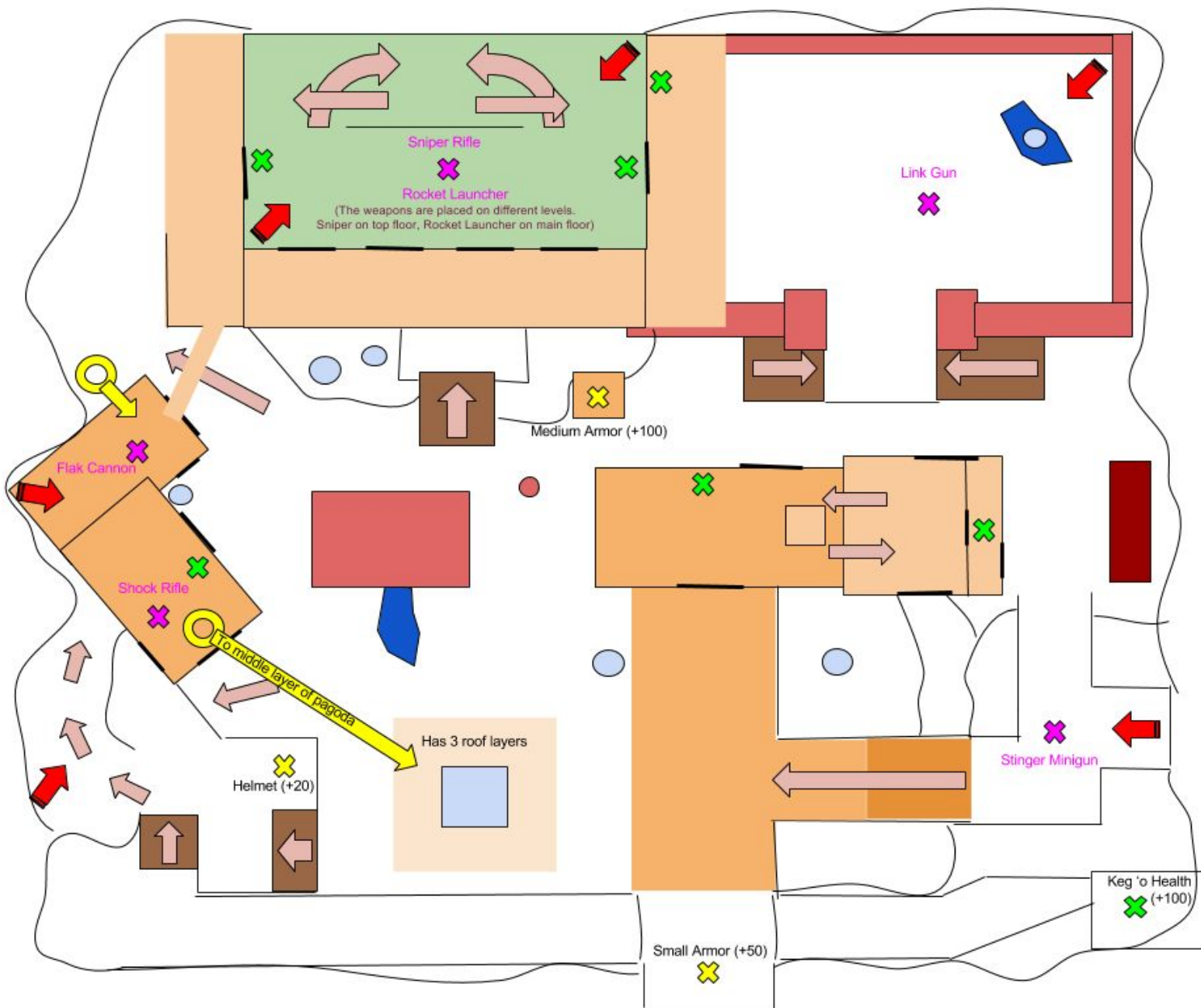
Spawn locations

Only one of the spawn points has been moved, due to the change in geometry. Instead of outside the westmost house, it has been moved to inside.

Feedback received

So the most interesting pieces of feedback that can be found in this data are that **every single player feels that the level is the perfect size** and that **none of the players ever felt lost inside the level**. To me, this seems that the basic geometry is perfect as it is now. Little things can be changed, I.E. extra platforms or ninja routes, but the main paths and rooms should stay as they are. The verticality worked pretty well to my own surprise. People loved walking across the roofs ambushing people. The opportunities for sniping also seem pretty liked. The pickups of all types (weapons, armor, health) can still be improved though.

Level layout - Iteration B.3 (dm_dairiseki07)



Geometry & routes

Added a connection between the big temple roof and the westmost house. This allows players to reach the upper section of the big temple without using the stairs inside, creating much more interesting gameplay.

I also added some small roofs around the balcony of the eastmost house. This allows for some ninja routes.

Weapons

- Stinger Minigun
 - No changes.
- Rocket Launcher
 - Moved to the big temple main floor. It allows for splash damage against the walls and is generally a much more logical and central place for this weapon. It is also a main weapon for one of the spawn points.
- Shock Rifle
 - Moved to a platform on top of the roof of the westmost building. This way it's a bit more accessible and it can be seen directly from one of the spawn points.
- Link Gun
 - No changes.
- Sniper Rifle
 - No changes.
- Flak Cannon
 - No changes.

Health

Moved some of the health pickups to have them a little more accessible. Players have to go out of their way less to grab health, increasing gameplay speed.

Armor

No changes

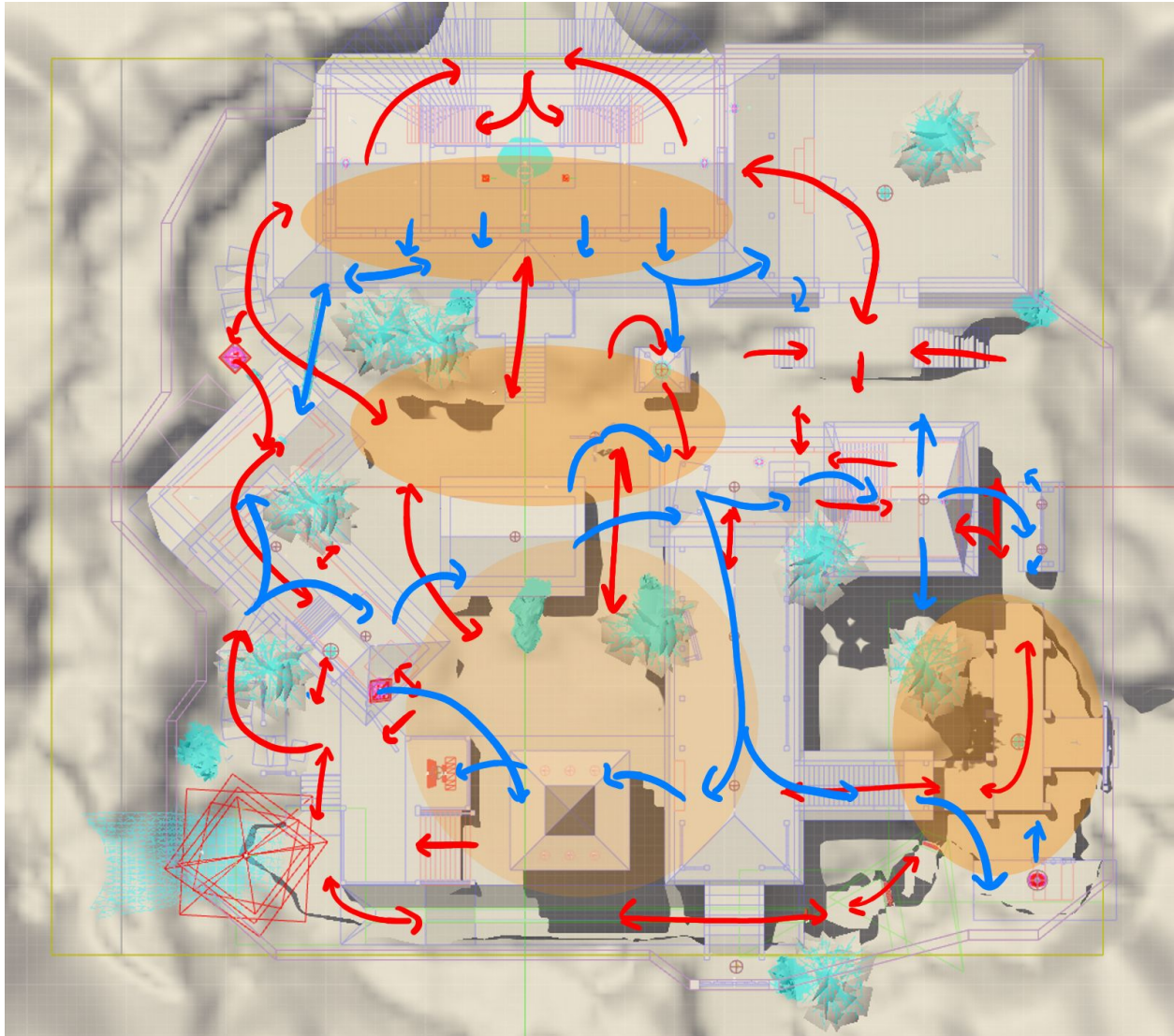
Spawn locations

Added another spawn point to the top floor of the big temple for some more variety.

Flow

There are many, MANY more eight-figures to be found in the level, but these are three examples that can be found in the level.





Now this image may seem daunting, but let me explain. First the arrows. The arrows are indications of player movement. It's not the only way players can move, but these are the most obvious and regular paths that players take in the level. **Red arrows** stand for movement on the ground and within buildings. **Blue arrows** stand for movement over rooftops. Finally, the **orange zones** are main battle areas. The area near the pagoda was intended to be a battle area, although there doesn't seem to be much attraction to this area thus players don't come here often.

Feedback received

First and foremost, the most interesting difference compared to the last map is that half of the playtesters felt the map was too big, whilst I barely touched the overall geometry of the level. However, I do not think that it is invalid feedback. I personally feel that the level is slightly too big as well.

A more positive fact is that my level overall scores an **8** on average. People really do seem to like the level, which is a great morale boost.

The pickups certainly still need some work. Mainly armor is a big issue in my level, as nobody seems to be able to find it. I might want to consider adding in a Shield Belt to provide more armor options, and moving the existing ones. The Flak Cannon also seems hard to find. This is probably due to the fact that players tend to walk across the roof of the building the Flak Cannon is in, rather than walking through the building. For health, I believe people prefer some more medium sized health packs.

LANDMARKS

There are three main landmarks in my level. Although not the only method of keeping track of your location, these points provide easy reference to your position.

Pagoda

This is probably the one that stands out the most. A tall building with three layers of roofs. It can be spotted from most locations throughout the level and thus be used as an easy reference point.



Main Temple

The main temple is a large building in the back of the level. Again, it can be seen from virtually anywhere. The distinct straight lines give it a nice contrast to the surrounding landscape, making it easier to spot.



Waterfall

This is perhaps the most interesting of them all, even though I added it in the last. It's much different from the other two landmarks as it is a more dynamic entity in the level. It has an animated texture and in fact produces a sound. So even when players are not looking towards it, they can tell they are close by listening to the water crashing down. This audible cue can be very helpful.



Other

Main entrance

This area features a small pond with walkways over them. It is very distinct from the rest of the level and thus easy to remember.



Zen garden

The sheer lack of any height difference in this small area, surrounded by straight walls with small roofs make this another memorable area.

