Examining JRPG UI

This is a primer about the composition, organization and artistic aspects of JRPG menus based on a survey of many notable titles from 1992 through 1999, with a few comparisons to other RPGs and genres outside that time frame. Although this primer spends considerable time on artistic aspects of UI design, it is the organization of these things which is its foremost concern. The first part of this primer explains the parts of a menu system with descriptors of size, use and assorted details. The second part of this primer examines statistical trends among JRPG UIs, like the average size of a given element, or the typical amount of padding. All figures are in percent-of-screen, and are therefore resolution-agnostic.

Part One: The Anatomy of a Menu

Because of their similar functions, JRPG menus have similar features. Not every menu has all the same features, but most of them share the primary elements. I'm going to use Super Mario RPG: Legend of the Seven Stars as my example here, because it is one of the most elegant and straightforward layouts of any JRPG ever.

Notice how efficient the UI is. Informational windows cover only about 68% of the screen. The windows are transparent, meaning that one tiled background image is the only thing the designers had to add. Part of the way they do this is by having a brightly colored font—but also by giving that font a subtly stylized stroke. The stroke of an object is the outline of its shape, in this case the dark blue border around the light blue font. The subtle stylistic trick the designers employed is that every enclosed space (like the center of the loops in a B) in a character has been filled in with the stroke color. This stops the lines of the background image from overlapping the middle of characters in a confusing way. Notice also that every single object on the screen is contained

by the exact same vector object, an #F84038 box with rounded corners. The thickness and style of the container are completely uniform. The only thing that scales is the size of the area contained. Even the font size is uniform, except for in one box we'll examine below.

Let's get to the parts of the UI to figure out the information is organized. Not every menu UI has every part that I'm about to name, but most of them do.

The Face Module

Face – This displays the information most pertinent to the player's next action, especially as it regards battles. If a character is going to die or level up, the player might want to know, and the face tells them that information. The face is usually not interactive, except when reconstituted in a submenu, as it is on the right. Even then, however, it's the hand where the player performs activities. Most of the time, the face is there to simply provide information the player needs to make decisions about whether or not to go into menus to use items, change formation, etc.

Note that a lot of the time, the face disappears when the player enters the item menu in order to display a larger amount of items although this is not the case in SMWRPG. We'll get to that later in the hand section.

SMRPG's face takes up 30% of the entire screen.

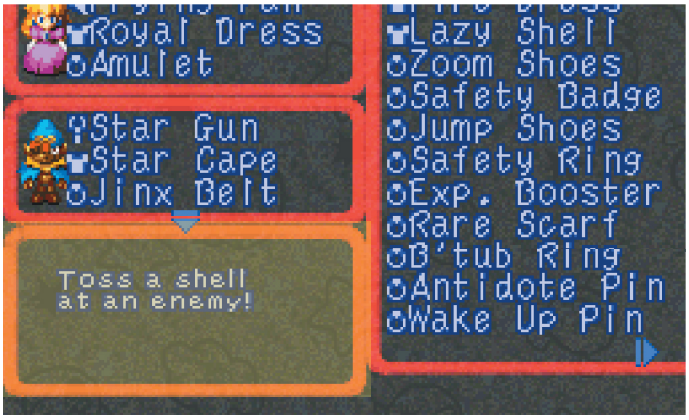
Portrait - Not every game uses a portrait (Dragon Quest 5 and 6 don't), but most of the ones I surveyed did. Interestingly, the portrait in SMRPG is the same sprite that is displayed during battle when the player is entering commands, which saves on space. In SMRPG, the portrait is sized at just under 1% of the total screen size, and about 3.7% of the face.

Stat Card - The stats displayed on the face. In SMRPG there are only two lines of stats, for three reasons. Firstly, debuffs are not carried over from battle to battle, so there is no need for a display them. Secondly, the party uses a shared MP pool, and that pool is located with the other shared resources in the counter. Finally, the designers don't include EXP totals in the main menu's stat card, probably because there are only 30 levels, and grinding is not as big a part of the game as a result of this. In SMRPG, the stat card is 17% of the face and 5% of the screen.

Hand - The hand is the part of the menu which is always interactive and used for selecting other menus. Squaresoft seems to have had a strong preference for right-handed menu screens, and SMRPG is no exception. The hand is consistent in that it usually only connects to further menus without having any left or right "tabs" or off-screen scrolling features. That is, the whole hand is always visible without scrolling. In SMRPG, the hand takes up 23% of the screen in the main menu, and 46% of the screen in the items menu.

Counter – This is a box which usually only appears on the main menu screen. This module counts things, usually shared or party-wide resources like money. It also counts things like total play time, number of steps and the like. The counter in SMRPG is 15% of the screen.

Hand (Yellow) Counter (Blue)

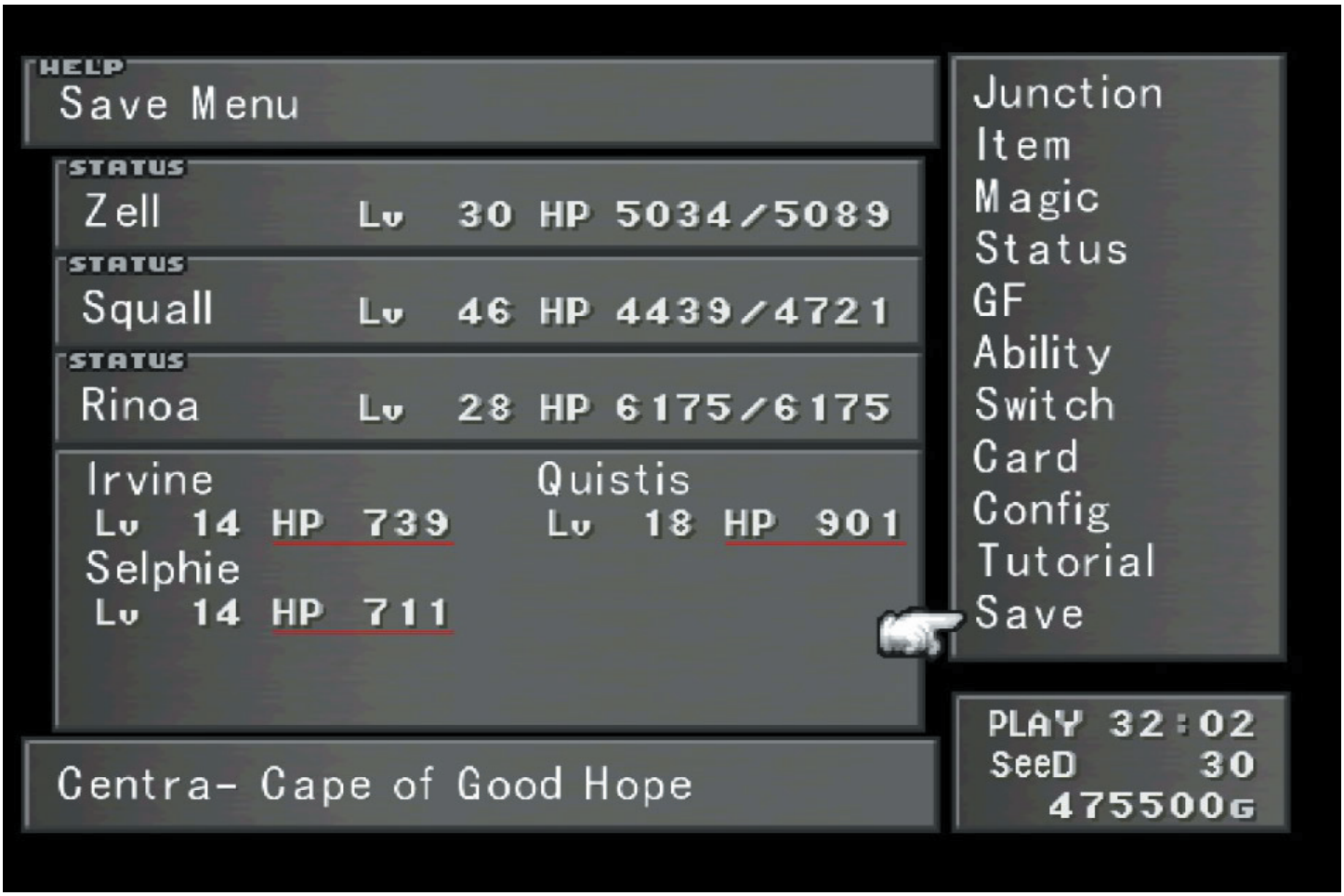


Palm – The Palm displays what is held in the hand. Or, in other words, when the player uses the cursor to select an object in the hand, the palm will display some information about it. Usually this is just text, but sometimes it will have statistical information as well. Note that if there is any change in font size among the menu modules, then it is most likely to occur in the palm. One other interesting fact: in all the games I surveyed, the palm is always contiguous with the hand. That said, the Dragon Quest games in my survey do not use palms, so my sample only includes one non-Square game.

Another thing I want to point out about the palm is that it is absent on almost all main menu screens. It seems then, that it's a best practice to make menu options that explain themselves. Everyone knows what "item" "equip" and "map" do instantly. If players get confused about your main menu choices, it might be wise to gray them out and introduce them piecemeal, or change what appears on that front page.

The palm in SMRPG is 9% of the screen in the item screen.

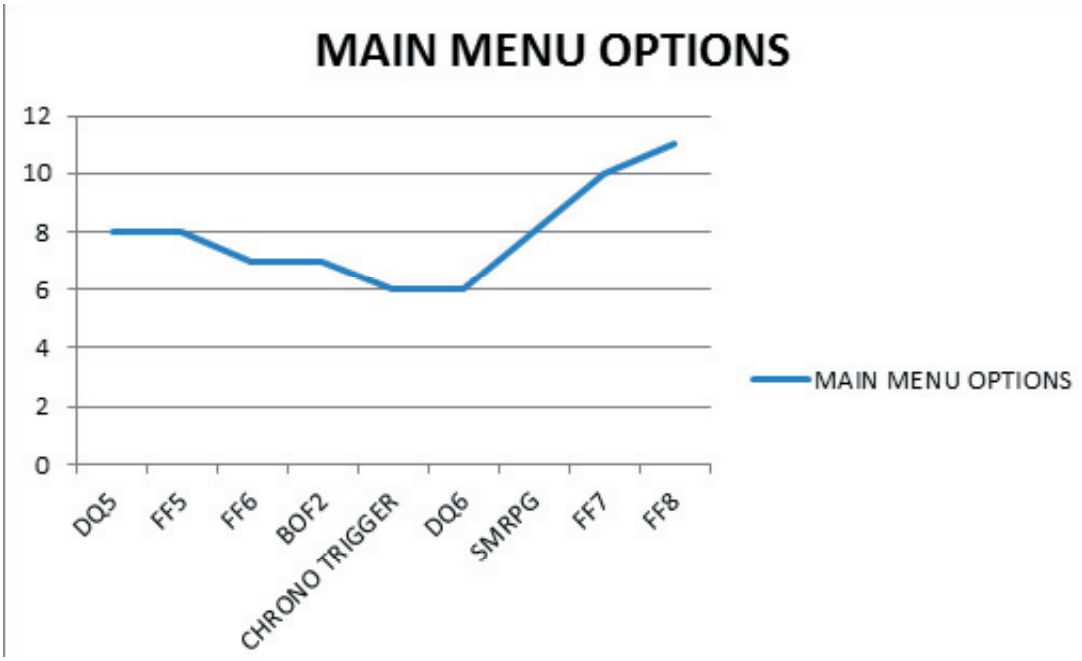
Title – This is a title for the screen that the player is on. Super Mario RPG does not use titles because its design is so simple. Here is a title from Final Fantasy 8.



The title in this screen is 7% of the total area. There's also a feature unique to later Final Fantasy titles (at least within the scope of my survey): the location marker. This is much like a title, and occupies the same amount of space as the title.

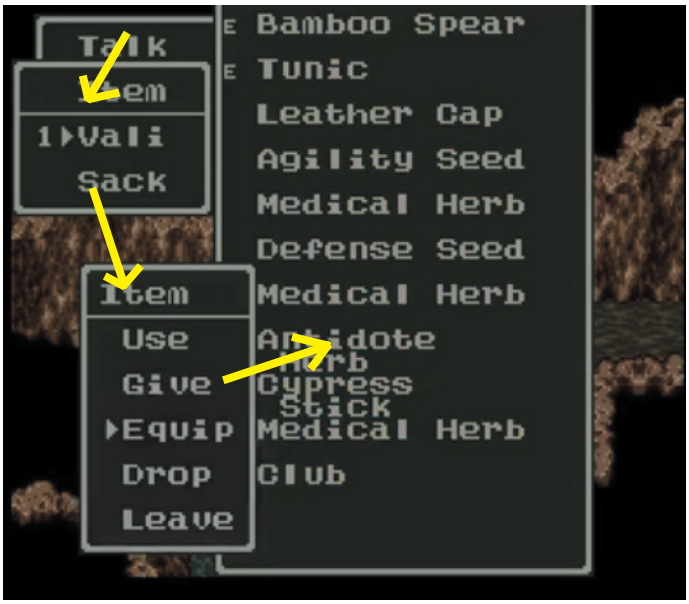
Part 2: Statistical Analysis of Menu Components

In this section I'm going to provide some statistical information about the number and relative size of the components in a menu UI in the JRPGs I surveyed. I want to point out (and I do several times) that everything in measured in terms of screen area, and so the measurements are relevant regardless of the resolution of the game or system on which the game is played. Let's start with something simple like main menu options. Here are the games I surveyed in chronological order, and the number of main menu options they have.



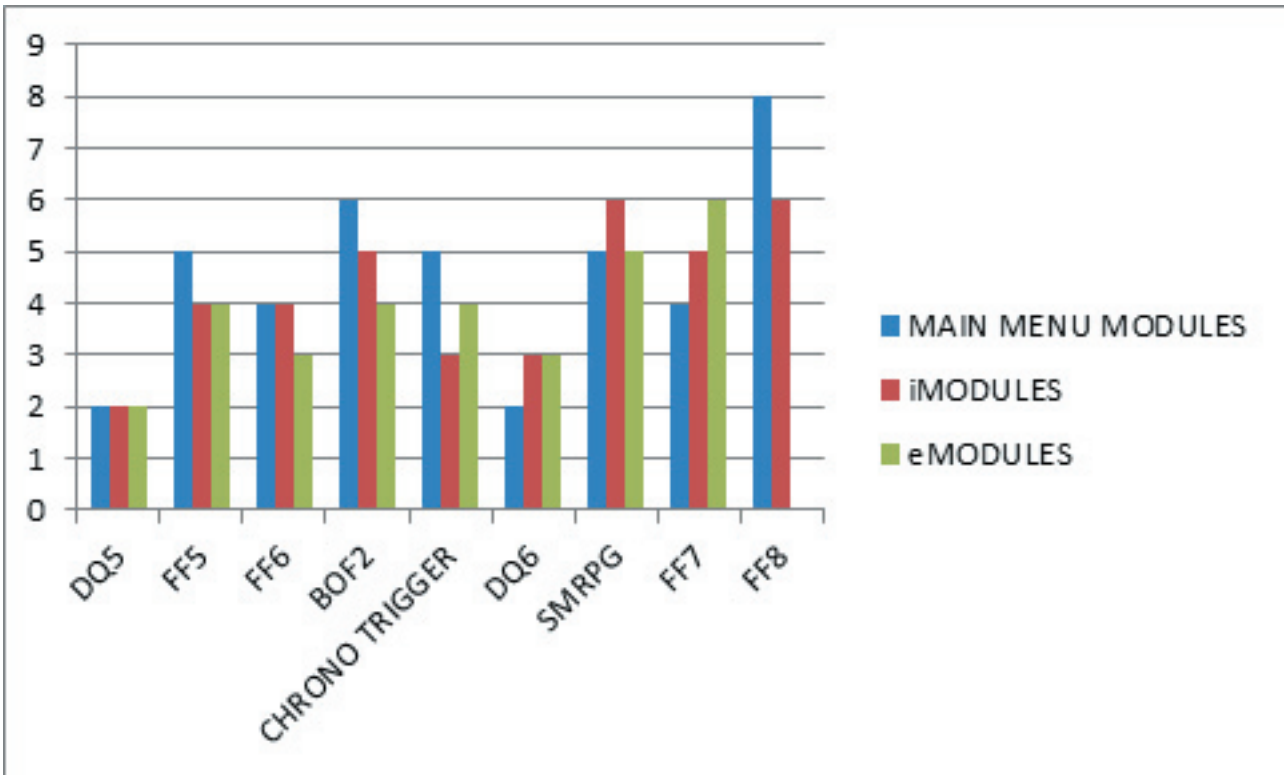
(Average = 7.8)

The general trend is more menu options over time, which makes intuitive sense. That said, Chrono Trigger and Dragon Quest 6 seem low. Chrono Trigger accomplishes this by combining the main menu's face screen with the equipment and status screens. Dragon Quest simply eliminates the equip screen and does everything through the item screen with some clunky UI.



So unless your UI is going to be as stylish and compact as CT, or as clunky as DQ6, it will probably be hard to get fewer menu options than what we have here.

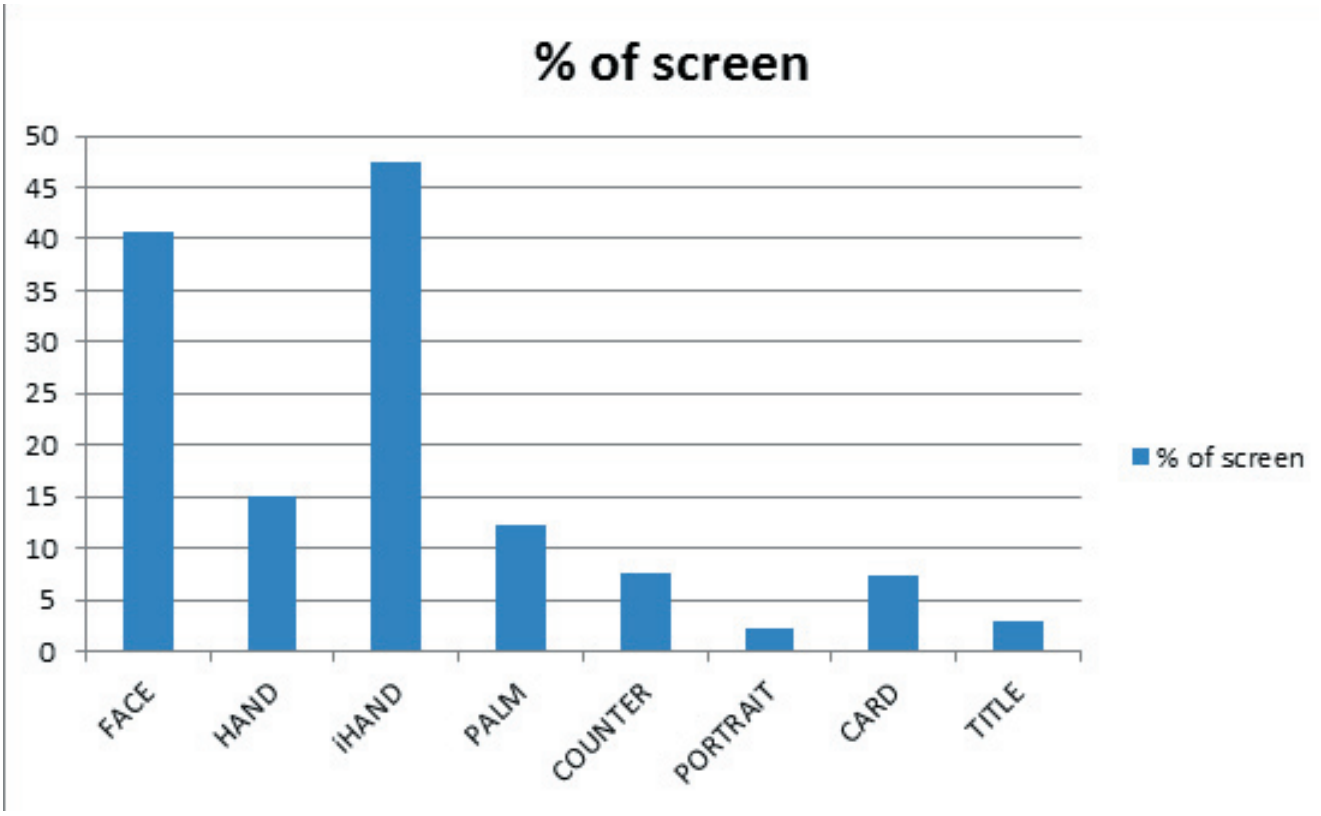
Let's also take a look at how many modules there are on a screen. By module I mean any vector-shape container which serves as the background for a part of the UI like the face or hand or counter.



The label iModules means item/inventory screen modules, and eModules refers to modules on the equip screen. This is a lot of data, but I think it actually shows us something pretty spectacular about menu design. The number of modules varies from screen to screen by less than two. So, it's probably a good idea not to have one screen with too many interactive parts on it; break it up into smaller pieces.

The Sizes of Things

Below is a chart detailing the sizes of various menu components. Because the games have different resolutions, I have normalized the component measurements by measuring them in terms of % of total screen area they occupy. First we'll take a look at a graph of the average size of every component.



Note that I have included the average of elements from more than one screen. You can see the difference in size between the hand module (main screen) and the iHand module (item screen). The item hand takes up about thirty percentage points more space than the main menu. Most of that area is being borrowed from the face screen, which usually disappears on the inventory screen. If you're math-inclined, you'll notice that the increased size of the average iHand doesn't fully explain where the all the area occupied by the face went. Some of that space also goes to the palm, which is usually absent on main menu screens. Some of it also goes into the title module, which is always a useful thing to include, because players new to your menus may not recognize what screen they're on at first.

The only other thing I really want to point out about the averages is how small the average portrait and stat card are. The portrait is one of the most central or most important visual aspects of a menu, and yet it averages 2.2% of the area of a menu screen. Likewise, the stat card averages 7.4% of the screen. Even with four party members on screen, that doesn't add up to the average size of the face, so this does show that the typical face module in a JRPG UI is pretty spacious. We'll actually go over some of the technical reasons for that in the section on padding below.

Highs and Lows

I want to take a look now at some of the highlights of the survey—the parts of UIs which stood out because they were abnormally high or low as compared to the average.

Smallest face module: Dragon Quest 6. Largest face module: Final Fantasy 7.

I already mentioned that DQ6 was a bit of a clunker in the UI department, and I think a lot of that is a function of the diminutive face UI. The whole main menu suffers from this, but a face that is 7% of the whole screen? It ends up making the rest of the menu pretty awkward.

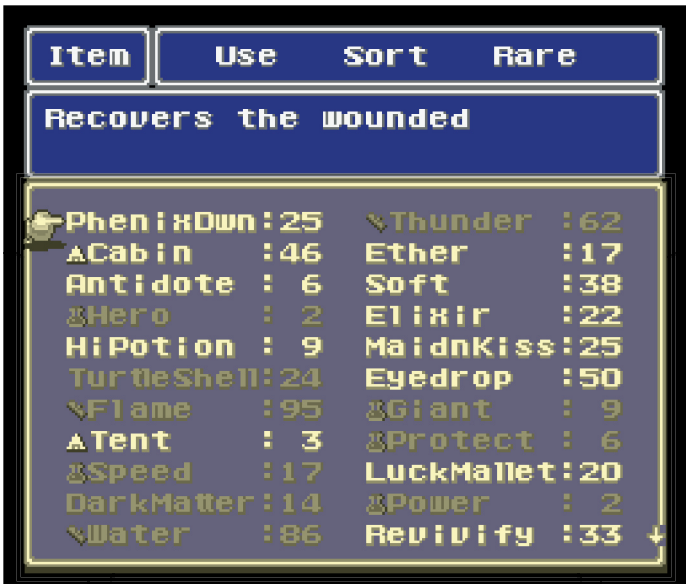
Smallest Hand: Dragon Quest 6. Largest Hand: Super Mario RPG

I don't have to reiterate what's going on with Dragon Quest; the menu is clunky, although I've seen worse (I'M LOOKING AT YOU, GRANDIA!). The hand here is roughly 11% of the screen.

The explanation for SMRPG's large hand is actually pretty simple too: the menu uses a large font and some of its menu options are two words long. That requires an especially wide hand module to fit in—about 23% of the screen area. All that width makes up for its lower number of menu options

Smallest iHand: Final Fantasy 8. Largest iHand: Final Fantasy 5.

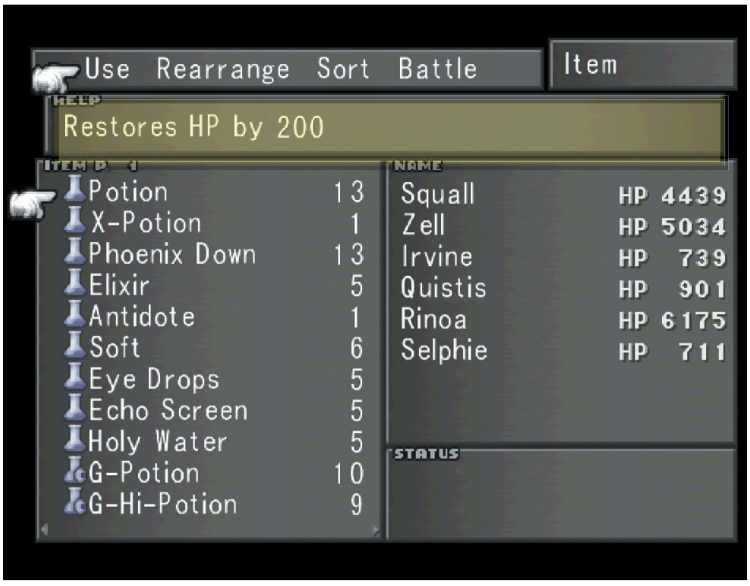
Items are not important in FF8 the way they are important in the other FF games, because of the junction system, and because there are no armors or accessories. Also, the FF8 item screen has two palms, one that explains the item and one that explains the condition of the target of the item.

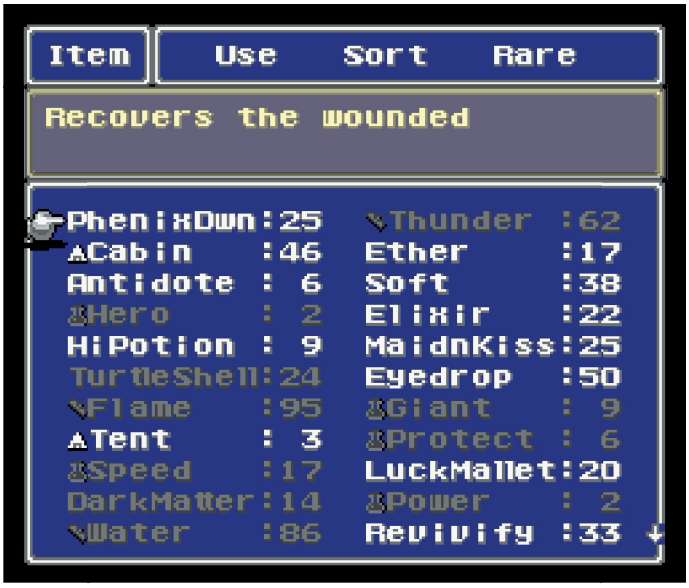


FF5's large iHand is only slightly larger than FF6's, and it's only because the top two modules are compact, giving the iHand more space.

Smallest palm: Final Fantasy 8. Largest palm: FF6.

I already explained that FF8 has denuded the item of some of its use, but there's another explanation for the small palm. In FF8's GF, junction and status menus, there are 23 other "tabbed" menus which can convey information about various stats, spells and effects. This takes some of the burden off the palm, which was already a light burden.





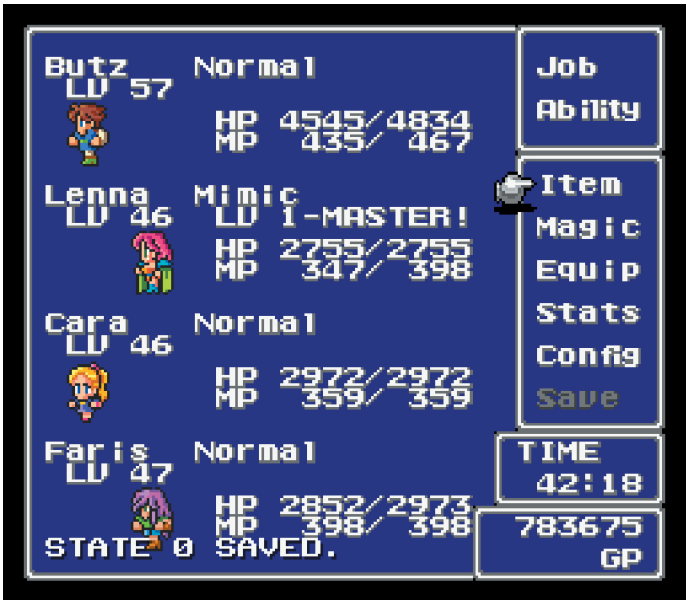
Then again, if I'm being completely honest, DQ5 and DQ6 don't use palms at all. Items are, instead, explained upon pick-up. Take that to mean what you will, but I think palms are good idea. Why does FF6 have the largest palm? It's not that much higher than several other FF titles, and I can't think of a reason why it should have such a large palm. My only thought is that because FF6 has so many characters, and a broad array of equipment for them, that the palm is a little bigger to help fit in explanations. I am not convinced that this is true.

Largest Counter: Super Mario RPG

Several games were too close together in counter size to matter, but the largest by far was SMRPG. Why was this? SMRPG has more currencies to count than any other counter, including the MP pool which the party shares. It covers almost 15% of the screen.

Largest Portrait: Chrono Trigger
Smallest Portrait: Final Fantasy 5

Squaresoft brought Dragon Quest and Dragon Ball artist Akira Toriyama on to draw characters for Chrono Trigger, so we should not be surprised that his art was featured more prominently than normal. Still, each portrait is only about 4% of the screen size.

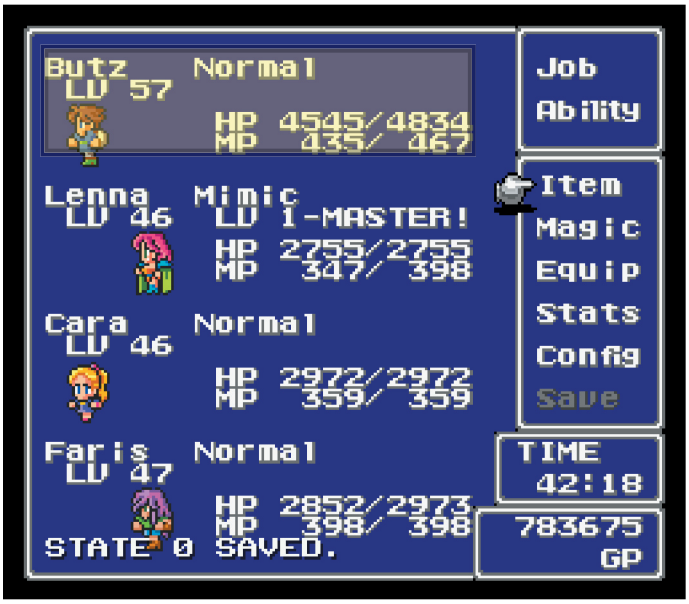


The FF5 portraits were the smallest. Like SMRPG, they are made up of sprites that exist elsewhere in the game. This saves space, and it doesn't hurt a game which isn't known for being a graphical breakthrough. Each sprite takes up about .6% of the screen.

DQ5 and DQ6 don't use portraits in menu screens, so that is a consideration as well.

Largest Stat Card: Final Fantasy 5. Smallest Stat Card: SMRPG.

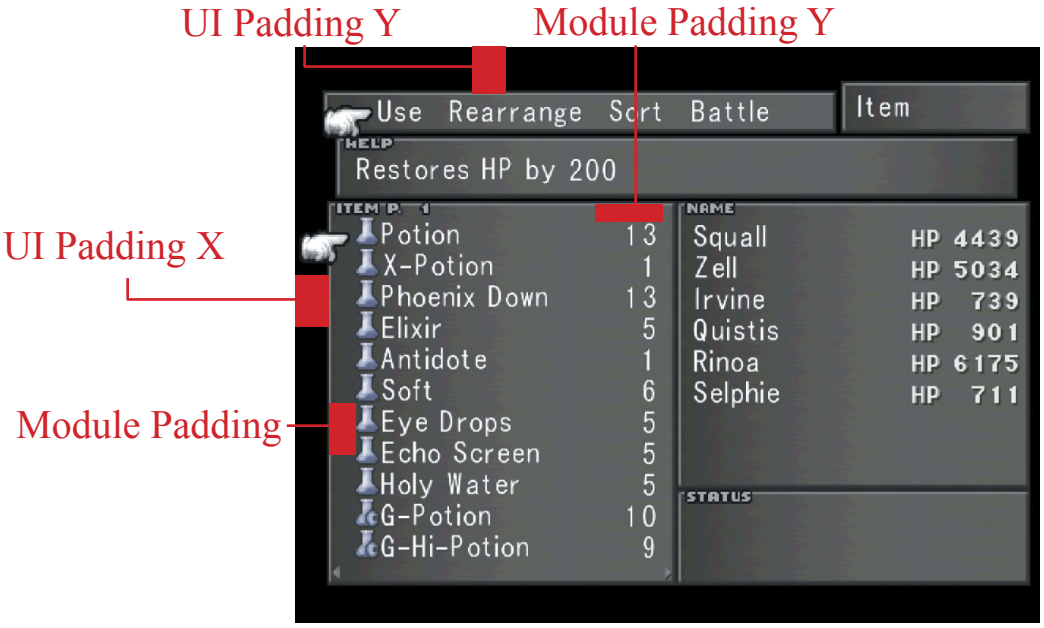
FF5's stat card includes job classes as well as job levels, which expands the size of the card.



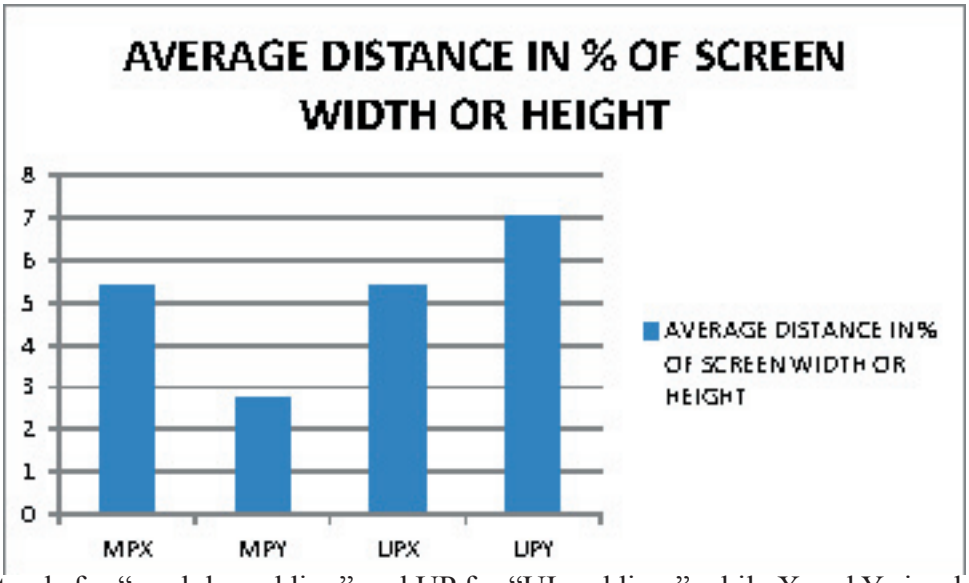
Super Mario RPG has little info in the card, partly because some of that info is in the counter since MP are shared between party members The padding on the top is also non-existent, and the padding on every other side is unusually small. This brings us to our next section, on padding.

Padding

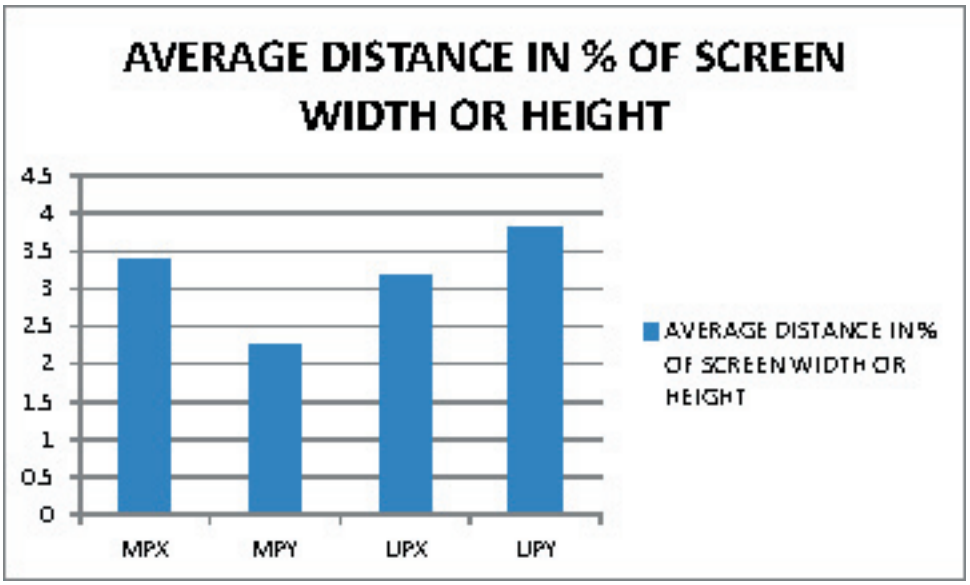
In case you are unfamiliar with terms that were born in the typsetting industry, padding refers to the amount of space between the edge of a page or module and the text/images. In typesetting practice, the padding on things tends to be symmetrical, but that isn't the case in JRPGs. In several of the games I surveyed, the bottom part of the UI had extra space or the like. I haven't reported this, as I didn't believe it is as important to the visual presentation of the UI in the same way the top and side padding is. But let's take a look at what I mean.



I have separated the measurements in to overall UI padding (the amount of space between the UI and the edge of the screen) and module padding (the amount of space between the module border and the text or portrait). If you look closely, you can see that the padding sections aren't uniform across modules, and this is true of a lot of UIs. One saving grace is that while they're not uniform, they're usually pretty close. When a certain module (like a title) doesn't follow the padding rules, it's usually because that module is drastically smaller and simply can't afford any padding. Where I have measured padding in UIs and modules, I have tried to favor hands and faces. In any case, here are the averages.



The abbreviation MP stands for "module padding" and UP for "UI padding," while X and Y simply mean along the X and Y axes. The thing that stands out for me here is that the X-axis padding is the almost exactly same for modules as it is for the whole UI. The Y-axis padding, on the other hand, varies a lot more. If you remember, though, the UI padding for Dragon Quest was radically different. Below is a graph without Dragon Quest.



Everything drops in overall size, but the proportions stay *really close* to what they once were. So while there might not be any single number that tells you how much of your screen you should use as padding, it does seem like the X-axis should be the same for the UI as it is for the modules, while there's more leeway (but not too much!) in the Y-axis padding. It seems like it's more important to push the overall UI padding down from the top, while the distance between the top of the modules and the text simply isn't that important. Super Mario RPG gets away with a Y-axis padding of 0 in its modules; that's part of its spare elegance, but it's not possible for every game

Last Thoughts

This is not meant to be a paint-by-numbers guide to creating JRPG UI, or any other UI for that matter. The purpose of statiscal analysis, and numerical knowledge about game design in general, is to give the aspiring designer a baseline against which he or she can measure his or her work. It is the opinion of this author that the greatest works of art are powered by the tension between constraint and freedom. UI must be functional, and that is the constraint, but if it can also be stylish, there is room for at least a little freedom too.