

A Report On A UI Design and Evaluation Plan

Exam No. B024703

March 6, 2017

1 Introduction

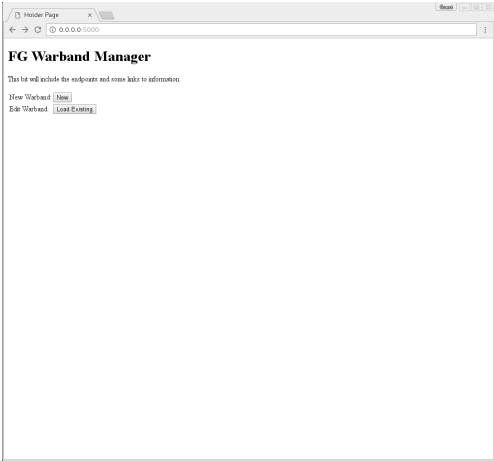
This report describes the design of a new user interface (UI) for a web application that facilitates playing a table top game. The UI was prototyped using Balsamiq, a tool that enables fast mock ups to be built. The mock ups shown give a clear impression of not being final, while giving a clear indication of what the software would be like to use. This is crucial for managing the expectations of a customer who may not have a technical background and may not understand what is required to actually implement a full-featured version.

This report will first show the current state of the UI that will be improved. It will then describe, and offer some justification for, the design choices that were taken for the proposed improvements, before detailing a plan for evaluating the usability of the proposed UI. Finally a brief conclusion will be offered.

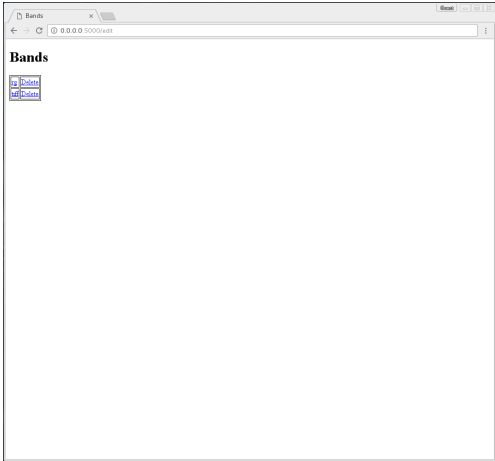
2 The Current UI

2.1 Description

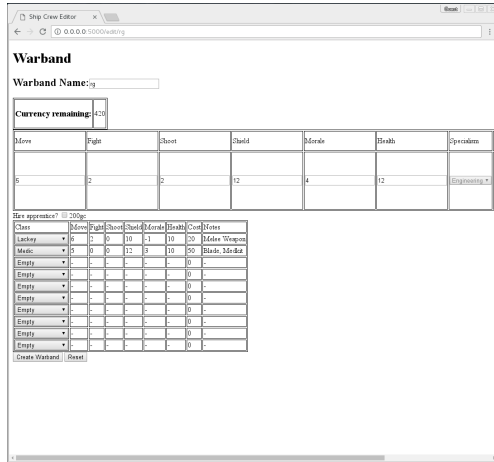
The UI at present is very limited and only offers basic, unstyled HTML pages. The UI has a homepage which has two links: *New* and *Load Existing*.



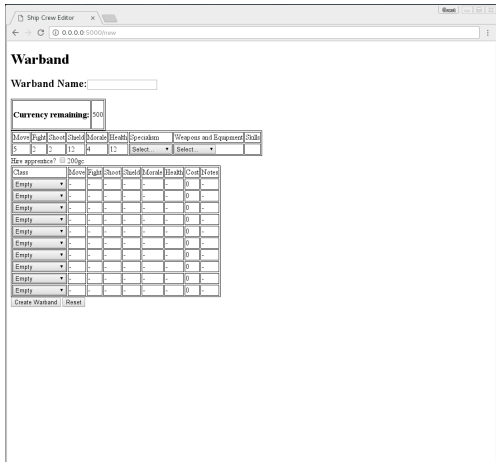
(a) Home



(b) List of Existing



(c) Edit Band



(d) New Band

Figure 1: The four screens of the current UI design.

The *New* link leads to a form that allows the user to submit a new band. The *Load Existing* link leads to a screen that lists all bands currently stored. Each element in this list is a link to a screen that shows the details of the selected band and allows the user to edit it. In total there are four screens:

- *Home* - this contains links to *List of Existing* and *New*.
- *List of Existing* - Contains a list of existing bands, each links to an *Edit Band*.
- *Edit Band* - A form that is dynamically populated with existing band data.
- *New Band* - An empty form that users can populate to create a new band.

2.2 Defects

Figure 1 shows the four screens as they currently look. While it would not be productive to describe in detail the flaws in what is clearly a very limited UI, some of the major defects are detailed here.

The most obvious of these is that none of the screens contain links back to the home page or any parent page. These can only be returned to using the browser back button. In addition to this the content on each page is poorly sized. On the *List of Existing* screen only a very small fraction of the browser window is used. This contrasts with the *Edit Band* which contains a table so wide that it could not reasonably fit within the width of a browser window. There is also no CSS styling at all, meaning the pages look very Spartan and poorly formatted.

These defects are all present in addition to more obvious, but easier to fix UI bugs, such as having “Holder Page” as the page title and “This bit will include the endpoints and some links to information” as text on the Home page. The UI described in section 3 aims not simply to correct the many faults of the current UI, but to offer a completely new prototype without any of the defects associated with the current one.

3 The Proposed UI

The following design was sketched using Balsamiq Mockups, a UI wire-framing tool. It claims to enable fast development of UIs that look like “I just threw this together” [1]. This ties in with a broader trend in software development, where mockups are deliberately designed to look like they are not the final version. In extremis this may mean simply drawing UI screens in pencil and paper, as suggested in [2]. This helps to solve the problem of a customer assuming all work is nearly complete when only a wireframe of the front end has been finished. It can also elicit more frank feedback, when a customer might be more polite about a more professional looking, but nevertheless unfit for purpose, UI.

3.1 Screens

3.1.1 Home Page

The prototype provides two different Home Pages, depending on whether the user has logged in. These are both shown in figures 2 and 3. If the user hasn’t logged in the page encourages the user to do so, or to register for an account. This page will also display a suitable image that is evocative of the game.

Once the user is logged in the server will render and serve a Home Page which lists the users Squads in a table. The squads in this table will be links to the “Edit Squad” page for that squad. On the right hand side is a “Recent Matches” Bar. This will show scores of matches. These results will need to be entered by an administrator. It will be necessary to discuss with the customer how this will be done, and how many people would be qualified to act as such an administrator as this is not described in the brief.

3.1.2 Log In/ Register

This screen simply allows the user to log in or register. Once they have done this successfully they will be returned to the *Home Page - Logged In* screen discussed in 3.1.1. These two screens are shown in figures 6 and 7. Once the user has successfully logged in or registered they will be directed to the

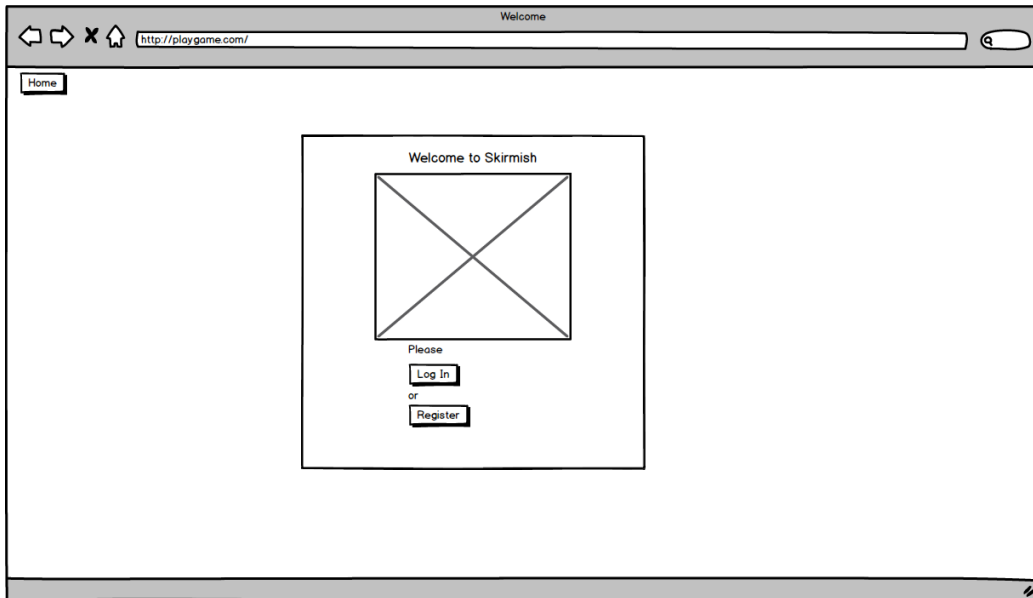


Figure 2: Home Page - Not logged in

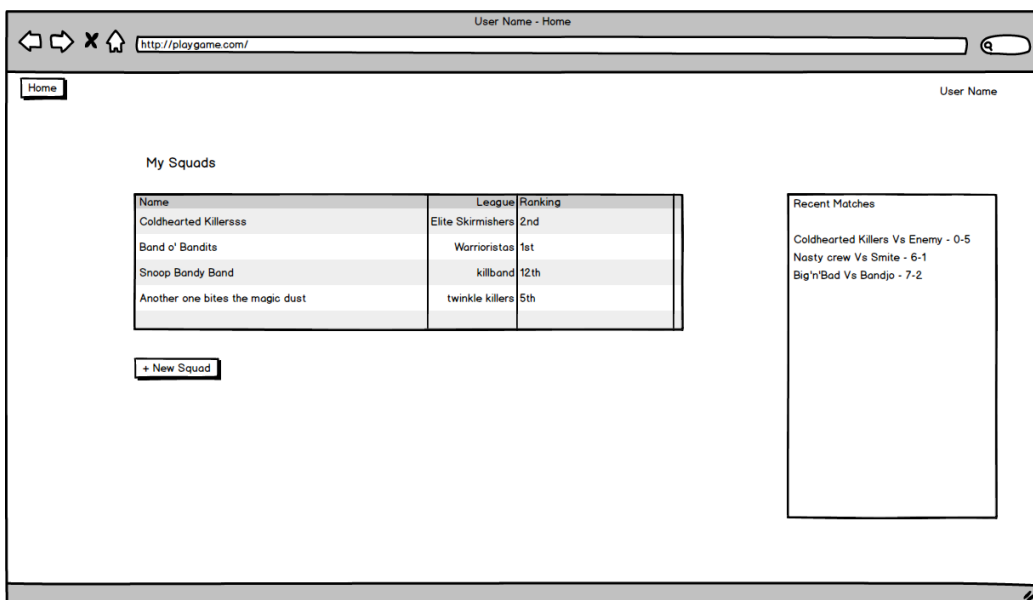


Figure 3: Home Page - Logged in

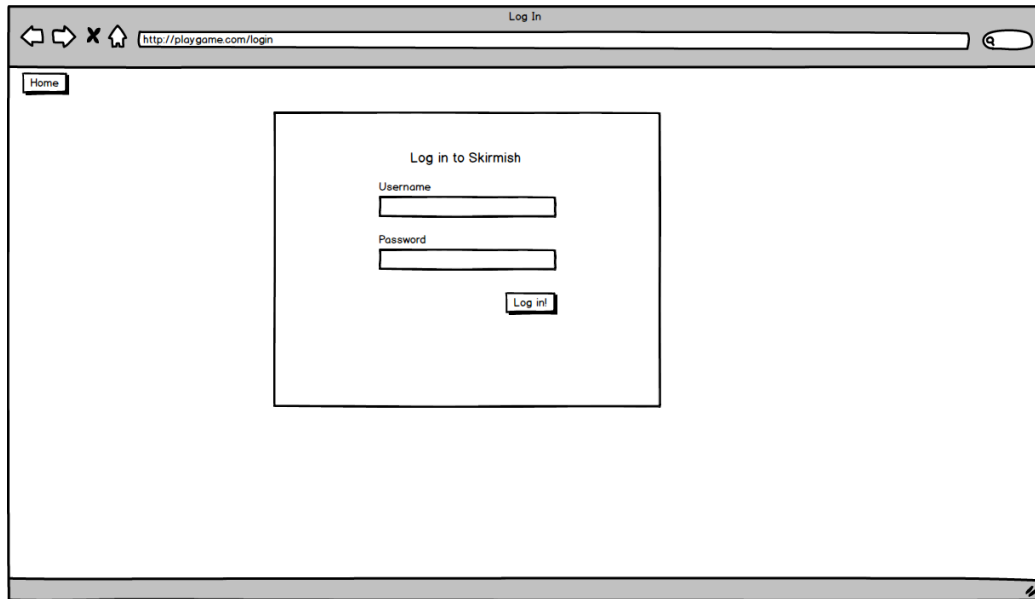


Figure 4: Log In

Home Page - Logged In screen.

3.1.3 Edit/Create New Squad

From the *Home Page - Logged In* screen users will have the option to either view and edit an existing squad, or to create a new one. Depending on this choice they will be directed to either the *Create New* or *Edit Squad* screens shown in figures and respectively. These allow the user to view and edit members of the squad. A mechanism for editing specific characters in the squad has not yet been prototyped as the specification for this process in the brief provided is not sufficiently unambiguous. This should be formed through discussions with the customer. This process is discussed in section 4. These screens allow images to be displayed for each character. Again discussions with the customer should happen about what these images might be and as to whether art work already exists for this project.

Register

http://playgame.com/register

Home

Register with Skirmish

Username

Password

Register

Figure 5: Register

New Band

http://playgame.com/new

Home

User Name

New Squad

Squad Name

Captain Name

Ensign

Enable Ensign

Member 2

Member 3

Member 4

+ Add Member

Save

Unable to save because: xxxxxxx

Recent Matches

Coldhearted Killers Vs Enemy - 0-5

Nasty crew Vs Smite - 6-1

Big'n'Bad Vs Bandjo - 7-2

Figure 6: Create New

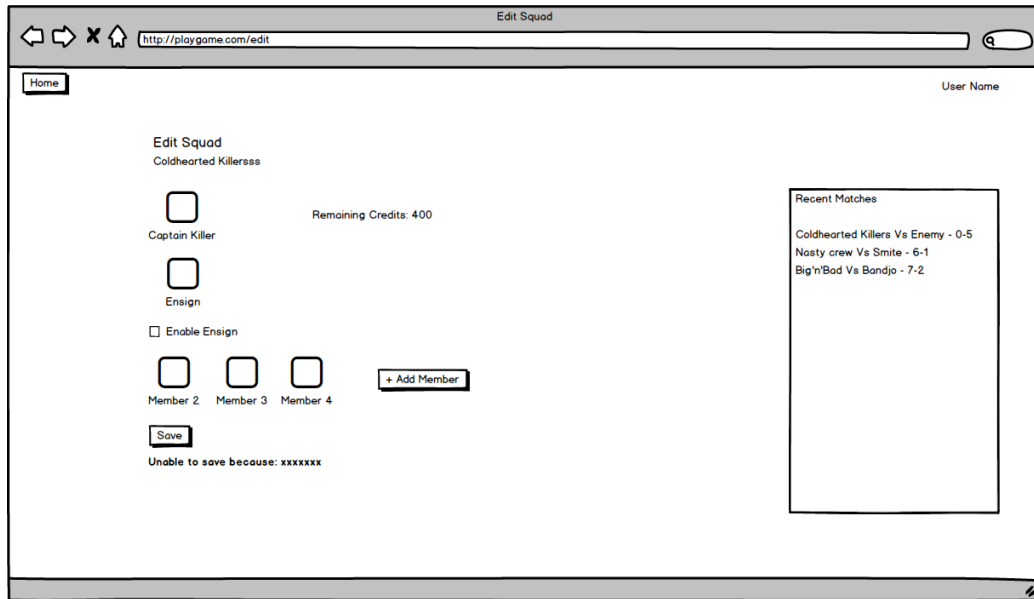


Figure 7: Edit Squad

3.2 User Flow

A flow chart has been included as figure 8. Note that *Edit Character* has not yet been mocked up.

4 Evaluation Plan

It is important to emphasise the conversational nature of good UI design. A good UI that fits the needs of the customer will only emerge from process of dialogue from the earliest stages.

4.1 User Stories

One key strategy for provoking and formalising this dialogue that is used by the Scrum and XP agile processes is User Stories [3]. These are short descriptions of interactions the end user will have with the software that are defined by the stake holder, not the developers. As well as aiding in the design of the UI, these stories can provide a vital link between the back

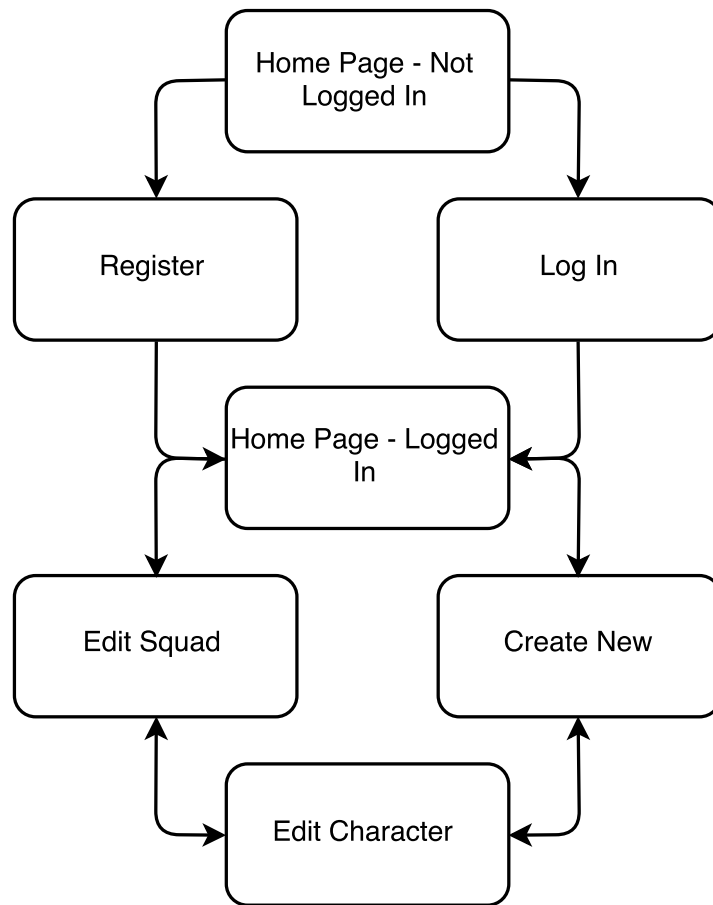


Figure 8: Control flow of UI

end development process and the front end development process, as back end development tasks that are tied to specific User Stories. The process of thinking through particular user flows can also force the customer to think more clearly about what they want, and understand more easily why what they want will be more complex to deliver than they anticipate.

As a simple example, a user story might be:

“As a User I want to log in so that I can view my squads.”

This describes as a high level what a specific class of person will need from the system. A full suite of these user stories should be formed with the customer. These can be grouped into *Epics* such as “Log In”, “Match History” and “View Squad”. All future development tasks can then be assigned to one of these user stories.

4.2 Presenting Mock Ups

While in a traditional Agile/Scrum approach mock ups would be completed after the User Stories described in 4.1, for the purposes of providing a complete report on UI design some mock ups have been completed. These should be presented to the customer and together the process of using the website should be simulated, with the customer selecting what to click and the appropriate screen then shown. Where screens do not currently have full features, such as for editing characters in the *Create New* and *Edit Squad* screens, the nature of these missing elements should be discussed and, if possible, sketched out.

4.3 Persistent Contact with The Customer

An approach where a detailed specification is given by the customer and this is implemented in a detached fashion over a period of time should be forcefully avoided. This will yield undesirable results, particularly in the UI. Instead an iterative approach should be taken, with elements of the project completed and then discussed with the customer. This should apply to both UI design and implementation. As such it will be necessary to complete

many more mock ups of new screens throughout the development process, as well as these screens' implementations.

In Agile/Scrum terminology the period of work between this contact are known as "sprints". In these, work is done such that a working product is completed after each sprint, even if this product is not fully featured. These can then be discussed and refined with the customer. This process means that UI development will not outpace the back end work, which can lead to unreasonable expectations from a customer who does not appreciate the work that goes in behind the interface. These sprints might typically last two weeks. As such meetings with the customer should be planned after each of these, where further demonstrations of the UI can be done.

5 Conclusion

In conclusion, an early attempt at a UI design has been presented. While it might be said that it lacks detail, it has been proposed that this detail can only be accurately formed in collaboration with the customer. A plan for this process has also been presented. This plan aspires to follow Agile principles. According to a strict interpretation of Agile/Scrum, no UI design work should be undertaken before clear User Stories have been defined by the customer. However, a more pragmatic approach has been taken here, with a skeletal selection of key screens presented, as well as some discussion of what screens might need to be added.

References

- [1] Balsamiq. *Balsamiq Mockups*. <https://balsamiq.com/products/mockups/> Accessed: 01-03-2017
- [2] Snyder, C. (2011) *Paper Prototyping*. Amsterdam [u.a.]
- [3] Agile Modeling *User Stories, An Agile Introduction* <http://www.agilemodeling.com/artifacts/userStory.htm> Accessed: 01-03-2017