



Report 1.1

FITFORGE ALLOCATION SYSTEM

T039 | P062

7/7/2024

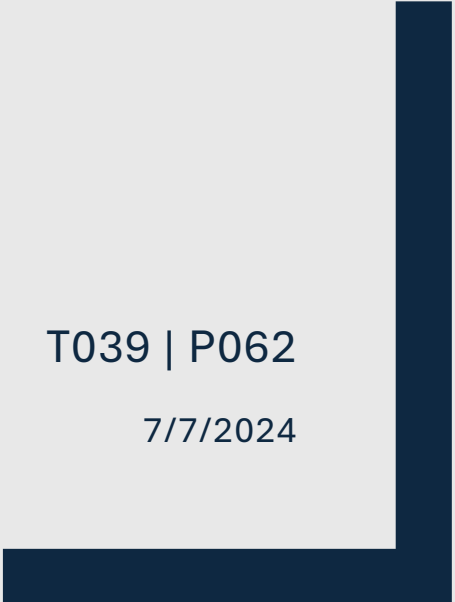


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Abstract

Over the past week our team has focused on and managed to complete the main goals of Sprint 0, allowing us to begin more detailed work on the system in the upcoming weeks. This involved formalising the functionality of the system, designing some plans for UI, and implementing the remaining functionality of the algorithms and display. From here, we will be moving into Sprint 1, the main development phase, wherein the remaining functionality, UI and connections we intend to implement for the first prototype testing version will be implemented over the next two weeks. For the upcoming week, we intend to develop the four main UI components we have determined will be needed the most in the system, with only basic connective functionality implemented only inasmuch as is needed to ensure it works.

Overall Goals

As was stated last week, this five-week phase of development is intended to culminate in a working and tested system that is able to be used in a real-data test. As such, we will be developing the major UI features, and connecting them to the data storage and algorithmic methods of creating allocation sets.

As we have begun developing, we have defined some terminology to be used as we work. This will make it clear as to what we are speaking about with consistent meaning and allow us to all work with clarity as we work.

The teams are defined as numbers from 1 to m , with individual teams being noted as using the variable i when generalised.

The projects are defined as numbers from 1 to n , with individual projects being noted as using the variable j when generalised.

While each team and project have their own specific requirements and capabilities, these are represented in the fit values, which when combined with the preference values produces the b values characterising each combination of team and project, or a “pairing”.

A “pairing” is a combination of a team and project. As we are expecting to work with the b value data calculated by the unit coordinator that will be loaded into the system, each team has a potential pairing to each project, characterised by the fit and preference values.

An “allocation set” is a set of allocations that would provide a theoretical matching for every team to be assigned a project according to the requirements input into the system. This is a self-contained $m \times 2$ matrix, of team/project rows, indicating one full set of allocations.

We will be developing to ensure we can represent the potential pairings in as many ways as possible, to produce allocation sets for the user and to store the allocations and rejections as we work. This will be done through four main UI components, implemented to interact with each other using react hooks and subcomponent frameworks.

State of the Project

Over the past week, we had two main goals that we intended to achieve over the sprint:

- The project functionally implemented enough for individual development
- Functionality of prototype redesigned

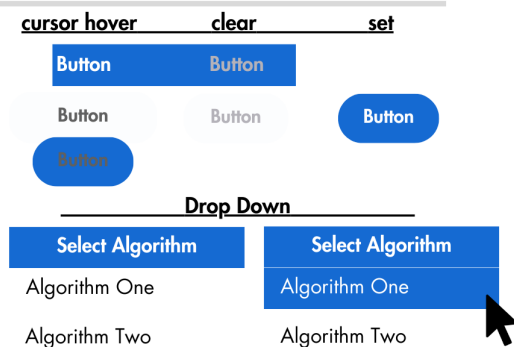
These were both achieved, and importantly so as we needed to be able to develop individually and not rely on other features of the program to ensure functionality can be implemented. In addition to the work on base functionality, we spent time as a team reconsidering the overall design and workflow of the project. This allowed us to go into the next sprint with an understanding of how we would use the project, guiding our development.

Over the week, one of the main tasks completed was developing a temporary scheme. While our focus still does not concern UI and the overall design, having some consistent pattern is essential to ensuring our designs flow together. As such, a stylesheet was developed, and the proper implementation in demonstrated according to it. From here, we will be working this stylesheet into the project as we go.

Colour Palette



Buttons



Typography

Futura

ALLOCATION
allocation
ALLOCATION
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allocation

Based on this planning, we are fully prepared to go into the main development sprint, and on track with the sprint plan we designed for this phase. Our project is on track, and while we have redesigned and reconsidered features, the agile method of development has allowed us to work iteratively and take our time to determine the overarching understanding while we develop features that don't rely on that being firmly defined.

Goals for this Week

This week is the first of the two week Sprint 1, wherein we will be working on the major UI components as we work, with an aim according to our sprint plan to have them done by the end of this week, allowing next week to focus on the final technical development, finalising the functionality. To that end, during our meeting we discussed and defined the four major UI components that would be needed, how they should work in the typical user flow, and what would be needed to have them meet our functional expectations by the end of the week.

The first component is the user input, wherein they can upload the excel data. This component should be capable of not only reading the fit data and preference data from the spreadsheet, but pass it to the CoreService context instance, get user input about which projects could take multiple users, identify which sheets were fit and preference data and potentially load a save of a previous work state. While we currently have functionality for our testing sheets, which can be found in the /tests directory, it is our goal to make this more accessible, as we are not at this stage clear at the overall nature of how we will get the data, beyond the basic design of b values.

Next, we will need some form of a spreadsheet view. This is designed to be an extension on any spreadsheet viewer specifically designed for the data we will be working with here. It should be specifically sortable to find specific values, to scroll down and find a row of teams b-values against projects, as well as a number of other dot points discussed that could make filtering easier.

The final major component is a list view feature, to list either the current allocation set from an algorithm, the allocations approved, pairings rejected or all the pairings for a specific team or project. This list view should be sortable by values, should show more than just the b-values, and make it easy for the user to assign allocations and rejections as they work through. Primarily, this list view should be accessed as the user navigates from either the algorithm view or the spreadsheet.

Finally, there is the actual pairing as shown in the list view, and potentially as a popup in the spreadsheet. This view should effectively display the important details of each pairing and provide accessible controls for navigation.

Our goal for the upcoming week is to implement these four components as best as we can, as well as making minor improvements to the implementation of CoreService and the algorithms. By following this plan for the week, we should be positioned to enter the second week of Sprint 1 working on finalising the functionality and connecting the different components.