## Section 1: Summary [Elaine]

## Section 2: Evaluation Process

We carried out the evaluation process by looking at the interface we made, as 5 evaluators instead of developers. We began by getting a better understanding of the ten usability heuristics which are:

- Visibility of system status: meaning the system should keep users informed about what is going on.
- Match between system and the real world: meaning the system should use the users language
- User control and freedom: meaning there is clear ways to undo and redo mistakes
- Consistency and standards: meaning the system should follow the platform convention
- Error prevention: meaning the system should prevent error or at least have clear error message
- Recognition rather than recall: meaning the user shouldn't need to remember how to use the system one part of the system to use another
- Flexibility and efficiency of use: meaning the system should be efficient to use by experienced users
- Aesthetic and minimalist design: meaning there should be no extraneous information or text
- Helps users recognise, diagnose, and recover from errors
- Help and documentation: meaning the system should allow user to easily find help and documentation

We then independently judged our system against the 10 heuristics, with each heuristic we gave a severity score from 0-4 with:

- 0 : meaning there is no violation or that it doesn't apply
- 1 : meaning the problem is cosmetic and has no real impact on the usability
- 2 : meaning minor violation which is a low priority problem
- 3 : meaning major violation which should be fixed right away
- 4 : meaning a catastrophic violation which means that the system cannot be released without it being fixed

We then came back together with our evaluation and averaged out our scores for each heuristic so that we can focus on fixing/improving the heuristic which we gave the highest violation score.

## Section 3: Evaluation Findings [Chang]

Note from Leon:

- I don't think there are any heuristics with a severity of 3 or 4, only 0-2

- I said that the Heuristic "Help and Documentation" had a severity of 1 in my section so keep it in mind when making evaluations
- I also said that the Heuristic "Error Prevention" had a severity of 2

Note from John:

- The Heuristic "User Control and Freedom" had a severity of 2
- The Heuristic "Match Between System and The Real World" had a severity of 1

# Section 4: Proposed Improvements

## Improvement 1: Recent Locations Menu

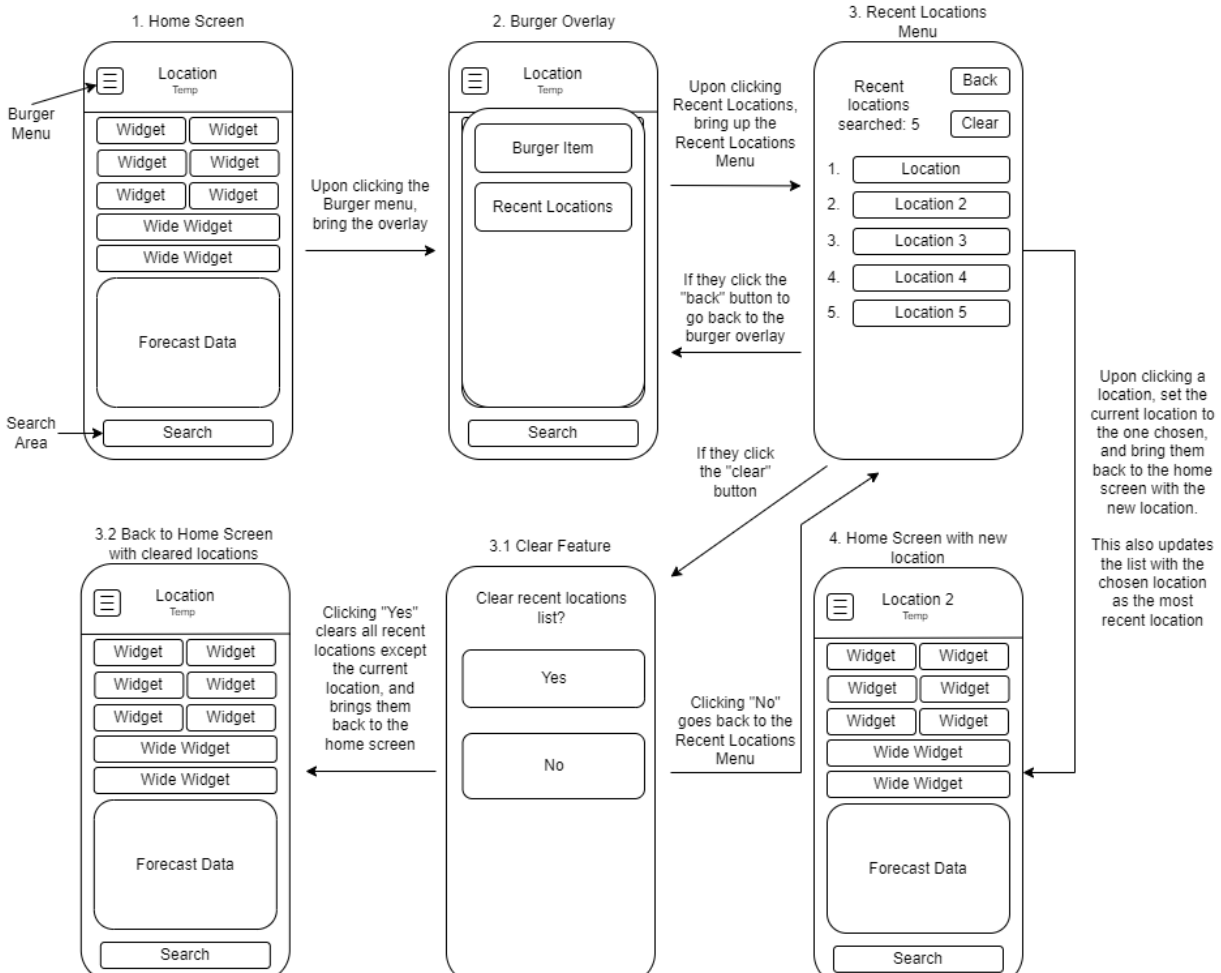
Some users may determine they don't want to see the current location they searched for, and wish to revert the change by going back to a previous location. A list of recently searched locations to set the current location to a previous location, would reduce the "User Control and Freedom" heuristic with a severity of 2, to 0, relieving the strain of remembering previous locations.

Essentially, our experienced stakeholders might plan to go on many climbing expeditions on various dates, and must handle weather information critically, so this small tweak can help climbers plan expeditions better, without overlooking any details.

Each time the user taps a location in the search menu, that location is added to a list of recent locations as the most recent. These locations will be added as a feature accessible in the burger menu as "recent locations".

When accessed, a "back" button for exiting the menu, a button to clear the list with confirmation, and the total recent locations will be displayed at the top. The locations are numbered starting from 1 as the most recent (current) location, near the top for convenience, to *n* as the least recent, at the bottom of the menu. Simply tapping on any of these locations will set the current location to the respective location chosen, update the list, and bring them back to the home screen with the new location.

An example flow is given below, showing the menu location and functionality.



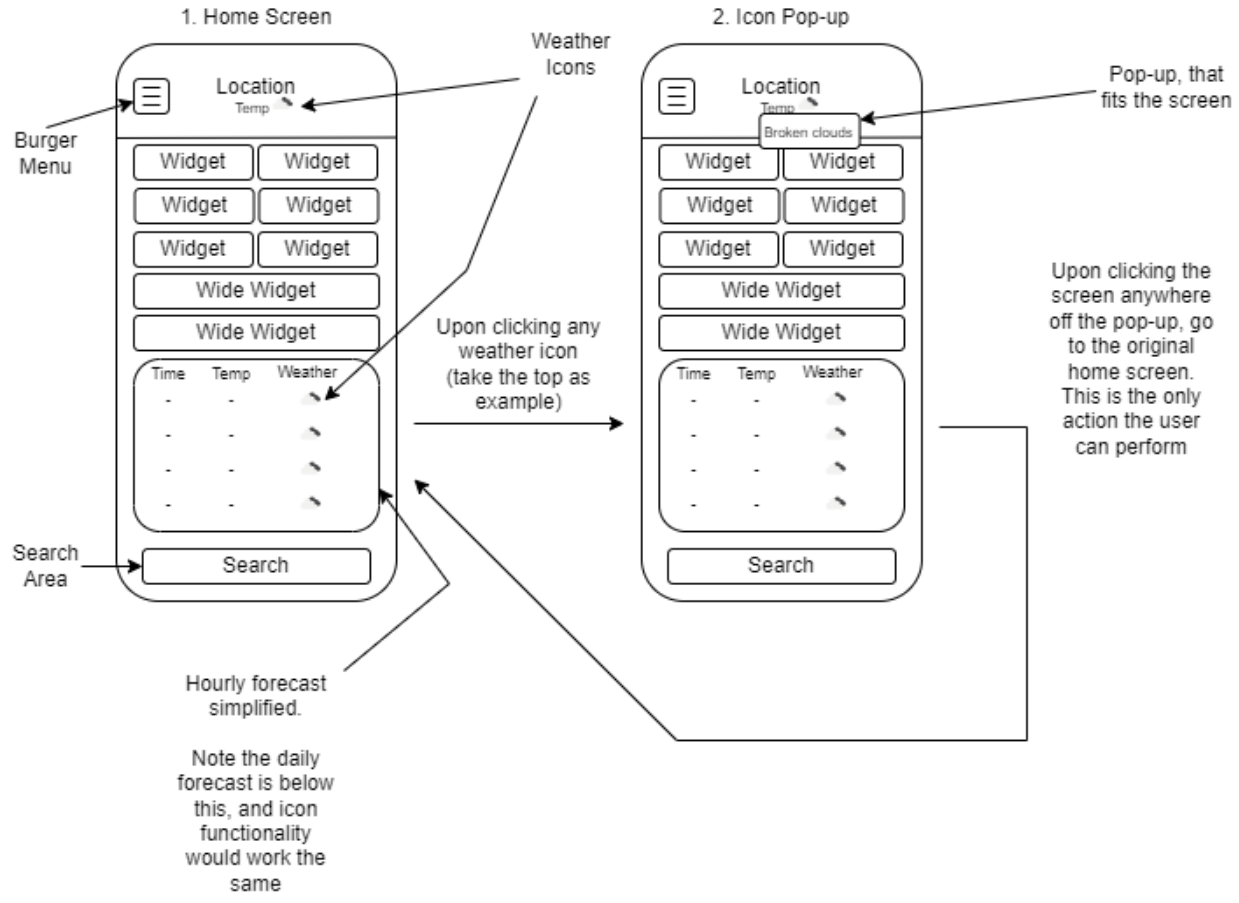
## Improvement 2: Icon Description

While the weather icons in the forecast are semantically clear to the majority of users, some might still be confused about the meaning of the icons. With one click on the weather icon, you can see a simple description of its meaning, reducing the ”Match Between System and The Real World” heuristic from a 1, to 0.

This feature supports all age groups, and assists people with poor literacy skills. It also supports beginners of climbing, who slowly learn the basics as they develop their skills in their climbing journey. Importantly, this feature is implemented to safeguard against any small misconceptions in the semantics of weather icons, such that no frustration is brought upon the user.

These weather icons can be found near the top, and under the hourly/daily forecast, where all these features are within the home screen. Clicking on any of these icons will pop-up a simple description of what it represents. These pop-ups will be directly beside the icons when clicked, and once the user clicks on the screen anywhere off the pop-up, the pop-up will disappear. Hence while the pop-up is open, the user cannot perform any other actions, such as scrolling, searching for a location, or going to the burger menu. The pop-up should be compact, and fit within the screen, so that readability is flawless.

An example flow is given below, showing the pop-up and its functionality.



## Improvement 3: Help Menu

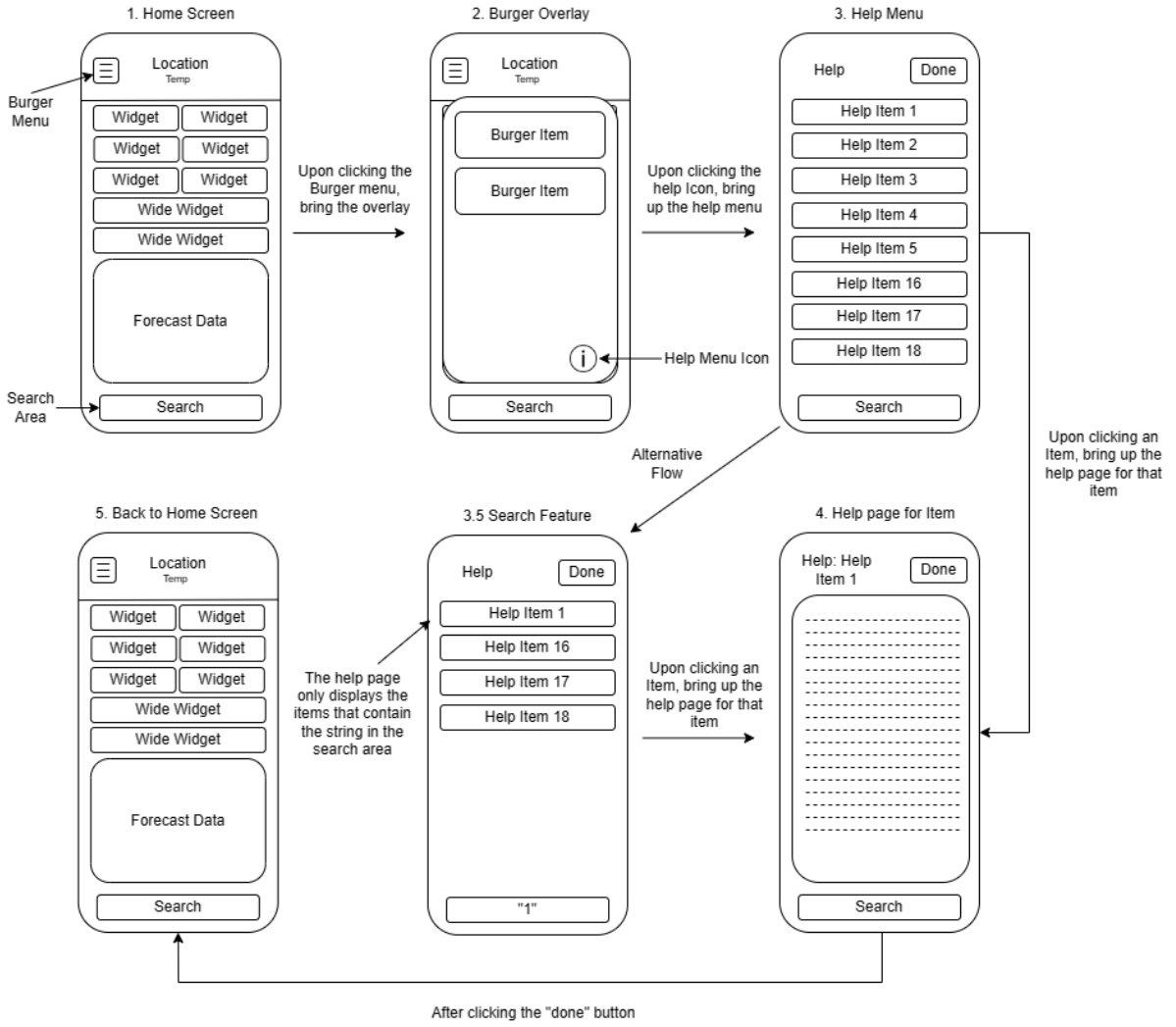
While the app itself is designed so users do not require assistance from documentation, a Help Menu would decrease the severity of the “Help and Documentation” heuristic from 1 to 0; it would also future-proof any complex extensions to the app as there would be a fixed place to provide support for any complicated additions. This help menu mainly improves the usability and accessibility for climbers who are less computer literate such as older users.

The help menu is a menu that provides documentation for any aspect of the app. The menu would be accessed through the burger menu, via an icon in the bottom right; clicking the icon would pull up the help menu page, where a “done” button at the top allows exiting the menu.

The menu would function similarly to the search menu, it holds a series of links/labels that when tapped, brings up the help page for the respective item. Help pages contain detailed information regarding the use and utility of its respective item. Within the help menu, there will also be search functionality via a search bar at the bottom of the page to allow users to quickly access specific pages.

Once again, the purpose of the help menu is to help climbers with less computer literacy as well as support the addition of complicated features which may require detailed information.

An example flow is given below, showing where the menu is located and how it is used.



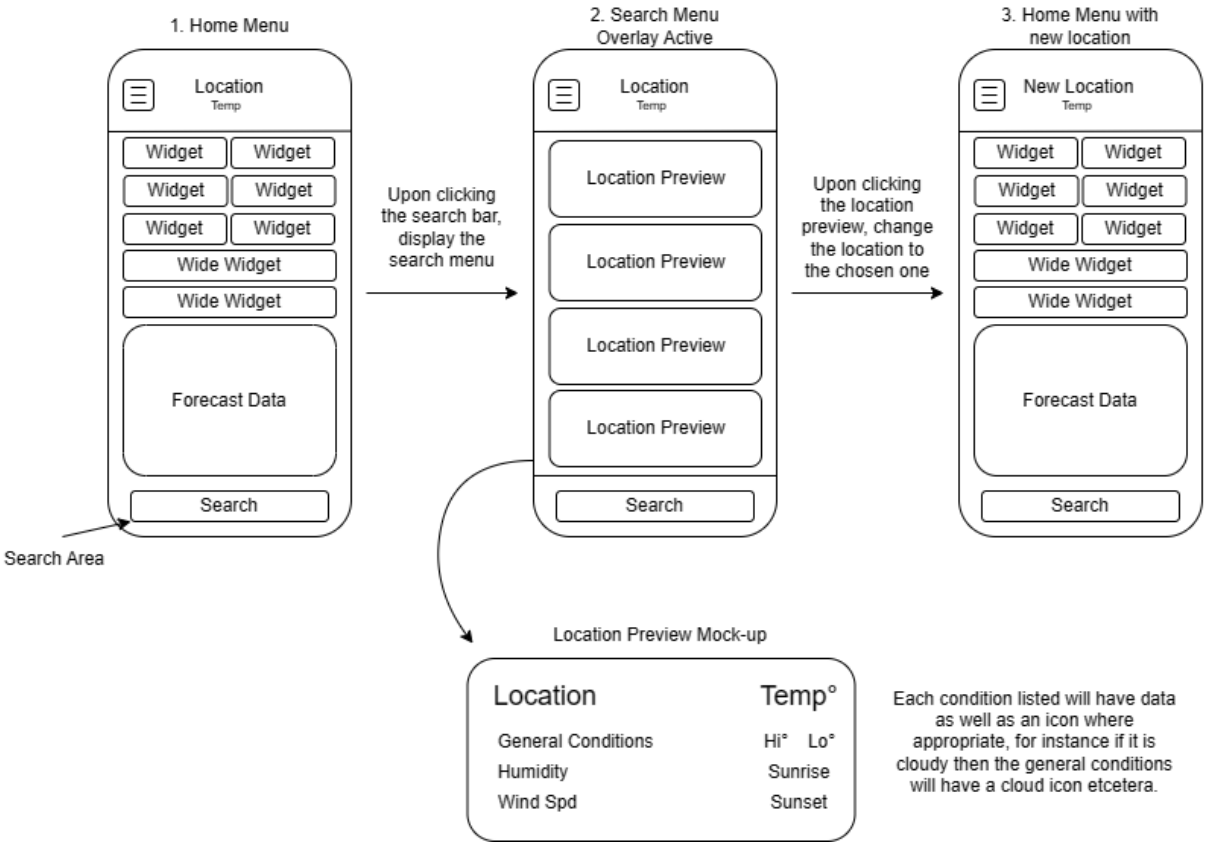
## Improvement 4: Location Preview

The addition of a location temperature preview to the app would help alleviate the poor performance within the Error Prevention Heuristic [severity of 2]. On a small scale (as shown in the demonstration video), accidentally selecting the wrong location is a minor issue as it is effortless to reselect the correct one; however, if the locations overflowed and required scrolling or searching to find, each time the error/slip is made, the user would have to retype or re-scroll for the correct location, the aim of location previews is to decrease the frequency of "slips" which in turn prevents them from having any impact. This feature improves quality of life as well as adds convenience to the user.

The location preview feature will preview a portion of the weather data for a given location, prior to actively selecting it. Location previews will be located within the search menu and they would replace the location buttons/labels whilst retaining all their original functionality.

Location previews will consist of a location name alongside a few compact pieces of weather information such as temperature, general conditions, humidity, wind speed and sunrise/sunset times. The aim of location previews is to make data access more convenient as well as to distinguish the items within the search menu more such that the chance of making a slip and choosing the wrong location is decreased. In general, the feature is a quality of life improvement for the user and improves usability.

An example mockup is below.



# Contributions

## Leon [20%]:

- Section 4: Developed 2 Potential Improvements to the App, the “Help Menu” and “Location Preview”.

## John [20%]:

- Section 4: Developed 2 Potential Improvements to the App, the “Recent Locations Menu” and “Icon Description”.

## Josh [20%]:

- Completed Section 2 on Evaluation Process

## Chang [20%]:

- Completed Section 3 on Evaluation Findings

## Fang Shu [20%]:

- Completed Section 1 on Summary