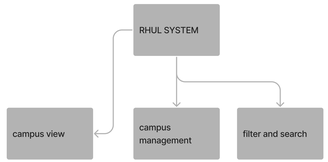
HTA Diagram


RHUL SYSTEM
campus view
campus management
filter and search

RHUL SYSTEM
Campus Management
1. ADD ITEM
2. REMOVE ITEM
3. Dialogue menu to confirm and save any overall changes made.
1.1 ADD METADATA
1.2 ADD ANOTHER ITEM
1.3 DIALOGUE TO SAVE ITEMS
1.4 3D Representation creation of item...
1.1.1 ADD NAME, DATE, CONSTRUC INFO, CARBON FOOTPRINT
1.1.2 IF building, add area on ground, total area, height, number of floors
1.1.3 Specify location on campus for item
3.1 System updates in real time
2.1 Add option to select more items to be removed....
2.2 Add a dialogue menu for confirmation ...
2.3 remove item
2.4 Dialogue to undo the removal
Filter & Search
1. Search Feature
2. Filter Feature
3. Sorting Feature
1.1: Search Bar
1.2: Highlight in model searched criteria
1.1.2: Selectable Text Field
1.2.1: List to store locations of occurrences
1.1.3: Search through speech to text
1.1.4: If key phrase not found, return "no results"
1.2.2: Find Searched Phrase in metadata
2.1: Filter Menu
2.1.1: Select to Display menu
2.1.2: Select to hide menu
2.2: Highlight in model filtered buildi...
2.2.1: Apply Filters
2.2.1: Reset Filters
2.2.2: Select Filters to apply
2.2.3: Able to select/ deselect all filters
3.1: Sort Menu
3.2.1: Select to Display menu
3.2.2: Select to hide menu
3.3: Select Sort by
3.4: Sort by Descending
3.4: Sort By Ascending
3.3.1: Name
3.3.2: Size
3.3.3: Date
3.3.4: Carbon Footprint
VIEW CAMPUS
0. Display Campus
1. Navigate through campus
2. View/Update item
3. Filter/Search what is displayed
4. Update changes in real time
1. Load the campus model
1.1: Ensure that assets are loaded beforehand to minimise latency
1.2: Apply default scaling to ensure the campus model is scaled to fit the display area with no cut-off
1.3: Display a loading screen to show progress on the loading status of the campus
1. Use controller input to zoom in and out of the campus model for closer inspection
2. Use controller input to enable rotation of the campus model in order to view at different angles
3. Use controller input to allow selection of individual parts of the campus model for closer inspection
1. Choose item/ items
1.1: Provide visual cues for which items are choosable
1.2: Use controller input to pick an item
2. Access item/items
2.1: Display the relevant metadata to the user including its name, date of construction, description, area, and carbon footprint
2.2: Make sure that the metadata is not in obstruction of the campus view
3. Update item/items
3.1: Authenticate the user to make sure they have clearance to edit an item (e.g IT service)
3.2: Provide editing tools for the authorised user to make the edit
1: Continuously monitor and record changes
1.1: Save the changes in the database
1.2: Keep a log of previous versions
2: Immediately render changes on display
1.1: Give users a choice of different filters
1.2: Allow multiple filter selections at a time
1: Provide option to choose filters
2: Apply chosen filters
2.1: Ask user to confirm choice before implementing algorithms to filter the data
2.2: Implement logic to pick out only the relevant metadata according to the chosen filters
3. View the filtered data
3.1: Display in real time
4. Clear filters
4.1: Provide an option for the user to click on should they wish to delete their filters
4.2: Wipe all filters and reset the campus view

Display Campus

0. In order to view the campus:

    - 1: Load the campus model
        - 1.1: Ensure that assets are loaded beforehand to minimise latency
        - 1.2: Apply default scaling to ensure the campus model is scaled to fit the display area with no cut-off
        - 1.3: Display a loading screen to show progress on the loading status of the campus

1. In order to navigate through the campus:

    - 1: Use controller input to zoom in and out of the campus model for closer inspection
    - 2: Use controller input to enable rotation of the campus model in order to view at different angles
    - 3: Use controller input to allow selection of individual parts of the campus model for closer inspection

2. In order to select an individual item and view/update it:

    - 1: Choose item/items
        - 1.1: Provide visual cues for which items are choosable
        - 1.2: Use controller input to pick an item
    - 2. Access item/items
        - 2.2: Display the relevant metadata to the user including its name, date of construction, description, area, and carbon footprint
        - 2.3: Make sure that the metadata is not in obstruction of the campus view
    - 3. Update item/items
        - 3.1: Authenticate the user to make sure they have clearance to edit an item (e.g IT service)
        - 3.2: Provide editing tools for the authorised user to make the edit

3. In order to filter/search what is displayed:

    - 1: Provide option to choose filters
        - 1.1: Give users a choice of different filters
        - 1.2: Allow multiple filter selections at a time
        - 1.3: Make the user interface easy to use and user friendly
    - 2: Apply chosen filters
        - 2.1: Ask user to confirm choice before implementing algorithms to filter the data
        - 2.2: Implement logic to pick out only the relevant metadata according to the chosen filters
    - 3: View the filtered data

        - 3.1: Display in real time
    - 4: Clear filters
        - 4.1: Provide an option for the user to click on should they wish to delete their filters
        - 4.2: Wipe all filters and reset the campus view

4. In order to ensure that all changes are updated in real time:

    - 1: Continuously monitor and record changes
        - 1.1: Save the changes in the database
        - 1.2: Keep a log of previous versions
    - 2: Immediately render changes on display

Filter & Search:

1. To be able to search for different criteria
    a. Create a search bar
        i. Have a selectable text field
        ii. Use speech to text to search for a key phrase
    b. Use the key phrase in search bar to find all occurrences within the name or description of the buildings
        i. If cannot find keyword display “no results found”
    c. Create a list of all the locations keyword occurs
    d. Highlight within the model, the buildings that contain the searched keyword

2. To be able to filter different criteria
    a. Create a filter menu
    b. The ability to select the menu to display it
    c. The ability to hide the menu when not in use
    d. Have a checkbox menu to select what criteria to filter by
        i. Be able to mark and unmark multiple checkboxes
    e. A button called ‘Apply’ to apply selected filters
    f. A button called ‘Reset’ to reset all applied filters back to null
    g. Create a list of all buildings where active filters apply
        i. Highlight within the model, the buildings where the filtered criteria is present

3. To be able to sort items:
    a. Create a sort menu
    b. The ability to select the menu to display it
    c. The ability to hide the menu when not in use
    d. Create a list of different values the user can sort items by
        i. User can sort items by name
        ii. User can sort items by size
        iii. User can sort items by date
        iv. User can sort items by carbon footprint
    e. User can select on which value they would like to sort by
    f. Create a sorted list of all items

g. Display sorted items by descending values default
    i. User can choose to sort by ascending values
    ii. User can revert back to sorting by descending values
h. Display list of sorted items to the user

Campus Management

- add infrastructure to a location on campus, with the possibility of adding several items at the same time;
- remove one or several items from the campus;
- the changes are implemented as soon as the user confirms they wish to make them.

Tasks decomposed:

1. Add infrastructure item to campus

1.1 Add associated metadata to each item.

1.1.1 Add name, date, construction details, carbon footprint,

1.1.2 If item is a building, add area on ground, total area, height, number of floors

1.1.3 Specify location on campus for each infrastructure

1.2 Add another item if user wishes to dialogue

1.3 Dialogue to confirm and save the item

1.4 3D Representation creation of item

2. Remove items/multiple items

2.1 Add option to select more items to be removed.

2.2 Add a dialogue menu for confirmation

2.3 Remove item

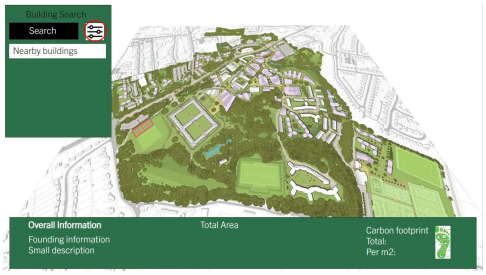
2.4 Dialogue to undo the removal

3. Dialogue menu to confirm and save any overall changes made.

3.1 System updates in real time

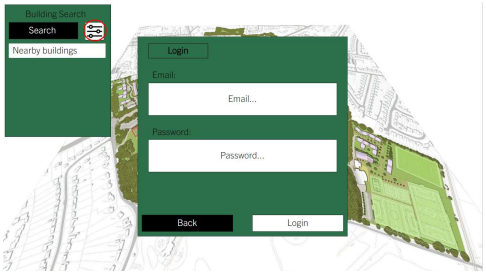
Storyboard

Login



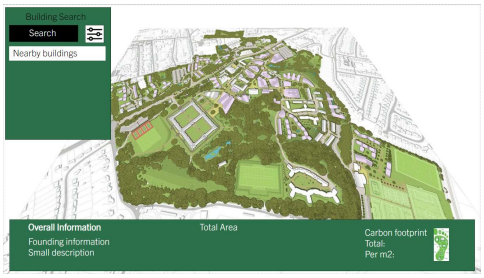
1. Settings button to open settings menu

2. Expands to login



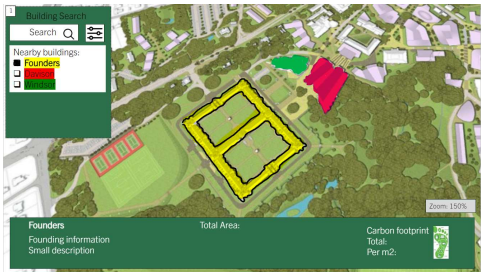
3. Enter username and password, using onscreen keyboard

1. Campus Display



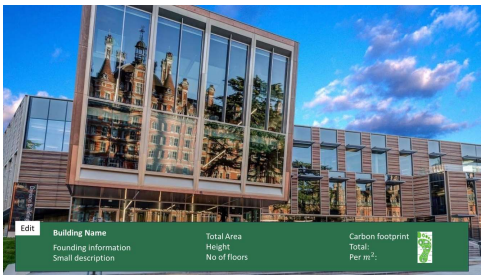
1. Building select
   1.1. Building search
   1.2. Nearby buildings
   1.3. Filter menu
2. Overall information
   2.1. Description
   2.2. Size and area
   2.3. Carbon footprint

3. Zoom using controller
   3.1 Zoom level displayed
4. Nearby buildings
   4.1 Nearby buildings highlighted
   4.2 Displayed in building box

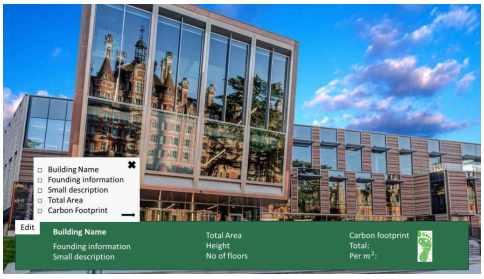


1. Select building
   1.1 Point at building and click
   1.2 Select building from nearby buildings list.
   1.3 Selected building outlined
2. Building information
   2.1 building information displayed in box

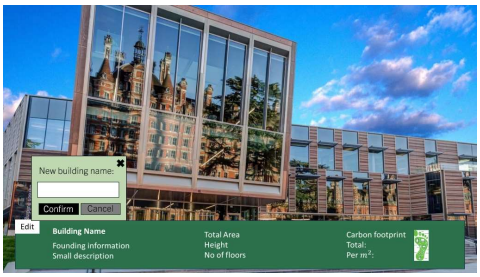
1. Rotate using controller

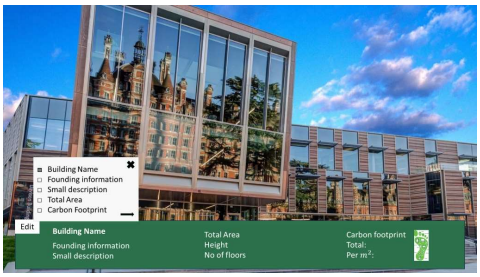


1. Use controller to pick an item.
   1.1 Building displayed.
   1.2 Metadata displayed.

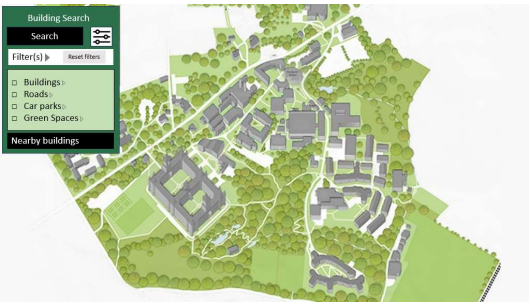


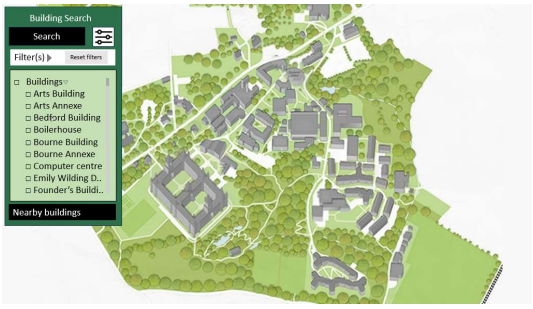
2. Select edit
   2.1 Edit menu with metadata





2. Filter and Search





1. Filter menu
    1.1. Buildings
    1.2. Roads
    1.3. Car parks
    1.4. Green spaces

1.1 Buildings dropdown
    1.1. Displays all buildings

2. Search Filters
    2.1. Type
    2.2. Specifics
    2.3. Apply filters

3. Selects all matching buildings
    3.1 Buildings are highlighted

3. Selects all matching buildings
    3.2 Buildings displayed in list

1. Voice search
    1.1 Appears after selecting search box.

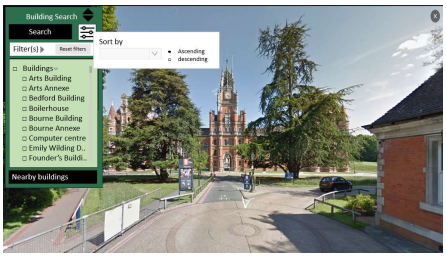
1. Voice search
    1.2 Once selected turns red to show recording

1. Voice search
    1.3 Spoken words will appear as text for clarity

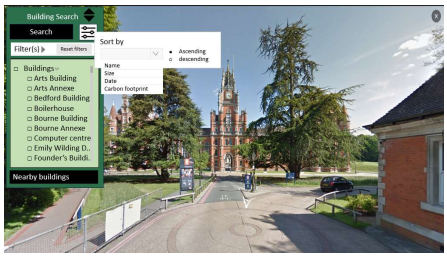
1. Voice search
   1.4 Results highlighted and selected in list

1. Voice search
   1.5 No results produces response near voice button

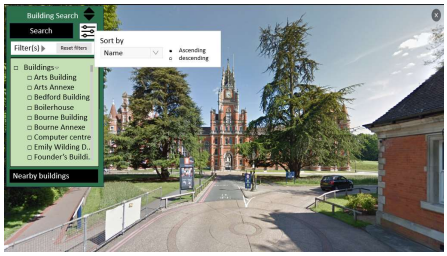
1. Sort button selected



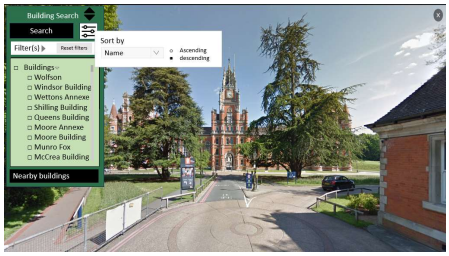
2. Sort window appears
   2.1 Ascending selected



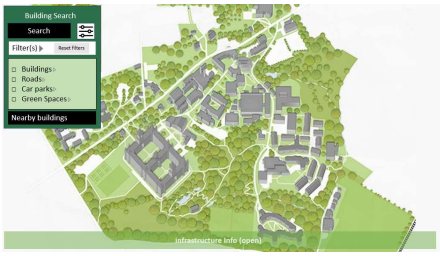
3. Dropdown menu with sorting options



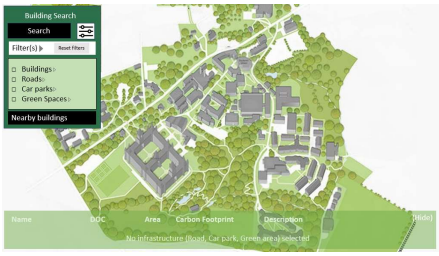
4. Name option selected
   4.1 Building list in alphabetical order



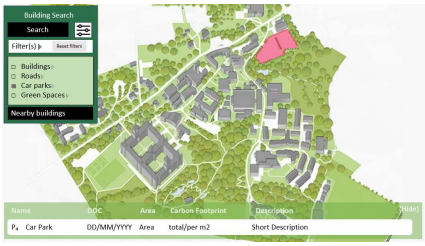
5. Descending selected
   5.1 Buildings listed by name in descending order



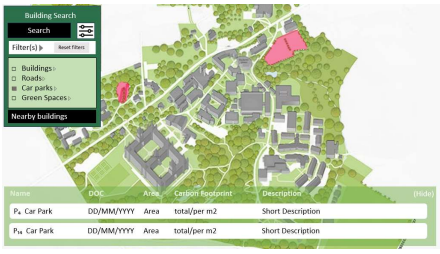
1. Infrastructure Info tab displayed
   1.1 Open button selected



2. Infrastructure window appears

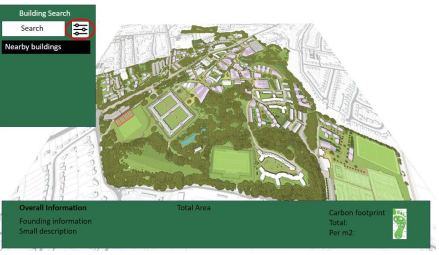


3. Car park selected
   3.1 Car park highlighted on map
   3.2 Relevant metadata shown



4. Second car park selected
   4.1 Relevant metadata shown and can be compared

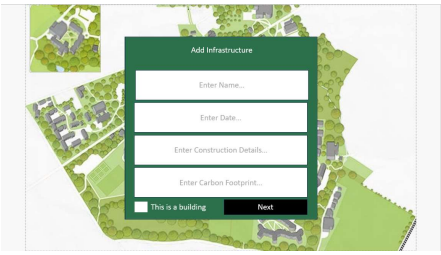
3. Campus Management



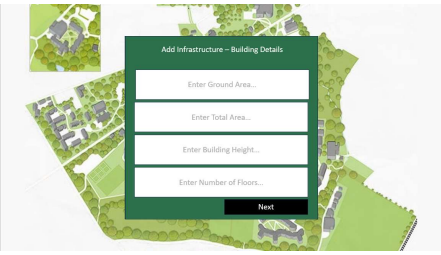
0. Enter campus management

0. Enter campus management
   0.1 Expands to allow entering campus management if logged in.

1. Infrastructure Menu
   1.1. Add infrastructure
   1.2. Remove infrastructure
   1.3. Remove multiple

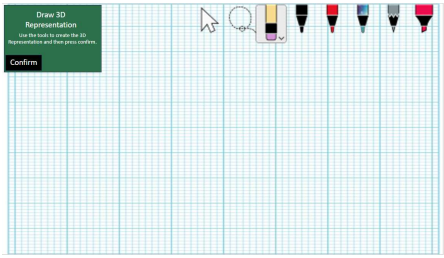


2. Add infrastructure
   2.1. Enter name
   2.2. Enter date
   2.3. Enter construction details
   2.4. Enter carbon footprint
   2.5. Building checkmark



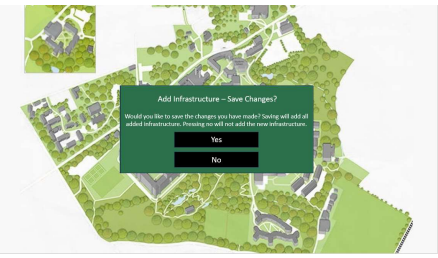
3. Add building
   3.1. Enter ground area
   3.2. Enter total area
   3.3. Enter building height
   3.4. Enter number of floors

4. Select infrastructure location
    4.1. Select location
    4.2. Confirm placement



5. Draw 3d model
    5.1 Confirm model

6. Add another structure prompt

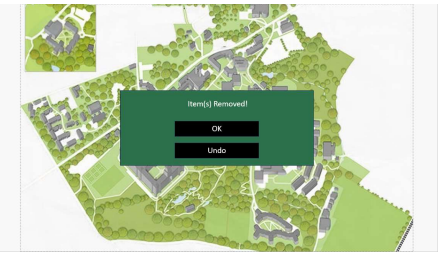


7. Confirm all changes

8. Remove structures

9. Select structures to be removed
    9.1. Allows for multiple to be selected
    9.2. Select again to unselect an item

10. Confirm removal



11. Confirm removal
    11.1 Undo button

Video Link:

https://youtu.be/cls4yBxksjs

Storyboard - User Interaction User-Centred Design