# The Ethnographic Explorer

## Description

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This page provides details of the design of web application known as the Ethnographic Explorer.

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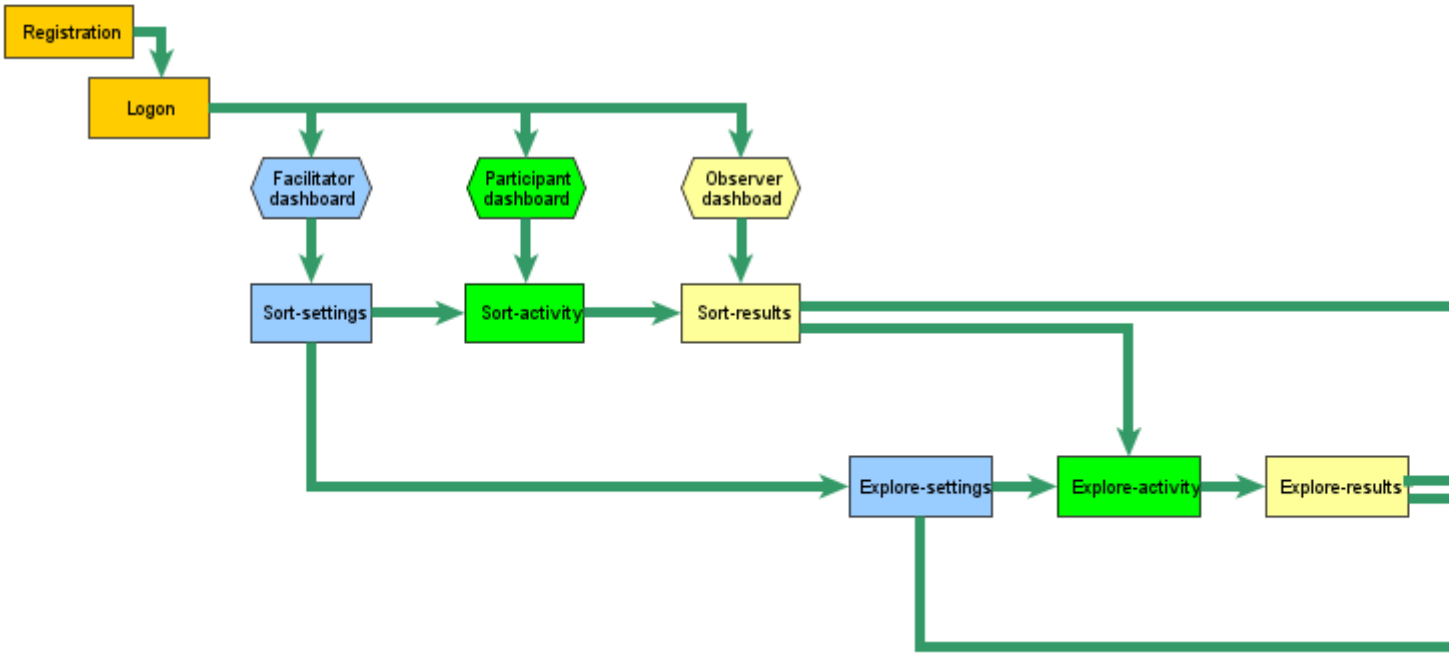
## OVERALL PURPOSE

A web-base software package (aka an app) will be developed that enables individuals and groups to: (a) elicit their knowledge using a reiterated card sorting exercise, (b) to query those knowledge structures through binary comparison questions, and (c) to explore relationships between results of those queries. Figure 15 outlines the proposed overall workflow.

The app could be used in three ways.

- By a respondent, as invited by a facilitator who has set up an exercise. The respondent could be accompanied and verbally assisted by the facilitator using a screen sharing video call. The respondent do all the sorting and would make all the text entries required. (MVP)
- By the facilitator, who screen shares the app with the respondent on a video call. The facilitator could do the worting and make the required text entries, on the guidance of the respondent . This may be useful for respondents who are not confident in the use of online apps.(MVP).
- By both facilitator and respondent who have access to the same exercise and who can both do sorting and make text entries (NTH)

# HCS Online (workflow)




**List of proposed functions**

1. Register:
    1. Where intended users can set up their username and password, and be authorised to use the site
        1. Users who will be exercise Facilitators will be authorised by the Administrator
        2. Users who will be exercise Respondents will be authorised by a facilitator
        3. Observers donâ??t need to register, they will be sent a specific web link to access a specific exercise, by a Facilitator
2. Login: Where any registered user starts their current use of the HCS app.
    1. As Facilitator or Participant
3. Settings:
    1. Sorting settings

1. Facilitator lists the entities they want respondents to sort (MVP). Entities could be people, places, events, or concepts.
2. Facilitator choses which, if any, â??Warm up exerciseâ?• that respondents shoudl start with
    1. Free listing differences of any kind seen among all the listed entities
    2. Random binary comparisons of any two listed enitities
3. Facilitator provides an exercise specific customised version of the sorting request text, plus supporting guidance text (MVP)

2. Compare settings
    1. Facilitator provides guidance text on what types of choices to make (MVP). See â??Exploringâ?• section of this website above.
        1. A Help link can be provided to this information, in the Facilitators Settings view
3. Contrast settings
    1. Facilitator chooses which twoâ?•exploringâ?• dimensions to use to generate a scatter plot and confusion matrix (MVP)
    2. Faclitator could also offer this choice of dimensions to Respondents

4. Sort:
    1. Respondents can generate an initial brainstormed list of possibly significant differences (MVP), in response to either of the warm up exercise settings selected by the Facilitator
    2. Respondents can the sort the entities, as per instructions
        1. And provide both description and explanation text for each binary distinction.
        2. They can also provide a headline summary/label for each binary distinction, i.e a shortened version of the description of the difference
5. Compare
    1. Respondents can make a series of binary choices, within the tree structure they have developed, based on Faclitators guidance (MVP)
    2. Then provide an associated explanation/rationale for those choices (MVP)
    3. An aggregate ranking is automatically generated, based on those sorted binary choices (MVP)
    4. Types of comparison possible:
        1. Different comparisions within same Sort structure [To explore one personâ??s views]
        2. Same comparison within different Sort structures [To explore multiple different peopleâ??s views]
6. Contrast
    1. Facilitator (MVP) or Respondents can choose which pairs of exercise ranking results to use to create:
        1. A scatter plot of the sorted entities (MVP)
            1. With accompany rank order correlation measures
                1. Option of importing an extenally generated ranking, to be used along with a ranking generated by the Comparison process
        2. And a Confusion Matrix based on dichotomisation of the two rankings used in a scatter plot, includingâ?¦
            1. A data entry field for chosen dichotomisation values (MVP)
                1. 2024 02 18: By clicking on the case that represents the cut off point in the ranked list of cases

2. Performance measures based on data in the Confusion  Matrix, using Classification Accuracy (MVP)
3. An optimisation algorithm for finding best pair of dichotomisation values
    1. Brute force / exhaustive search will be simplest to implement, because the search will be within a small set of (integer) rank values
4. Different types of contrasts possible:
    1. Same person â?? same sort â?? different comparison [To explore one persons views]
    2. Same person â?? different sort â?? same comparison
    3. Different  person  â?? same sort â?? same comparison [To explore multiple different peopleâ??s views]

7. Dashboard
    1. Where Facilitators, and Respondents arrive after logging, and return after completing an exercise (MVP)
    2. Where they can access any previous completed or incompleted exercises(MVP)
    3. Where they export any completed exercises, subject to exercise settings (MVP)

**Note on visualisation of the nested classifications**: These can be represented using an Icicle format, as seen here. By default, the left panel provides an overview of the whole nested categorisation / tree structure â?? which cases belong to which categories, along with their labels. The â??leavesâ?• of the tree, on the right end of the tree structure, should show the names of each entity belong to each final subcategory.

The panel on the right describes in detail the characteristics of the category identified by a cursor location on the tree structure to the left. Included the right panel is (a) category description i.e the the difference and the difference it makes, (b) comparison data, on each (to be listed) comparison that was made, (c) associated rank # generated by each comparison, (d) sorted cases that belong to this category. (all in the MVP).

**Additional lower priority developments**:

1. Zooming / scrolling of the Icicle structure -r/l & u/d (b) search,
2. Customised choice of what text fields to be displayed in both the left and right panel â?? to ease cognitive load on user.
3. The ability to edit existing tree structures, rather than develop them completely enew.
4. Example exercse results to play with
    1. Nigeria HCS:
        1. Ask people which they would more like to work with/fund
        2. Compare respondents answers to these questions

**second phase development options**

1. Aim:
    1. Enable comparison of the usability of tree structures developed by different participants
2. Method:
    1. Choose a â??targetâ?• tree structure
    2. Choose participants to use this tree structure

1. Present them with cases, and ask them to sort these into the correct branches (as they see them) all the way down the tree structure, to the final most specific category (leaf)
2. For each leaf, identify which card name is there in highest proportion
3. For each card, identify which leaf name was most widely used (% of x cards in that leaf)

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