GUI Concepts for Novice, Intermediate, & Expert Users
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January 28, 1997
ECS Level 3/4 Requirements

IMS-0490  The IMS shall provide levels of user interaction support to include at a minimum:
   a. Expert (e.g., quick command driven direct information input)
   b. Intermediate (e.g., some prompting and automatically supplied help)
   c. Novice (e.g., extensive prompting and help facilities)

ECS interpretation:
S-CLS-12920  Option for Expert level interaction
S-CLS-12930  Expert: direct information input w/o automatically-supplied help
S-CLS-12940  Option for Intermediate level interaction
S-CLS-12950  Intermediate: prompting and automatically-supplied help
S-CLS-12960  Option for Novice level interaction
S-CLS-12970  Novice: prompting and automatic help facilities for user-initiated actions
Targeted User Description

I. NOVICE
   • User types: (a) Brand New User, (b) Infrequent User (non-science), (c) Infrequent User (senior scientist)
   • No/limited experience in use of web client tool
   • No/limited knowledge of ECS data types & schema
   • May be a recognized expert in their area of specialty
   • Therefore, user’s mental model of ECS is generalized and unstructured with respect to ECS data structures

II. INTERMEDIATE
   • Moderate/heavy experience in use of web client tool
   • Diversified knowledge of ECS data types & schema, with ‘deep’ knowledge in area of scientific specialty
   • Competent user of graphical user interface-driven software
   • Consequently, user’s mental model of ECS is structured and generally maps ‘monotonically’ to ECS data structures

III. EXPERT
   • Power User (Intermediate + competency in command line interfaces + willing to assume adverse consequences of own errors)
Novice Level Interaction

Client Search operations:

• Simple top-down, topical hierarchical search patterns
• Linear step-search sequences (step---> forward; step--->backward; repeat)
• Single search -- returns ---> single result sets mapping

Client Search Results operations:

• 1 result set per search (no capability to merge multiple result sets)
• 1 result screen with capability to prepare 1 working set of products for order
• Result screen is the working list, to support transition to order

Client Order operations:

• 1 result set/working list ---> 1 order

Client prompts & help

• User prompts present unless dismissed by user
• User help persistent unless dismissed by user (web help)
Novice Hierarchical Search

In order to create your search, first choose the attributes with which you wish to work. There are two methods of selection. 

1) You may choose from the list of preset groups. 

- **Select Preset Attribute Set...**

You may also bypass this process and simply choose the default.

- **Select Default Attribute Sets**

2) You may create your own customized list.

- **Create a custom set of attributes...**

The attribute groups you select will be displayed as individual folders under the search tab when you click “OK”

<table>
<thead>
<tr>
<th>Preset Groups</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE</td>
<td>Site</td>
</tr>
<tr>
<td></td>
<td>Platform</td>
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<tr>
<td></td>
<td>Spatial</td>
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<td>Temporal</td>
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<td></td>
<td>Topic</td>
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<td></td>
<td>Parameter</td>
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<tr>
<td></td>
<td>Collection</td>
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<tr>
<td>Product Specific</td>
<td>Instrument/Sensor</td>
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<tr>
<td>Oceanographic</td>
<td>Processing Level</td>
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<tr>
<td>Geographic</td>
<td>Size</td>
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<td>Atmospheric</td>
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<td>Volcanic</td>
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<tr>
<td>Vegetation</td>
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</tbody>
</table>

First, select from the preset groups of attributes...

**Submit for Order**
## Novice Search Results Screen

### File | Edit | Option | Process | Help
--- | --- | --- | --- | ---
Project Folder | Create/Edit Search | Inspect Results | Create/Edit Order | Get Status | Set Options

<table>
<thead>
<tr>
<th>Collections/Granules</th>
<th>Spatial</th>
<th>Temporal</th>
<th>Instrument/Sensor</th>
<th>Processing Level</th>
<th>Size</th>
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### Inspect Search Results.

- **Results 1**
  - Select Attributes
  - Sort Attributes
  - Sort Data

- **Submit for Order**
- **Help**
Intermediate Level Interaction

Client Search operations:
• GUI forms and graphical widget driven user interaction, capability to enter search parameters directly into ‘search tree’
• ‘Canned’ search screens, user selectable using CLS-standard selection dialog
• Customizable GUI components using CLS-standard selection dialog

Client Search Results operations:
• Capability to configure search results screen (columns) ‘on-the-fly’
• ‘Canned’ search results screens, user selectable using CLS-standard selection dialog
• Customizable GUI components using CLS-standard selection dialog

Client Order operations:
• Combined with Search Results operations
Intermediate Search Screen

Create a search by selecting values for the attributes displayed in the assorted folders. Edit your search by manipulating the selected values in the search summary.
CLS-Standard Selection Dialog

Dynamic Column/Attribute Selection Dialog

Preset Groups
- DEFAULT
- RESULTS
- RESULTS1
- WORKING LIST
- WORKING LIST 1
- ORDER
- ORDER 1
- CUSTOM...

Applicable Folder
- Results

CATEGORY: Attribute
- CORE: Spatial
- CORE: Temporal
- CORE: Processing Level
- CORE: Instrument/Sensor
- CORE: Size

Move Up  Move Down

OK  APPLY  CANCEL  HELP
# Intermediate Search Results Screen

**File** | **Edit** | **Option** | **Process** | **Help**
--- | --- | --- | --- | ---
Project Folder | Create/Edit Search | Inspect Results | Create/Edit Order | Get Status | Set Options

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**Inspect Search Results.**

<table>
<thead>
<tr>
<th>Results 1</th>
<th>Results 2</th>
<th>Results 3</th>
<th>Results 4</th>
<th>Working 1</th>
<th>Working 2</th>
<th>Working 3</th>
</tr>
</thead>
</table>

- **Select Attributes**
- **Sort Attributes**
- **Sort Data**

**Submit for Order** | **Help**
Expert Level Interaction

Client Search operations:
  • Direct edit operations through full-screen ‘search tree editor’
    - expert is responsible for search syntax and semantics
    - expert is responsible for diagnostics of syntactically-incorrect or semantically-meaningless searches
  • Full-screen search editor is ‘default’ for expert level interaction (user may toggle on additional tools as desired)

Client Search Results operations:
  • Same as Intermediate Search Results operations

Client Order operations:
  • Combined with Search Results operations
To create a search, type in the desired attribute name followed by a carriage return and a value.