**Example 1:**

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| A0 | What can I do for you? | 1. The first dialogue segment is to communicate the overall intention of the analysis. 2. The system infers the value of features (i.e. parcels) based on the user input |
| B0 | I want to generate a map within a region |
| A1 | What features are you working on? | 1. The system asks for the feature class for mapping inside |
| B1 | They are parcels. |
| A1 | Which administrative area are you working on? | 1. The system initiates the dialogue to identify the region for mapping inside 2. The identification of region first starts with the identification of the dataset (i.e. the data for city of Oleader) 3. Then the system suggests for additional background layers by providing the previews 4. The system asks the user for the type of region that needs to be identified. The region type determines how the region will be identified (i.e. (1) areal features, (2) drawing manually, (3) a buffer zone) 5. If the region is drawn manually, the system will instruct the user to draw the region 6. After drawing, the system assigns a temporary name for the new region that the user can refer to |
| B1 | It is city of Oleader. |
| A2 | The map of Oleader is loaded.  You may want to consider adding the following layers to the map as background. |
| B2 | Add the lot boundaries |
| A3 | What is the type of the region you are interested in? |
| B3 | The region is drawn manually |
| A4 | Please adjust the map so that you can see the whole region of your interest.  Ask me for a drawing tool when you are ready. |
| B4 | (adjust the zoom level and pan map). I am ready to draw. |
| A5 | Use the mouse to draw the region, double click when you want to finish drawing. |
| B5 | (draw the region, and double click when finishing). |
| A6 | Thanks, you may refer to this region as *Region 1*. |
| A7 | Do you need a summary of inside features? | 1. The system will decide on appropriate operations for mapping inside based on several factors: (1) whether the region is multiple or single; (2) whether the user needs a summary of inside features; (3) whether the user wants to treat the inside features as a whole or only the parts inside 2. The first factor is decided by the system based on the region type 3. The system ask the user directly whether a summary of feature is needed 4. The system shows a comparison of possible results of treating features as a whole or parts, and let the user to decide 5. Based on the values of the factors, the system performs the selection or overlap operations. 6. The user can request for summary of specific data fields for the inside features |
| B6 | Yes. |
| A8 | Do you want to map them partially or fully inside? The comparison of difference between partially and fully inside are shown in the popup window. |
| B7 | Fully inside. |
| A9 | The parcels within Region 1 are highlighted in the map. There are total of 202 parcels selected. |
| B8 | Show me the statistics of dwelling units. |
| A10 | Here are the statistic results of dwelling units. |

PlanGraph after Example 1:



**Example 2:**

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| A0 | What can I do for you? |  |
| B0 | I want to generate a map of parcels within a region |
| A1 | Which administrative area are you working on? | Instead of drawing the region manually, the user specify the region by filtering out the attributes on a feature layer. |
| B1 | It is city of Oleader. |
| A2 | The map of Oleader is loaded.  You may want to consider adding the following layers to the map as background. |
| B2 | Add the flood areas |
| A3 | What is the type of the region you are interested in? |
| B3 | It is a set of areal features |
|  | How do you want to select the features? |
|  | By attributes |
| A4 | (show the select by attribute window).  Please specify the region by filtering out the attributes. |
| B4 | (use the interface to generate the query for filtering attributes). |
| A5 | The region is identified as a set of features in the layer of flood areas. |
| A7 | Do you need a summary of inside features? | Instead of mapping parcels as whole, we are interested in the total area of parts of parcels that are within the flood areas. |
| B6 | Yes. |
| A8 | Do you want to map them partially or fully inside? The comparison of difference between partially and fully inside are shown in the popup window. |
| B7 | Partially. |
| A9 | The overlay of parcels and flood areas is added in the map. |
| B8 | Show me the total areas of parcels group by land use |
| A10 | Here are the total areas grouped by land use |

PlanGraph after Example 2:

