Description of Requirement Acquisition Tool

The Requirement Acquisition Tool (RAT) is a JAVA basedsoftware tool which converts3 the input description1 given in the form of a text by the user1 into list of requirements1 for the software engineers1 to work with. The GUI1 of the RAT consists of7 three5 panels1: The upper-left panel1 consists of7 editable4 input text-area1 for the users to write3, edit3 and modify3 the input text description1. The right panel1 has6 four5 buttons1. The first is an ‘open’ file button1 which to import3 a file1 edited4 with description. The second is a ‘highlight’button1 which to highlight3 an input text1 in an input text-area, the third is a ‘generate’ button1 which to output3 the requirements. And the last is a ‘save’ button1 which to save3 an output1 into the file. The bottom-left panel1 consists of7 output text-area1 which displays3 list of requirements as an output.

A user can give the input description in two5 ways namely. User can click3 on ‘open’ button to import3 a textual description file or write the description manually4 in the input text-area given in the tool. User can edit the imported text.

A user can highlight all the verbs and nouns phrases1 by clicking on ‘highlight’ button which in turn will run3 a process in background that finds4 all the verbs and nouns using NLP (Natural Language Processing)1 tool. The user can also manually highlight3 the verbs and noun phrases from the text, if needed. A user can define business processes1, steps1 and actions1 by selecting3 them from menu1 which pops up3 after right-clicking the highlighted part. The dialogue box1 will appear3 on selecting highlighted part as business process, step or action. The dialogue box has6 options to insert additional information about business process, step or action.

An output can be generated3 by clicking on the ‘generate’ button. The Output text-area1 at the bottom of the GUI2 will show3 an output. An output is the list of2 requirements in an ordered4 format. The user can save the output manually by clicking on the ‘save’ button into a text file. The tool 1shall clear3 the input text area after the output has been saved.

|  |  |  |
| --- | --- | --- |
| Brainstorming List | Classification Result | Result |
| input text description1 | (C)Input | 1(a) |
| user1 | (C)User | 1(a) |
| requirements1 | (C)Requirements | 1(a) |
| software engineers1 | (I)(Engineering, User) | 9 |
| GUI1 | (C)GUI | 1(a) |
| The upper-left panel1 | (AC)Upper-left Panel | 1(c) |
| bottom-left panel1 | (AC)Bottom-left Panel | 1(c) |
| right panel1 | (AC)Right Panel | 1(c) |
| input text-area1 | (I)Input Text-area | 9 |
| output text-area1 | (I)Output Text-area | 9 |
|  |  |  |
| buttons1 | (AC)Button | 1(c) |
| ‘open’ file button1 | (I)(Open Button, Button ) | 9 |
| ‘highlight’button1 | (I)(Highlight Button, Button) | 9 |
| ‘save’ button1 | (I)(Save Button, Button) | 9 |
| file1 | (C)File | 1(a) |
| output1 | (C)Output | 1(a) |
|  |  |  |
| converts3 | (AS)converts(Input, Output) | 3 |
| consists of7 | (AG)Part-of (Upper-left Panel, GUI)  Part-of (Bottom-left Panel, GUI)  Part-of(Right Panel, GUI) | 7 |
| three5 | 3 | 5(a) |
| consists of7 | (AG)Part-of(input text-area1 , Upper-left Panel) | 7 |
| editable4 | (A)editable | 4 |
| write3 | (AS)write(User, Input) | 3 |
| edit3 | (AS)edit(User, Input) | 3 |
| modify3 | (AS)modify(User, Input) | 3 |
| has6 |  | 6(a) |
| four5 | 4 | 5(a) |
| import3 | (AS)import(Input text-area, Input) | 3 |
| highlight3 | (AS)highlight(Highlight Button, Input) | 3 |
| output3 | (AS)output(Output Text-area, Requirements) | 3 |
| save3 | (AS)save(Save Button, Requirements) | 3 |
| consists of7 | (AG)Part-of (Output Text-area, Bottom-left Panel1) | 7 |
| displays3 | (AS)displays(Output Text-area, Requirements) | 3 |
| click3 | (AS)click(Users, Open Button) | 3 |
| manually4 | (V)manually | 4 |
| verbs and nouns phrases1 | (C)Verbs | 1(a) |
| NLP1 | (C)NLP | 1(a) |
| Business processes1 | (AS)BP | 1(c) |
| steps1 | (AS)Steps | 1(c) |
| actions1 | (AS)Actions | 1(c) |
| selecting3 | (AS)select | 3 |
| dialogue box1 | (C)Dialogue Box | 1(a) |
| appear3 | (AS)appear(Dialogue Box, BP, Steps, Actions) | 3 |
| text-area1 | (C)Text-area | 1(a) |
| ordered4 | (AS)ordered(Output Text-area, Requirements) | 3 |
| list of2 requirements | (A)output | 2(c) |
| bottom of the GUI2 | (A)bottom | 2(c) |
| show3 | (AS)show(Output Text-area, Output) | 3 |