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| Database | |
| Add  Remove  Update  Search  GetAll  Find Article References  Find 2nd levle References  Generate Graph  Import  Export | User  Data Manager  Article  Reference  Source  Visualization |

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| --- | --- |
| User | |
| Username  Password  Article(list)  Source(list)  Reference(list)  Keyword(list)  Visualizations    Add  Remove  Change  Categorize  Article  Source  Search  Get visualizations(7 types) | Database |

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| Source | |
| URL  Name |  |

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| User  Data Manager | |
| Export data  Import data | Database |

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| Article | |
| URL  Title  Author  Source  Date |  |

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| Reference | |
| Refer-article  Referred-article/source  Reference time |  |

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| --- | --- |
| Keyword | |
| Name  Source |  |

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| Abstract??  Visualization | |
| Name  Generate date |  |

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| --- | --- |
| Visualization  Single Article Network | |
| Article name  References list  Image |  |

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| --- | --- |
| Visualization  Category Table | |
| Category tag(s)  Objects list  Image |  |

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| Visualization  Single Source reference Network | |
| Source name  Reference sources&count list  Image |  |

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| --- | --- |
| Visualization  Multi-sources popularity plots | |
| Source-popularity List  Time range  Time unit  Image |  |

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| Visualization  Multi-sources Macro Network | |
| Sources list  Additional sources list  Image |  |

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| Visualization  Single referred Source Network | |
| Referred source name  Sources used-by&count List  Image |  |

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| --- | --- |
| Visualization  Single Source reference Bar Graph | |
| Source name  Target sources&count list  Referred sources&count list  Time Range  Time unit  Image |  |