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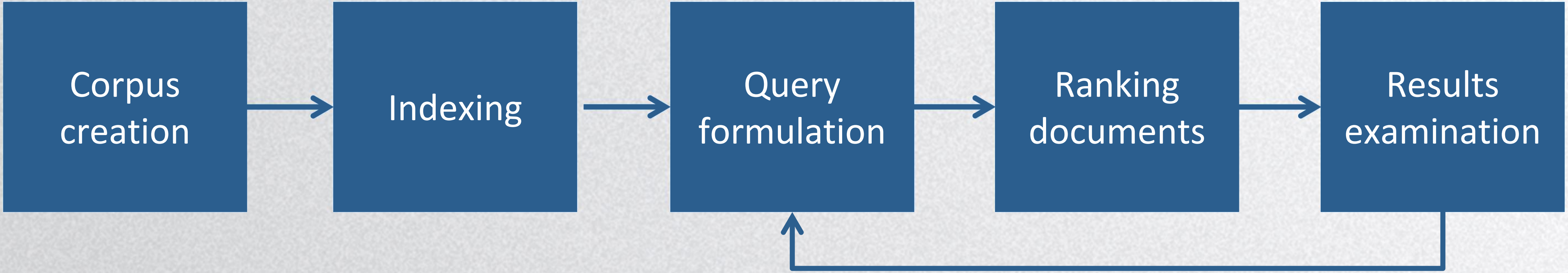
|---|---|---|
| 《On the use of Relevance Feedback in IR-based Concept Location》 | 2009 | ICSM |
| 《Preventing Duplicate Bug Reports by Continuously Querying Bug Reports》 | 2019 | ESE |
| 《EKD-BSP: Bug Report Severity Prediction by Extracting Keywords from Description》 | 2021 | DSA |

# On the use of Relevance Feedback in IR-based Concept Location

2009 ICSM

> *“… discovering human oriented concepts and assigning them to their implementation instances within a program … ”*
>
> *Concept location starts with the change request and ends when the developer finds the location in the source code where the first change must be made (e.g., a class or a method)*

RF with Rocchio



# On the use of Relevance Feedback in IR-based Concept Location

2009 ICSM

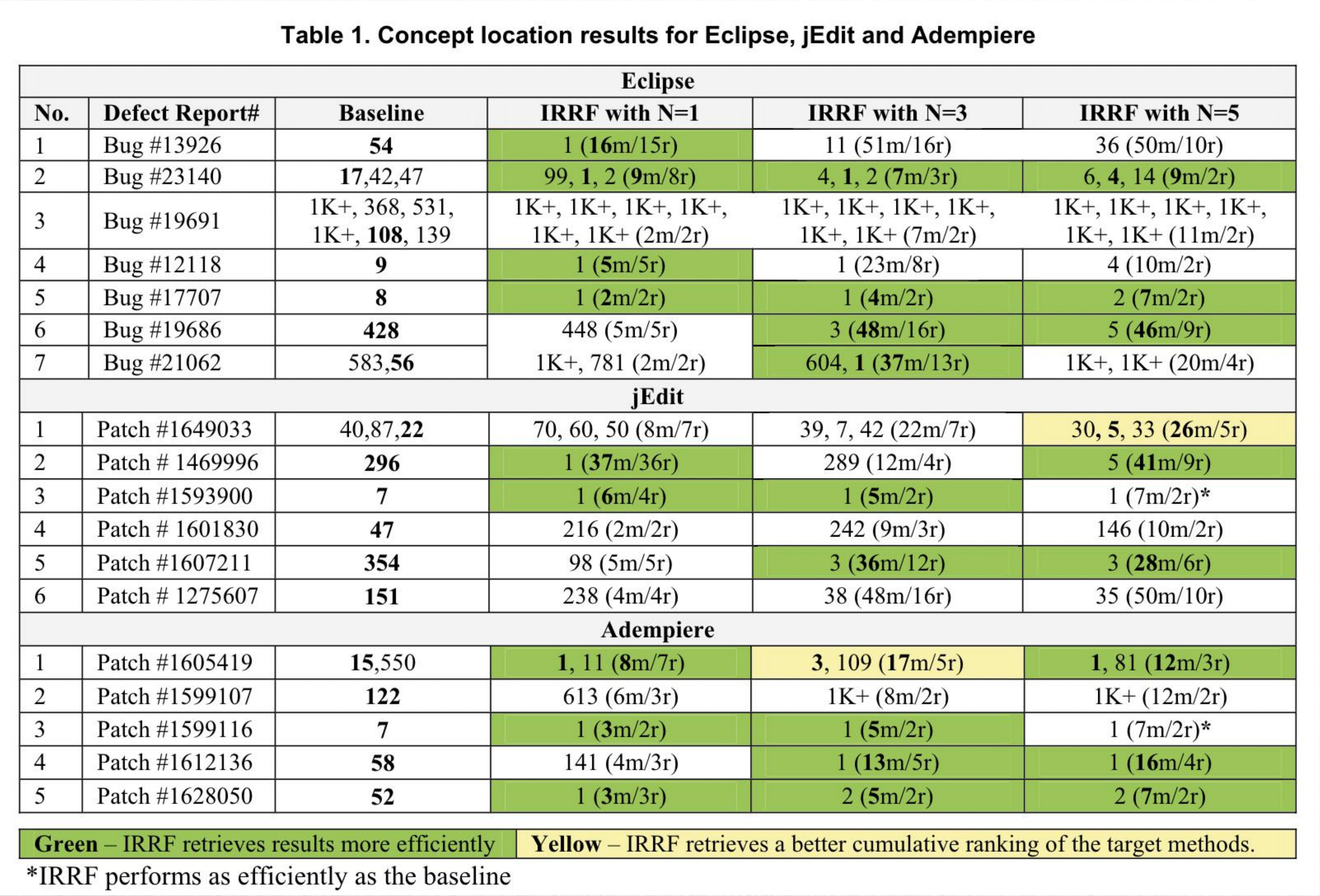


Table 1. Concept location results for Eclipse, jEdit and Adempiere

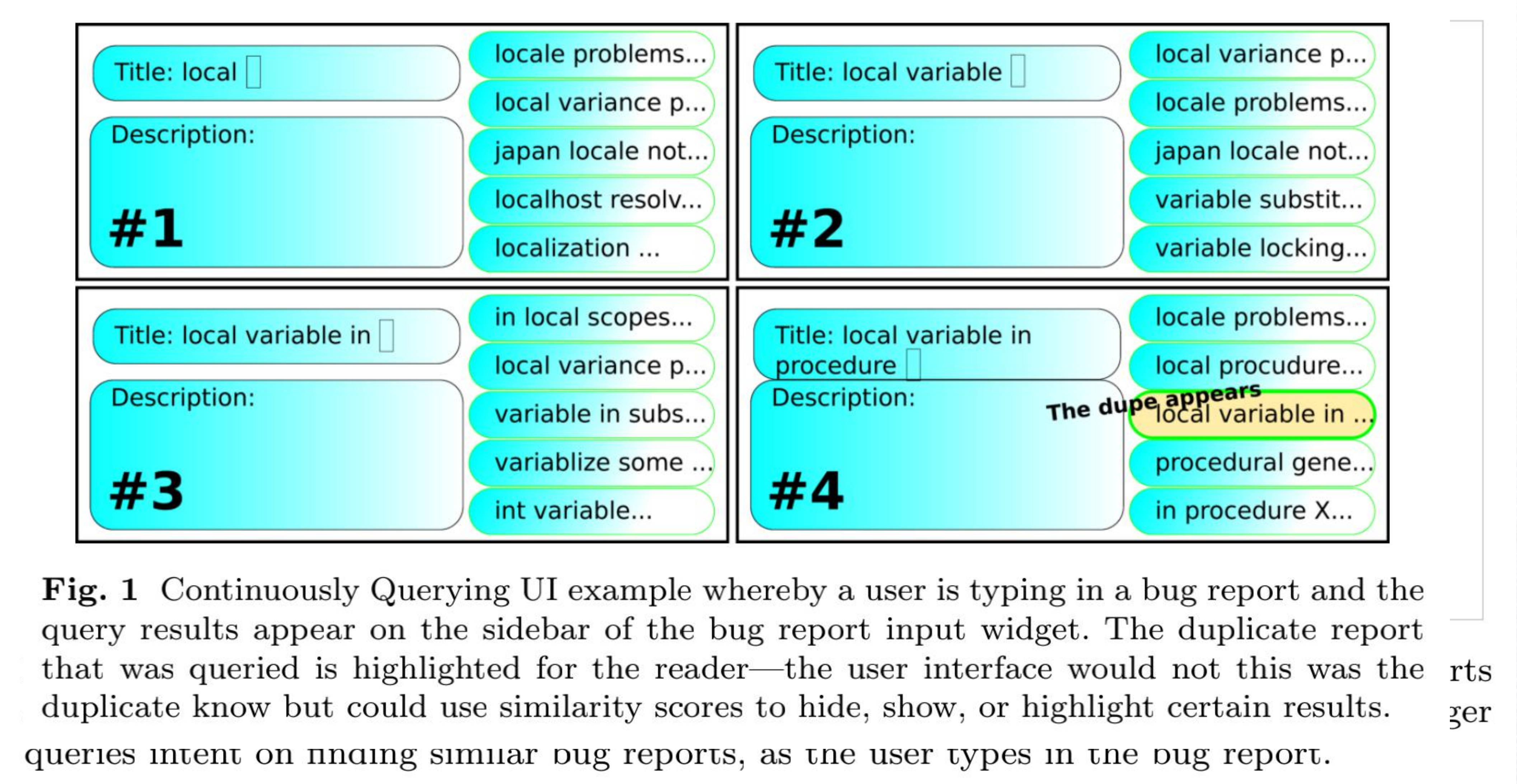
| Eclipse | | | | | |
|---|---|---|---|---|---|
| **No.** | **Defect Report#** | **Baseline** | **IRRF with N=1** | **IRRF with N=3** | **IRRF with N=5** |
| 1 | Bug #13926 | **54** | 1 (**16**m/15r) | 11 (51m/16r) | 36 (50m/10r) |
| 2 | Bug #23140 | **17**,42,47 | 99, **1**, 2 (**9**m/8r) | 4, **1**, 2 (**7**m/3r) | 6, **4**, 14 (**9**m/2r) |
| 3 | Bug #19691 | 1K+, 368, 531, 1K+, **108**, 139 | 1K+, 1K+, 1K+, 1K+, 1K+, 1K+ (2m/2r) | 1K+, 1K+, 1K+, 1K+, 1K+, 1K+ (7m/2r) | 1K+, 1K+, 1K+, 1K+, 1K+, 1K+ (11m/2r) |
| 4 | Bug #12118 | **9** | 1 (**5**m/5r) | 1 (23m/8r) | 4 (10m/2r) |
| 5 | Bug #17707 | **8** | 1 (**2**m/2r) | 1 (**4**m/2r) | 2 (**7**m/2r) |
| 6 | Bug #19686 | **428** | 448 (5m/5r) | 3 (**48**m/16r) | 5 (**46**m/9r) |
| 7 | Bug #21062 | 583,**56** | 1K+, 781 (2m/2r) | 604, **1** (**37**m/13r) | 1K+, 1K+ (20m/4r) |
| **jEdit** | | | | | |
| 1 | Patch #1649033 | 40,87,**22** | 70, 60, 50 (8m/7r) | 39, 7, 42 (22m/7r) | 30, **5**, 33 (**26**m/5r) |
| 2 | Patch # 1469996 | **296** | 1 (**37**m/36r) | 289 (12m/4r) | 5 (**41**m/9r) |
| 3 | Patch #1593900 | **7** | 1 (**6**m/4r) | 1 (**5**m/2r) | 1 (7m/2r)* |
| 4 | Patch # 1601830 | **47** | 216 (2m/2r) | 242 (9m/3r) | 146 (10m/2r) |
| 5 | Patch #1607211 | **354** | 98 (5m/5r) | 3 (**36**m/12r) | 3 (**28**m/6r) |
| 6 | Patch # 1275607 | **151** | 238 (4m/4r) | 38 (48m/16r) | 35 (50m/10r) |
| **Adempiere** | | | | | |
| 1 | Patch #1605419 | **15**,550 | **1**, 11 (**8**m/7r) | **3**, 109 (**17**m/5r) | **1**, 81 (**12**m/3r) |
| 2 | Patch #1599107 | **122** | 613 (6m/3r) | 1K+ (8m/2r) | 1K+ (12m/2r) |
| 3 | Patch #1599116 | **7** | 1 (**3**m/2r) | 1 (**5**m/2r) | 1 (7m/2r)* |
| 4 | Patch #1612136 | **58** | 141 (4m/3r) | 1 (**13**m/5r) | 1 (**16**m/4r) |
| 5 | Patch #1628050 | **52** | 1 (**3**m/3r) | 2 (**5**m/2r) | 2 (**7**m/2r) |

**Green** – IRRF retrieves results more efficiently | **Yellow** – IRRF retrieves a better cumulative ranking of the target methods.

*IRRF performs as efficiently as the baseline

# Preventing Duplicate Bug Reports by Continuously Querying Bug Reports

2019 ESE



Title: local
Description:
#1
locale problems...
local variance p...
japan locale not...
localhost resolv...
localization ...

Title: local variable
Description:
#2
local variance p...
locale problems...
japan locale not...
variable substit...
variable locking...

Title: local variable in
Description:
#3
in local scopes...
local variance p...
variable in subs...
variablize some ...
int variable...

Title: local variable in procedure
Description:
#4
locale problems...
local procudure...
The dupe appears
local variable in ...
procedural gene...
in procedure X...

**Fig. 1** Continuously Querying UI example whereby a user is typing in a bug report and the query results appear on the sidebar of the bug report input widget. The duplicate report that was queried is highlighted for the reader—the user interface would not this was the duplicate know but could use similarity scores to hide, show, or highlight certain results.

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queries intent on finding similar bug reports, as the user types in the bug report.

# EKD-BSP: Bug Report Severity Prediction by Extracting Keywords from Description

2021 DSA

TABLE III
THE REGULAR EXPRESSION FOR IDENTIFYING THE CORRESPONDING TAG

| Tag | Regular Expression |
|---|---|
| Web URL | `[https|http]+:[^\s]*` |
| File URL | `[file|files]+://[^\s]*` |
| Source Code | `(?<=\{).*(?=\})` |
| Console Output | `(/[^\}]*/)` |

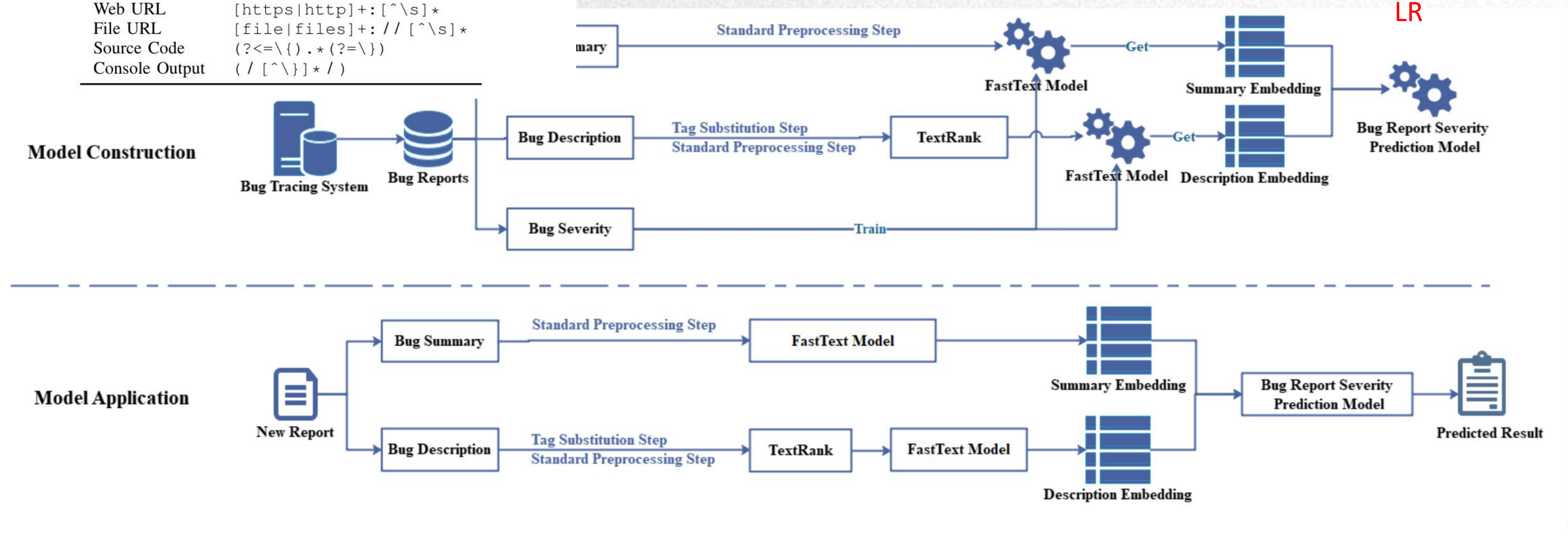

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Fig. 2. The framework of our proposed method EKD-BSP