Mubug: a Mobile Service for Rapid Bug Tracking

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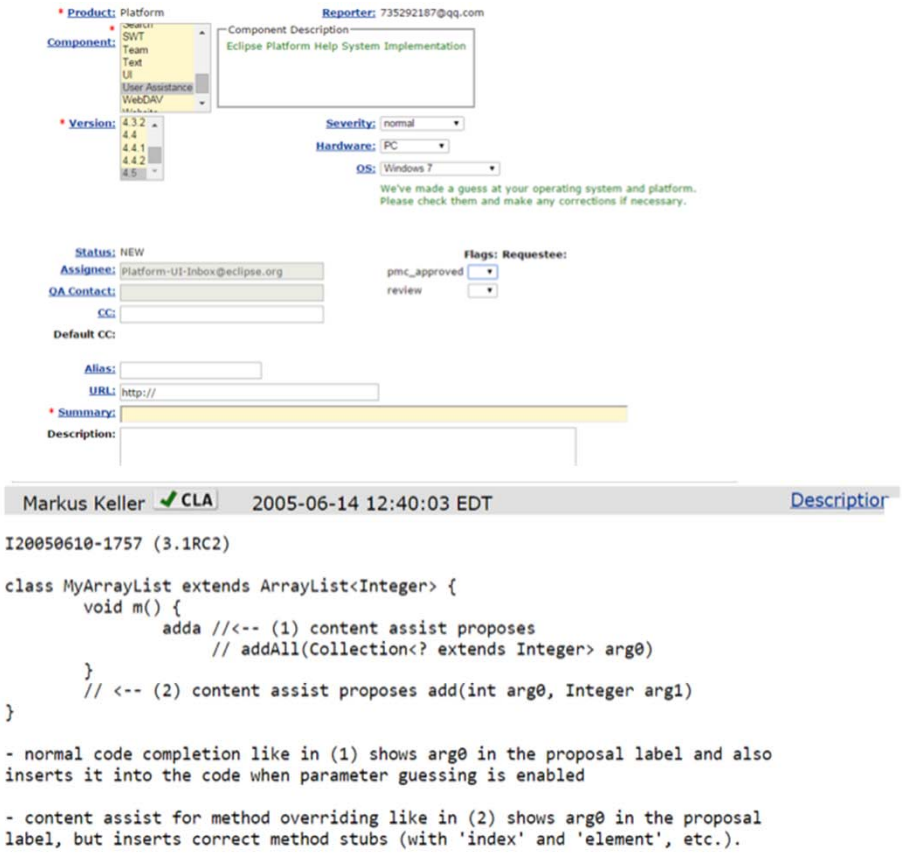
Outline

- Introduction
- Overview of Mubug
- Design and Implementation
- Conclusion

Introduction

- Nowadays
  - More mobile applications
  - More agile software development
  - More end user testers and crowdsourcing testers

Comparisons of Bug Report



Conventional Bugzilla

	Bug ID	相关测试用例	Bug描述
1			
2	1	1004	Metro风格布局，横屏模式下和竖屏模式下显示不一致（横屏模式下为炫光九宫布局）
3	2	1014	输入拼音后不选择汉字，此时切换横竖屏，已输入的拼音会消失
4	3	1005	使用新疆维吾尔族皮肤输入维吾尔语时，由于维吾尔语是从右向左阅读的，所以输入后显示的顺序也应该是从右向左，正常输入没有问题，但是当输入数字或者将光标移到以输入的文本中时，输入的显示顺序会有错乱，测试机型：三星I9100，测试环境：短信输入
5	4	1021	使用默认主题列表中第一列第一个主题，关闭浮动显示主题特效和横屏全屏模式，横屏时布局出错，由于凸出图片，遮挡了输入法的输入框和程序本身的输入框。测试机型：小米2A、魅族M2，测试环境：手机QQ2012

消息历史

2015-03-29 14:26

为什么我电脑注册了说账号不存在

2015-03-29 14:27

为什么我电脑注册了说账号不存在，重新注册说学号被占用了！用微信注册说学校不存在！！！！！

Baidu MTC
Crowdsourcing Testing

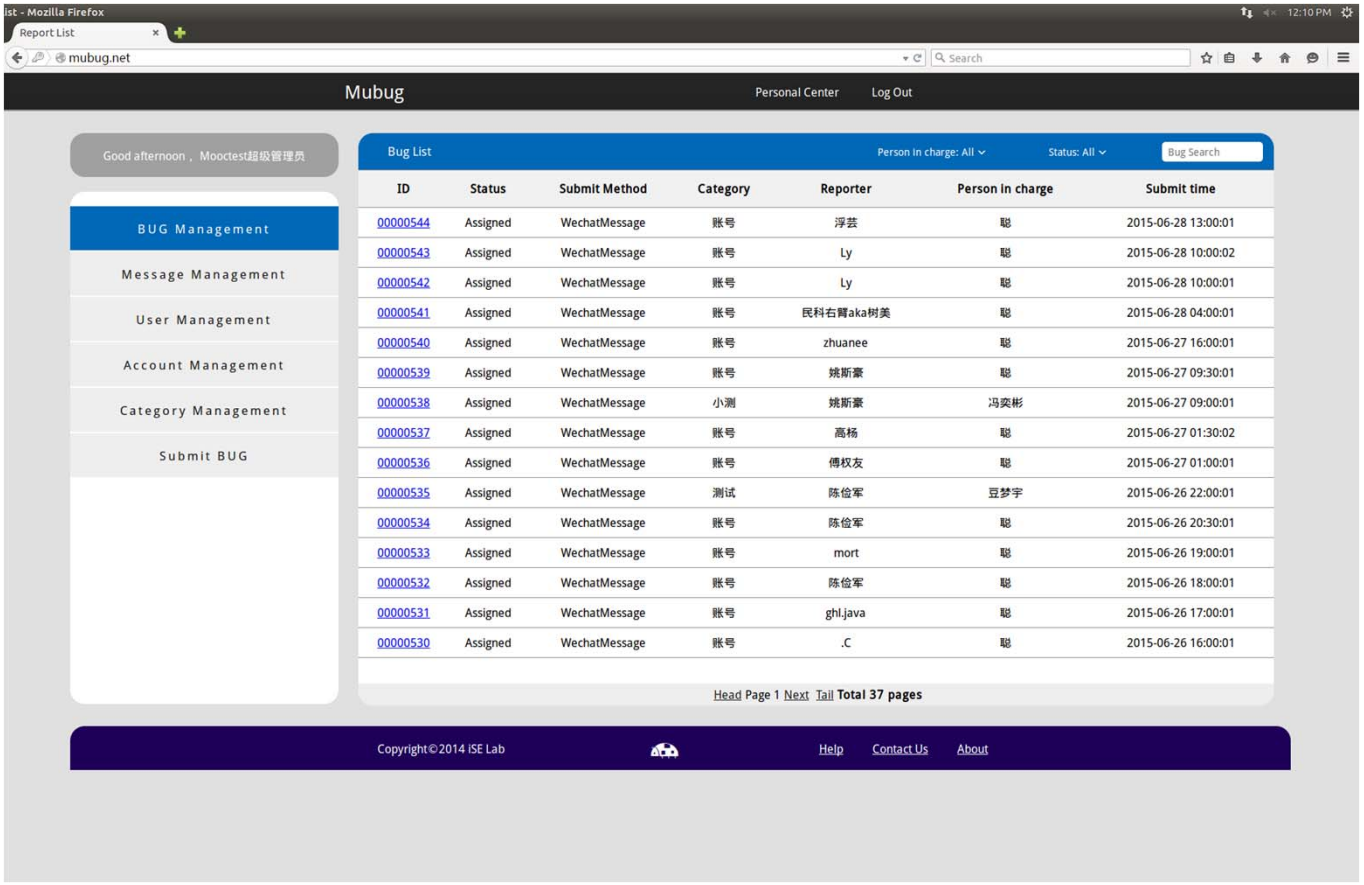
Trend for bug reports

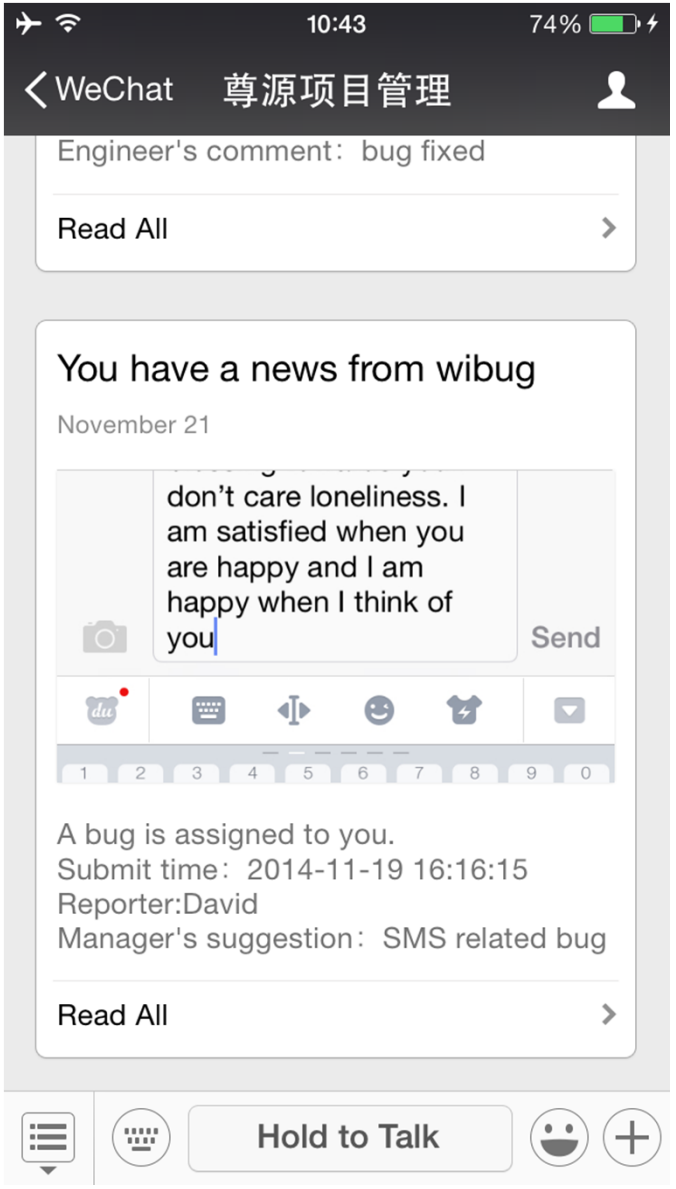
- More natural language
- More oral expression
- More multimedia format

Overview of Mubug System

- Wechat-based mobile Mubug Client for reporters
  - Report bugs
  - Notify reporters
- Both mobile and web-based Mubug Client for developers
  - View bug reports
  - Change bug status
- Full automation for project managers
  - Automatically assign bugs

Mubug for reporter





Mubug for developer

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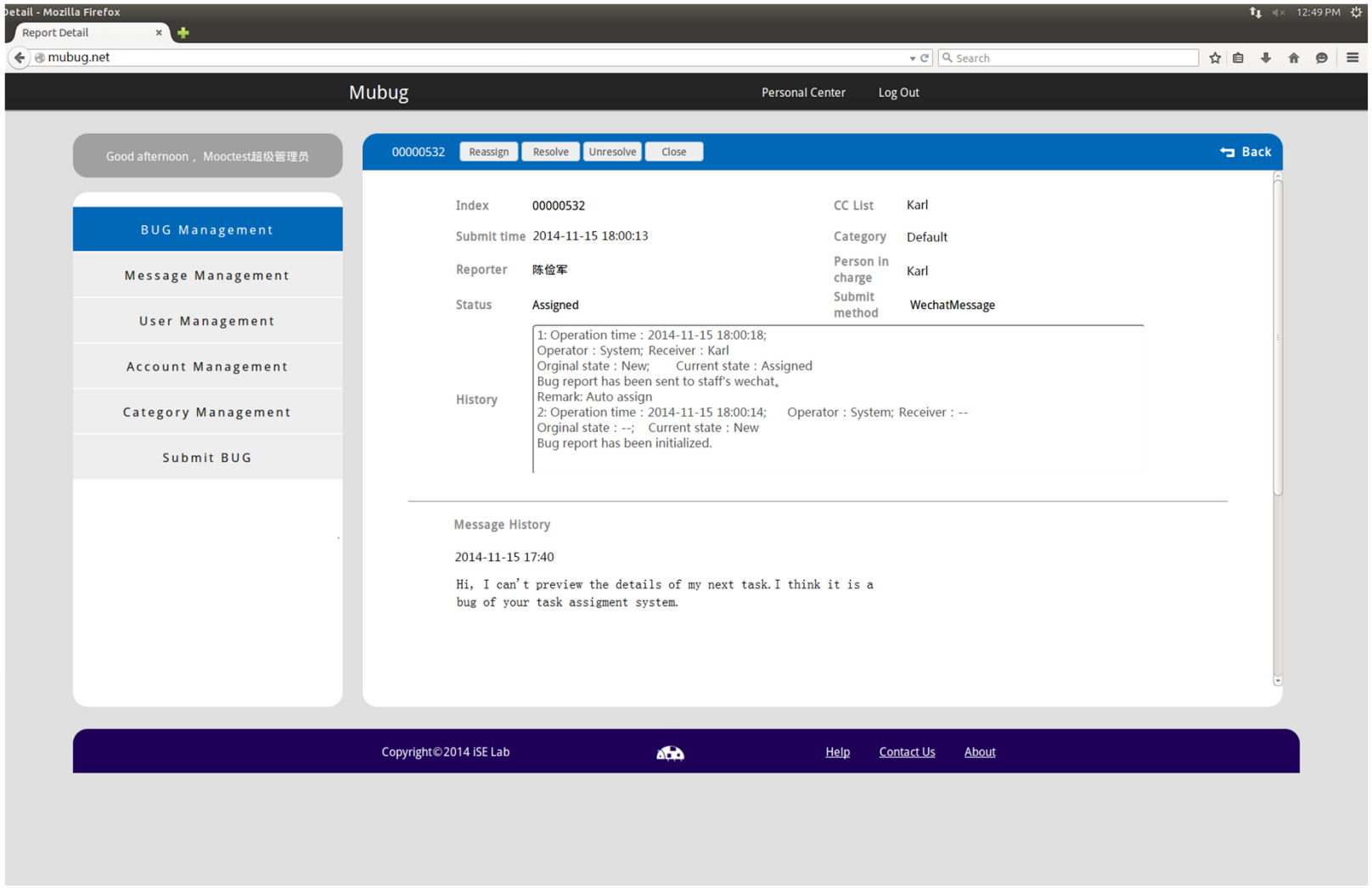

Mubug for manager

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Output:

Input:

我在使用百度输入法输入短信时遇到了bug

Description:

Voice Recognition: 当我在短信中输入太多单词时，我不能看到收件人了

Environment: iPhone 5& baidu input 5.1.0.10

Bug report — (E, I, O, D)

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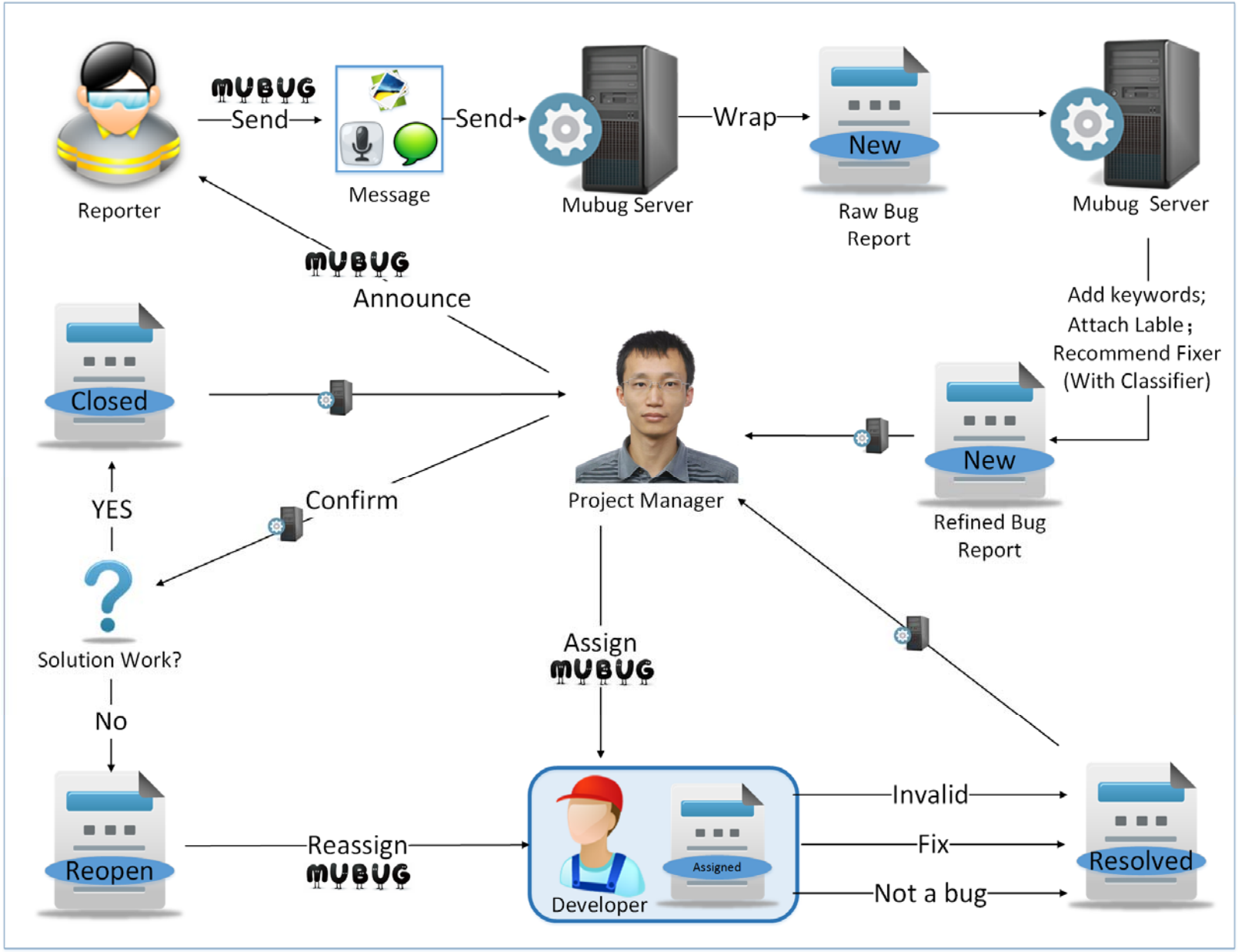

Use Case

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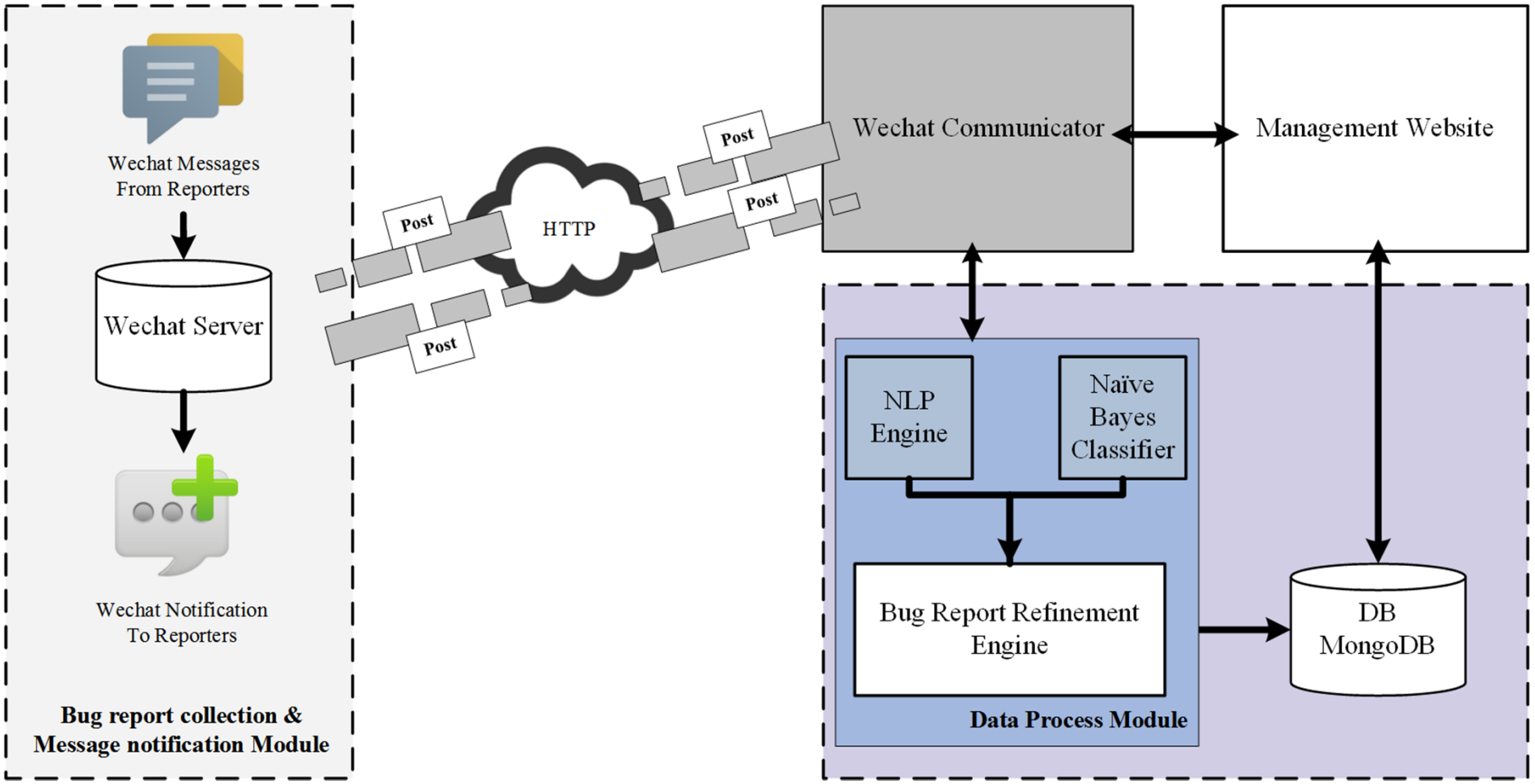

Architecture of Mubug system

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Behind the Screen

- How to translate voice into text?
  - WeChat API
- How to extract keywords from texts?
  - Chinese NLP tool ICTCLAS
- How to filter out noise words?
  - a synonym library of language technology platform
- How to identify duplicated bug reports?
  - detect duplicated bug reports based on the keywords
- How to assign bug reports automatically?
  - Naive Bayes Classifier (NBC) based on a well known machine learning tool Weka

Conclusion

- Format a bug report in a quadruple
  - (E, I, O, D)
- Develop a WeChat and Web based Mubug System
  - for reporter, developer, manager
- Automatically assign the Chinese bug report