# 4.KPI items

## 4.1 Functionality

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| Attributes | description | indicator |
| Suitability | When the software is used in the specified conditions, the ability of software products to meet the requirements of the explicit and implicit function | The platform to the sporter to accurately provide all the functions on the requirements document(100%) |
| The platform is suitable for all the sporter(>=95%) |
| Interoperability | Refers to the ability to specify the system and other software has interactive | The platform can be applied to various people, should occupy the 70% above |
| The platform can use perfect corresponding interface, and provide services(>=90%) |
| Accuracy | The software can get right or consistent result or effect | When users use the platform should be all the results are accurate in the use case diagram returns, to correct state(100%) |
| Compliance | The software should follow the relevant standards (international standards, national standards, industry standards, enterprise standards) | When using the open source frameworks, we need to comply with the open source software protocol(100%) |
| Security | The ability of preventing the program or data from unauthorized access | The confidentiality of user's personal information, personal information leakage rate should be less than 2% |

## 4.2 Usability

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| ATTRIBUTES | DESCRIPTION | INDICATOR |
| Understandability | The ability of software products being understood under specified conditions | Users should be after the registration application, understand the platform USES, understand the scope of the logic and application scope (1 day) |
| Learnability | The ability of software products being learned under specified conditions | Users need to learn the time of application and start using (1days) |
| Operability | The ability of software products being used under specified conditions | Users should learn operation and skilled use of time (1days) |

## 4.3 Maintainability

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| ATTRIBUTES | DESCRIPTION | INDICATOR |
| Analyzability | software provides aids to help developers locate the cauces of defects | Users have their own login and order log(100%) |
| The server has its own log(100%) |
| Stability | Whether the modification will  cause unexpected results | Server to reach 60% of the registered when use, should be stable can continue to use |
| After load stress test, the system reached its can carry the biggest traffic, can still run normally(90%) |
| 7 days a week, 24 hours a day, at any time under the condition of login, system should be run normally, provide stable service(100%) |
| In system upgrades, add or delete function, should be able to achieve its performance remains unchanged or increase(95%) |
| Changeability | The easy degree of achievement of modification | The time of upgrade and change the time interval of not more than 20% of the scheduled time |
| Change the function, develop its function should not affect the development process of others(>=90%) |
| Testability | The easy degree of testing | Each module unit test cycle shall be no more than 3 working days |
| Integration testing cycles should not more than five working days |
| Confirm test and system test cycle shall be no more than 7 working days |
| Acceptance test cycle should be not more than seven working days |

## 4.4 In testing

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| Attributes | description | indicator |
| Requirements Coverage | It’s for checking the situation if the function points are left | The sum of test cases / the number of function points/the number of |
| Case execution coverage | It’s for checking the situation if the cases execution are left | The number of executive cases / the number of test cases |
| The bugs | It’s for tracing the bugs | The number of bugs in every code/module/period |
| defect fix rate | The effectiveness of testing | The number of defects( or bugs) fixed / the number of defects (or bugs) |
| defect left | statistics with the defects (or bugs) distribution, modification and dealing with | The sum of defects that waiting to be distributed, modified and dealt with. |
| defects rate of module | It shows the quality of every module | The number of defects in this module / the total number of defects |
| defects discovery rate | The ability of discovering defects in team | The number of defects discovered by members / the sum of defects discovered by members and users |

## 4.5 Reliability

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| Attributes | description | indicator |
|  |  | The failure frequency caused by software fault in the process of using should be less than 2% |
| Recoverability | The ability of restoring the previous functions and performance when the system meets failure,. | The platform should protect the data of users’ when the platform has met some failures as much as possible. The loss rate of user data should be less than 5%. |
| The time that the platform restores to the normal performance after the platform met some failure, the time should be less than one day |
| Fault tolerance | The ability of software products to avoid the whole software-system failure caused by the error diffusion outside the software system | When the software met failure or breach of the specified interface, some measures should be took to maintain a specified performance level. |
| Crash frequency | Failure frequency of the system | Platform failure frequency should be less than 2% |

## 4.6 Efficiency

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| Attributes | description | indicator |
| Time behavior | The response time of system dealing with specific business request | Function Response time <= 1.0s \* difficulty factor (most easy = 0.7, easy = 1, medium = 1.3, difficult= 1.6, most difficult = 2.0) |
| Throughput = the number of bytes transferred per unit time (bytes / sec) or the number of requests transferred per unit time (requests / sec) |
| Resource behavior | The system resource took when dealing with specific business request. | For a number of resources amount is 1, resource utilization = occupied time / whole time;  For the number of resource amount is not resource 1, resource utilization = (within the period) average occupied resource / total number of resource |
| CPU occupancy rate = occupying the resource of CPU / CPU total resources |

## 4.7 Portability

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| Attributes | description | indicator |
| Adaptability | The ability of adapting to different environment | Whether the system can be displayed properly on different OS and different browser kernel |
| Whether there is self-adaptive on the mobile browser |
| Whether the mobile client(future development) can be adapted to different models of mobile phones |
| Installability | The easy degree of installation | When install on the mobile terminal, the user’s choices or hits should be less than five steps, and it should provides automatic installation of additional packages; |
| Whether it will automatically install the necessary files when upgrade on the mobile terminal； |
| Conformance | The ability of sharing public resource with other software | Whether the mobile clients are able to coexist with all other software； |

## 4.8 Others

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| Attributes | description | indicator |
| SLOC  /SLLOC | Source (Logical) Lines of Code, which will reflect the scale of software | The lines of source code or logical source code |
| Readability | The easy degree of reading code | Rate of comment = the lines of comment / the total lines of code |
| The number of using confusing value |
| (In a class) The number of methods / the number of attributes |
| (In a class) The line of code / The number of functions |