1. Coupling

1.1. Content coupling

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| --- | --- | --- |
| Related modules | Description | Improvement |
| No related module | Our modules are self-contained and don’t rely on other modules to operate | No improvement |

1.2. Common coupling

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| No related module | We only use static with Singleton pattern to share the controller instance between boundaries to control the flow of the programs.  Some constants exist in the system, but only with careful usage shared between the related modules | No improvement |

1.3. Control coupling

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| --- | --- | --- |
| Related modules | Description | Improvement |
| No related module | Our methods are design to carry out only one specific task, so no control coupling existed | No improvement |

1.4. Stamp coupling

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| RentBikeServiceCon-troller | In module RentBikeServiceController, the Bike entities was used as an argument for the calculateFee method, which only need bikeType and totalRentTime as arguments | Fix the method to accept only needed arguments instead of the accepting Bike entities as the argument |

1.5. Data coupling

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| --- | --- | --- |
| Related modules | Description | Improvement |
| Controllers and Boundaries modules | Boundaries need data to render GUI, which is acceptable | No improvement |

2. Cohesion

2.1. Coincidental cohesion

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| --- | --- | --- |
| Related modules | Description | Improvement |
| No module | The only visible coincidental cohesion in our project might be the class Configs, which contains some constant share between some controllers and entities | No improvement |

2.2. Logical cohesion

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| --- | --- | --- |
| Related modules | Description | Improvement |
| No module |  | No improvement |

2.3. Temporal cohesion

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| Controller  View, | In our project, we put all controllers into a Controller package, screen handlers into a View package, which might be considered temporal cohesion | No improvement |

2.4. Procedure cohesion

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| RentBikeServiceCon-troller | Consist of validating methods | No improvement |

2.5. Communicational cohesion

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| No module |  | No improvement |

2.6. Sequential cohesion

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| No module |  | No improvement |

2.7. Information cohesion

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| DBUtils  JSONUtils | All methods are to perform database queries or manipulate json string | No improvement |

2.8. Functional cohesion

|  |  |  |
| --- | --- | --- |
| Related modules | Description | Improvement |
| Most of the modules |  | No improvement |