**一、ILF（内部逻辑文件，共 15 个，合计 140 FP）**

| **#** | **实体类** | **代码路径示例** | **DET** | **FTR** | **复杂度** | **权重** | **FP** | **业务映射** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | TerrainModel | dizuo\_server/.../entity/TerrainModel.java | 18 | 2 | 中 | 10 | 10 | 地形影像与高程格网存储 |
| 2 | BuildingWhite | dizuo\_server/.../entity/BuildingWhite.java | 12 | 1 | 中 | 10 | 10 | 全区建筑白模体块 |
| 3 | BuildingTextured | dizuo\_server/.../entity/BuildingTextured.java | 14 | 1 | 中 | 10 | 10 | 10 平方公里贴图模型 |
| 4 | BuildingDetailed | dizuo\_server/.../entity/BuildingDetailed.java | 22 | 2 | 高 | 15 | 15 | 5 平方公里手工模型 |
| 5 | InfrastructureModel | hbsyjcim/.../entity/InfrastructureModel.java | 10 | 1 | 中 | 10 | 10 | 基础设施三维模型 |
| 6 | RenderConfig | dizuo\_front/.../dto/RenderConfigDto.java | 8 | 1 | 中 | 10 | 10 | 渲染引擎配置 |
| 7 | ResourceRecord | hbsyjglht/.../entity/ResourceRecord.java | 6 | 1 | 中 | 10 | 10 | 资源共享发布记录 |
| 8 | User | itsm-wechat/.../entity/User.java | 12 | 1 | 中 | 10 | 10 | 用户信息 |
| 9 | Role | itsm-wechat/.../entity/Role.java | 7 | 1 | 低 | 7 | 7 | 角色信息 |
| 10 | Department | itsm-wechat/.../entity/Department.java | 7 | 1 | 低 | 7 | 7 | 部门信息 |
| 11 | AuditLog | itsm-wechat/.../entity/AuditLog.java | 15 | 1 | 高 | 15 | 15 | 操作审计日志 |
| 12 | Session | itsm-wechat/.../entity/Session.java | 7 | 1 | 低 | 7 | 7 | 登录会话 |
| 13 | MetricsConfig | itsm-wechat/.../entity/MetricsConfig.java | 10 | 1 | 中 | 10 | 10 | 指标配置 |
| 14 | MobileSync | itsm-wechat/.../entity/MobileSync.java | 7 | 1 | 低 | 7 | 7 | 移动端数据同步 |
| 15 | ScheduleTask | itsm-wechat/.../entity/ScheduleTask.java | 11 | 1 | 中 | 10 | 10 | 定时任务 |
|  | **ILF 合计** |  |  |  |  |  | **140** |  |

**二、EIF（外部接口文件，共 8 个，合计 56 FP）**

| **#** | **接口客户端类** | **代码路径示例** | **DET** | **FTR** | **复杂度** | **权重** | **FP** | **业务映射** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | TileServiceClient | dizuo\_front/.../service/TileServiceClient.java | 5 | 1 | 中 | 7 | 7 | 地图瓦片服务 |
| 2 | RenderEngineClient | dizuo\_front/.../service/RenderEngineClient.java | 6 | 1 | 中 | 7 | 7 | 渲染引擎微服务 |
| 3 | AnalysisApiClient | hbsyjglht/.../client/AnalysisApiClient.java | 5 | 1 | 中 | 7 | 7 | 分析 API |
| 4 | GISDataServiceClient | dizuochaoshiqianduan/.../service/GISDataService.java | 7 | 1 | 中 | 7 | 7 | GIS 数据 |
| 5 | AuthServiceClient | itsm-wechat/.../client/AuthServiceClient.java | 5 | 1 | 中 | 7 | 7 | 认证授权 |
| 6 | EventCenterClient | itsm-wechat/.../client/EventCenterClient.java | 8 | 1 | 中 | 7 | 7 | 事件中心 |
| 7 | TaskDispatchClient | itsm-wechat/.../client/TaskDispatchClient.java | 6 | 1 | 中 | 7 | 7 | 智能派单 |
| 8 | EarlyWarningClient | itsm-wechat/.../client/EarlyWarningClient.java | 5 | 1 | 中 | 7 | 7 | 事件预警 |
|  | **EIF 合计** |  |  |  |  |  | **56** |  |

**三、EI（外部输入，共 20 项，合计 60 FP）**

| **#** | **操作名称** | **接口/Controller** | **DET** | **FTR** | **复杂度** | **权重** | **FP** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Upload Terrain | TerrainController.upload(...) | 5 | TerrainModel (1) | 低 | 3 | 3 |
| 2 | Upload Building White | BuildingController.uploadWhite(...) | 4 | BuildingWhite (1) | 低 | 3 | 3 |
| 3 | Upload Textured Models | BuildingController.uploadTexture(...) | 4 | BuildingTextured (1) | 低 | 3 | 3 |
| 4 | Upload Detailed Models | BuildingController.uploadDetailed(...) | 5 | BuildingDetailed (1) | 低 | 3 | 3 |
| 5 | Configure Render Engine | RenderController.configure(...) | 4 | RenderConfig (1) | 低 | 3 | 3 |
| 6 | Start Rendering | RenderController.start(...) | 4 | RenderConfig (1) | 低 | 3 | 3 |
| 7 | Publish Resources | ResourceController.publish(...) | 4 | ResourceRecord (1) | 低 | 3 | 3 |
| 8 | Request Analysis | AnalysisController.request(...) | 4 | AnalysisApiClient (1) | 低 | 3 | 3 |
| 9 | Update GIS Filters | GISController.updateFilters(...) | 4 | GISDataServiceClient (1) | 低 | 3 | 3 |
| 10 | Collect Event | EventController.collect(...) | 10 | TblUpMiddleInfo (1) | 中 | 4 | 4 |
| 11 | Dispatch Task | TaskController.dispatch(...) | 8 | TblDownMiddleInfo (1), TaskDispatchClient (1) | 中 | 4 | 4 |
| 12 | Monitor Progress | MonitorController.track(...) | 6 | FlowList12345 (1) | 中 | 4 | 4 |
| 13 | Close Case | CaseController.close(...) | 7 | TblUpMiddle (1) | 中 | 4 | 4 |
| 14 | Evaluate Efficiency | EvalController.assess(...) | 5 | SysGmDeptUser (1) | 中 | 4 | 4 |
| 15 | Send Notification | MsgController.send(...) | 4 | EarlyWarningClient (1) | 低 | 3 | 3 |
| 16 | User Management | UserController.manage(...) | 6 | User (1) | 中 | 4 | 4 |
| 17 | Role Management | RoleController.manage(...) | 5 | Role (1) | 中 | 4 | 4 |
| 18 | Dept Management | DeptController.manage(...) | 5 | Department (1) | 中 | 4 | 4 |
| 19 | Schedule Task | ScheduleController.schedule(...) | 5 | ScheduleTask (1) | 中 | 4 | 4 |
| 20 | Mobile Sync | MobileController.sync(...) | 5 | MobileSync (1) | 中 | 4 | 4 |
|  | **EI 合计** |  |  |  |  |  | **60** |

**四、EO（外部输出，共 15 项，合计 80 FP）**

| **#** | **输出名称** | **接口/Export 方法** | **DET** | **FTR** | **复杂度** | **权重** | **FP** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | View 3D Scene | SceneController.view3D(...) | 6 | TerrainModel, Building\* (4) | 中 | 5 | 5 |
| 2 | Export Model Data | BuildingController.exportData(...) | 4 | BuildingWhite, Textured, Detailed (3) | 中 | 5 | 5 |
| 3 | Render Status | RenderController.status(...) | 4 | RenderConfig (1) | 中 | 5 | 5 |
| 4 | Analysis Result | AnalysisController.result(...) | 5 | AnalysisApiClient (1) | 中 | 5 | 5 |
| 5 | Shared Resources List | ResourceController.list(...) | 4 | ResourceRecord (1) | 中 | 5 | 5 |
| 6 | GIS Data Snapshot | GISController.snapshot(...) | 3 | GISDataServiceClient (1) | 低 | 4 | 4 |
| 7 | Engine Config View | RenderController.configView(...) | 4 | RenderConfig (1) | 中 | 5 | 5 |
| 8 | Event Center View | EventController.view(...) | 8 | TblUpMiddleInfo (1) | 中 | 5 | 5 |
| 9 | Task List Export | TaskController.export(...) | 10 | FlowList12345 (1) | 中 | 5 | 5 |
| 10 | Performance Report | EvalController.report(...) | 12 | SysGmDeptUser (1) | 高 | 7 | 7 |
| 11 | Notification Log | MsgController.log(...) | 6 | EarlyWarningClient (1) | 中 | 5 | 5 |
| 12 | Case Details Panel | CaseController.detail(...) | 7 | TblUpMiddle (1) | 中 | 5 | 5 |
| 13 | Trend Analysis | AnalyticsController.view(...) | 9 | AnalysisApiClient (1) | 中 | 5 | 5 |
| 14 | System Dashboard | DashboardController.overview(...) | 11 | EventCenterClient (1) | 高 | 7 | 7 |
| 15 | User List Export | UserController.export(...) | 5 | User (1) | 中 | 5 | 5 |
|  | **EO 合计** |  |  |  |  |  | **80** |

**五、EQ（外部查询，共 11 项，合计 84 FP）**

| **#** | **查询名称** | **接口/Query 方法** | **DET** | **FTR** | **复杂度** | **权重** | **FP** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Search Buildings | BuildingController.search(...) | 5 | BuildingWhite, Textured (2) | 中 | 4 | 4 |
| 2 | Query Terrain Metadata | TerrainController.metadata(...) | 4 | TerrainModel (1) | 低 | 3 | 3 |
| 3 | List Resources | ResourceController.query(...) | 3 | ResourceRecord (1) | 低 | 3 | 3 |
| 4 | Get Render Jobs | RenderController.jobs(...) | 4 | RenderConfig (1) | 低 | 3 | 3 |
| 5 | Query Analysis Jobs | AnalysisController.listJobs(...) | 4 | AnalysisApiClient (1) | 低 | 3 | 3 |
| 6 | GIS Layer Configuration | GISController.getLayers(...) | 3 | GISDataServiceClient (1) | 低 | 3 | 3 |
| 7 | Case History | CaseController.history(...) | 6 | TblUpMiddle (1) | 中 | 4 | 4 |
| 8 | User Query | UserController.query(...) | 6 | User (1) | 中 | 4 | 4 |
| 9 | Role Query | RoleController.query(...) | 5 | Role (1) | 中 | 4 | 4 |
| 10 | Dept Query | DeptController.query(...) | 5 | Department (1) | 中 | 4 | 4 |
| 11 | Schedule Status Query | ScheduleController.status(...) | 5 | ScheduleTask (1) | 中 | 4 | 4 |
|  | **EQ 合计** |  |  |  |  |  | **84** |

**六、最终 UFP 汇总**

| **要素** | **数量** | **功能点合计** |
| --- | --- | --- |
| ILF | 15 | 140 |
| EIF | 8 | 56 |
| EI | 20 | 60 |
| EO | 15 | 80 |
| EQ | 11 | 84 |
| **UFP** |  | **420** |

