Development Design Document

For

Task Description

TFS \_\_\_\_\_\_

Author Name

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# Document Checklist

*The following checklist is designed to improve the quality of the design specification review process. Key to improving quality is reducing variability in processes and this document is the product of a design process. The following tasks must be complete before this design document is submitted for review. Check the done checkbox when done. Check the NA checkbox if task is not applicable.*

Object model structure should be elaborated as UML class diagrams and object model behavior should be elaborated using sequence diagrams at least. If there are object state transitions then they should be modeled using state diagrams.

|  |  |
| --- | --- |
| **Task** | **Done/NA** |
| Read instructions | /\_\_ |
| Create a physical data model [data model](http://dynamics/AX/guidelines/Modeling%20Guidelines/Forms/AllItems.aspx) in Visio and upload to [SharePoint](http://dynamics/ax6/docs/Dev%20Designs) with the design doc, make sure to put a link in this document in section 3.2. The physical model must comply with the guidelines in this (For Instructions to Setup Visio see) | / |
| Create a UML object model with class, sequence and state diagrams in Visio and upload to [SharePoint](http://dynamics/ax6/docs/Dev%20Designs) with the design doc, make sure to put a link in this document in section 3.2. The object model(s) must comply with the guidelines in this document | / |
| Other Guidelines:   * [Setting the Table Group and Cache Lookup properties](http://sharepoint/sites/daxperf/perfwiki/Wiki%20Pages/Record%20Level%20Caching%20Guidelines.aspx) * [Developer Documentation](http://dynamics/resourcecenter/Processes%20and%20Templates/Guidelines%20for%20Describing%20Tables%20and%20Relationships.doc) * [Developer Best Practices](http://sharepointemea/sites/daxdev/newemployee/Wiki%20Pages/Development%20Process%20Best%20Practices.aspx) * [Guidelines site](http://dynamics/AX/guidelines/default.aspx) * [Form Development Guidelines](http://dynamics/ax6/teams/Client/DevGuidelines/default.aspx) * [UX Guidelines](http://team/sites/mbsux/ax6ux/default.htm) | /\_\_ |
| For initial Architect Review:  Complete sections 3 (Architecture & Design Overview), 4 (Class & Interface Descriptions) and 10 (Document Information) and upload this document to [SharePoint](http://dynamics/ax6/docs/Dev%20Designs), then continue to add the details of your design and update the document online as you build the feature. | /\_\_ |
| Post Initial Review:  For MorphX development: Fill Sections 5..10 (sections 5.1, 5.2, & 5.3 are optional with justification if your Visio models covers those details)  For non-MorphX development: Fill sections 6..10 | /\_\_ |

# Terms

*Define terms that you have introduced into this feature. Make sure that the terms are common domain terms from the domain. Do not use abbreviations to name design artifacts.* Do not copy the terms from the functional specification document (this causes synchronization problems), you should only mention new terms used in this document

|  |  |
| --- | --- |
| **Term** | **Definition** |
| [Term] | [Concept Definition] |

Related Glossaries:

|  |
| --- |
|  |
|  |

# Architecture & Design Overview

*This is the section of the document that will be read by specification reviewers outside of your feature team.*

***All Sub-sections in this area are mandatory, make sure the correct information is reflected or a justification to lack of information is given***

## Overview

*Completely describe the feature architecture. Paste diagrams from the Visio ER and UML models into this section.* *You must have an ER diagram if your design uses the database. You must have at least one class diagram illustrating the structure of your design and you must have one or more sequence and state diagrams to illustrate the behavior of your design if applicable.*

## ER/UML

*Place your ER/UML diagram then please insert a link to it here. You should paste your diagram here for offline reference. When placing in the document for offline reference please use the insert object in Word and choose from file and make sure to check the link to file box so that updates can be reflected.*

*Modeling guidelines can be found at the* [*guidelines site*](http://dynamics/ax/guidelines) *or in the instructions section above*

## Non-Relational and De-normalized Database Design

*Give existing application constraints or performance reasons if your design does not comply with BCNF requirements. List and justify all deviations from logical to physical ER model. Exceptions need to be approved either by a Dynamics AX architect or a performance team architect.*

[Click here and add the appropriate content for this section]

## AOT Elements

*Describe any newly added prefix for this design*

|  |  |
| --- | --- |
| **Prefix** | **Description** |
| New Object Name | New Object Description |

## Goals

*State any design goals that influenced your decision*

## Non-Goals

*If you decided anything was explicitly not a design goal, state it here.*

N.A

## Assumptions

*State any assumptions on which your design relies.*

N.A

## Dependencies

*This is about Software dependency not organizational dependency. You should list all features/objects that you are dependent on and all that others depend on from your design.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dependency** | **Producing Team** | **Consuming Team** | **TU\_ID\FeatureID if available** | **Description** |
| N.A | N.A | N.A | N.A | N.A |

## Performance

*Specify how the implementation addresses the relevant Core Risks and Mitigations in the performance section of the corresponding Functional Specification. List any other relevant performance risks and mitigations .It is suggested that the “risks and mitigations” section from the Functional Specification is copied into this section as a starting point.*

N.A

## Security/Privacy (SWI)

*Analyze the potential security and privacy issues for this feature and how your design addresses them. You may find the STRIDE model helpful for enumerating the issues. Make sure to link a Threat Model document for your feature in section 10.3 below.*

N.A

# Class & Interface Descriptions

***Specify the object model using UML static class diagrams. Use package modeling elements to specify namespaces. Specify the behavior of your objects using sequence diagrams, collaboration diagrams and state charts. Specify your component model using component diagrams.***

***Consider providing code snippets to illustrate how calling code will meet the feature’s functional requirements (not necessary if this is obvious or if it will be covered in the UI design section below). For .NET desings, specify the namespaces that will be used.***

***What validation will be done at this level? What exceptions will be thrown/errors returned? Explicitly call out the handling required to mitigate OCC and deadlock issues?***

***Designs must comply with X++ and Dot Net coding guidelines***

## Class1

### Events and Event Handlers

***Specify any business relevant situation and/or logical customization points that you would like to publish. Describe if you will have any out of the box handlers for the events. Event handlers can be X++ and/or Managed, call it out accordingly..***

## Class2

### Events and Event Handlers

***Specify any business relevant situation and/or logical customization points that you would like to publish. Describe if you will have any out of the box handlers for the events. Event handlers can be X++ and/or Managed, call it out accordingly.***

# Detailed Design

Note: if you data model covers in details the EDTs, Enums and Tables then you can skip sections 5.1, 5.2, and 5.3 but please make sure to add a statement explaining that fact in these section, this is not mandatory for initial design review. Note: for non-sys developers, when artifacts are being over layered use the “Overlay” change type option instead ‎of “Add”. Provide a justification on the decision to overlay as opposed to inheriting or using events.‎

## Extended Data Types

### [Name of extended data type]

|  |  |
| --- | --- |
| **Description and Justification:** |  |
| **Property** | **Value** |
| [Name of property] | [Value of property] |

## Base Enums

### [Name of base enum]

Change Type: [Add/Delete/Modify/Overlay]

|  |  |
| --- | --- |
| **Description and Justification:** |  |
| **Property** | **Value** |
| [Name of property] | [Value of property] |

Change Type: [Add/Delete/Modify]

|  |  |  |
| --- | --- | --- |
| **Name** | **Enum Value** | **Label** |
| [Enum literal] | [Enum value] | [Literal label] |

## Tables

### TableName

Change Type: New/Modify

#### Properties

|  |  |
| --- | --- |
| **Description and Justification:** |  |
| **Property** | **Value** |
| Configuration Key | [Value of property] |
| Label | [Value of property] |
| Primary Index[[1]](#footnote-1) | [Value of property] |
| Clustered Index | [Value of property] |
| Table Group | [Value of property] |
| Title Field 1 | [Value of property] |
| Title Field 2 | [Value of property] |
| OCC Enabled | [Value of property] |
| Cache Lookup | [Value of property] |
| Save data per company | [Value of property] |
| AOSAuthorization | [Value of property] |
| Replacement Key | [Value of property] |
| Developer Documentation | [Value of property] |

#### Fields

*State all your fields and their properties; ensure identifications of H/M/LBI fields and which fields should be trimmed on the server*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Mandatory (Y/N)** | **Change Type** | **Configuration Key (highlight keys which can be disabled when the table configuration key is enabled)** | **Other Properties**  **(Should this field be trimmed on the server (AOSAuthorization)?)** |
| Field name | Enum | No | Add |  | EDT: NoYesId |

#### Field Groups

|  |  |  |
| --- | --- | --- |
| **Field Group Name** | **Fields** | **Justification** |
| Field group | Field Name | [Enter justification for field group] |

#### Indexes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Index** | **Allow Duplicates** | **Is Candidate Key** | **Fields** | **Justification** |
| [Name of index] | [Yes/No] | [Yes/No] | [Field list] | [Enter justification for Index] |

#### Relations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Relation** | **Relation Type** | **Table** | **Validate** | **Justification** |
| [Name of relation] | [Type] | [Name of table] | [Yes/No] | [Enter justification for Relationship] |

#### Delete Actions

|  |  |
| --- | --- |
| **Table** | **Delete Action** |
| [Name of table] | [None/Cascade/Restricted/Cascade + Restricted] |

#### Methods

boolean validateWrite()

Description:

#### Events and Event Handlers

***Specify any business relevant situation and/or logical extension points that will be published. Describe if you will have any out of the box handlers for the events. Event handlers can be X++ and/or Managed, call it out accordingly. Refer to this*** [***link***](http://dynamics/ax6/docs/Functional%20Specs/104040%20X++%20Events%20functional%20spec.docx) ***for details on the eventing support in AX.***

#### Upgrade/Backward Compatibility

*What is required to upgrade existing users to use your feature? Is a database migration required? Any file format changes? Give details for any data migration required. Should your feature handle interacting with previous versions of the application? If so, how are these handled?*

[Click here and add the appropriate content for this section]

## Views

### [Name of view]

Overview: [Description and justification of view]

Change Type: [Add/Delete/Modify/Overlay]

Developer Documentation: [Value]

|  |  |  |  |
| --- | --- | --- | --- |
| **Table** | **Parent** | **Join Mode** | **Sort/Range** |
| [Name of table] | [Name of table] | [Inner/Outer/Exists/NoExists] | [Field]: [Value] |

## Maps

### Map1

Overview:

Change Type: New/Modify

Developer Documentation:

|  |
| --- |
| **Table** |
|  |
|  |
|  |

## Queries

### [Name of query]

Overview: [Description and justification of query]

Change Type: [Add/Delete/Modify/Overlay]

|  |  |  |  |
| --- | --- | --- | --- |
| **Table** | **Parent** | **Join Mode** | **Sort/Range** |
| [Name of table] | [Name of table] | [Inner/Outer/Exists/NoExists] | [Field]: [Value] |

## Forms

*Please avoid all code on forms, and use the* [*Form Development Guidelines*](http://dynamics/ax6/teams/Client/DevGuidelines/default.aspx) while building your forms.

### Form1

Change Type: New/Modify

Type of Form: None

#### Data Sources

|  |  |  |
| --- | --- | --- |
| **Data Source Name** | **Table** | **Other Properties** |
| Table1 | Table1 | JoinSource:Table2 |

#### Methods

Location: \Forms\Form1\DataSources\Table1\Fields\Field1 \Methods\modified

public void modified()

Description

Location: Location: \Forms\Form1\DataSources\Table1\Fields\Field1 \Methods\modified

#### Business Logic in Forms

*State and justify all logic added to the form – this should be an exception and should get clear approval from the architect team*

|  |  |
| --- | --- |
| **Business Logic** | **Justification** |
|  |  |

#### Permissions

* + *By default, permissions are generated for Read, Updated, Create and Delete, but not for Correct. Specify the reason(s) in this section if you choose to override this default behavior.*
  + *Include resources that require overrides of default auto-inferred behavior. DO NOT INCLUDE auto-inferred resources.*

***Manually added resources:***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Resource | | Reflect overrides (EffectiveAccess) under the relevant CRUD variant | | | |
| Type | **Name** | **Read** | **Update** | **Create** | **Delete** |
|  |  |  |  |  |  |

*Resource Types include controls, tables, server entry points and associated forms*

Screenshot if available

## Datasets

### [Name of Dataset]

Change Type: [Add/Delete/Modify/Overlay]

#### Data Sources

|  |  |  |
| --- | --- | --- |
| **Data Source Name** | **Table** | **Other Properties** |
| [Name of data source] | [Name of table] | [Name of property]: [Value of property] |

#### Methods

Location: [Path within object to method]

[Method signature]

[Description of operation]

#### Business Logic in Datasets

*State and justify all logic added to the Dataset – this should be an exception and should get clear approval from the architect team*

|  |  |
| --- | --- |
| **Business Logic** | **Justification** |
| [Describe business logic added to form] | [Justify the need for this business logic in the form] |

## Web Controls

### [Name of WebControl]

Change Type: [Add/Delete/Modify/Overlay]

#### Data Source Controls

|  |  |  |
| --- | --- | --- |
| **Data Source Control Name** | **Supported Views** | **Other Properties** |
| [Name of data source] | [Name of tables that make up the view] | [Name of property]: [Value of property] |

#### Bound Controls

|  |  |  |
| --- | --- | --- |
| **Control Name** | **Bound Views** | **Other Properties** |
| [Name of control] | [Name of view the control is bound to] | [Name of property]: [Value of property] |

#### Bound Fields

|  |  |  |  |
| --- | --- | --- | --- |
| **Control Name** | **Bound Views** | **Bound Field Name** | **Bound Field Properties** |
| [Name of control] | [Name of view the field is a member of] | [Name of field in view] | [Name of property]: [Value of property]  [If Lookup field Describe lookup implemenation] |

#### Permissions

* + *By default, permissions are generated for Read, Updated, Create and Delete, but not for Correct. Specify the reason(s) in this section if you choose to override this default behavior.*
  + *Include resources that require overrides of default auto-inferred behavior. DO NOT INCLUDE auto-inferred resources.*

***Manually added resources:***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Resource | | Reflect overrides (EffectiveAccess) under the relevant CRUD variant | | | |
| Type | **Name** | **Read** | **Update** | **Create** | **Delete** |
|  |  |  |  |  |  |

*Resource Types include controls, tables, server entry points and associated web controls.*

## EP Page Definitions

### [Name of page definition]

Change Type: [Add/Delete/Modify/Overlay]

#### Web Parts

|  |  |  |
| --- | --- | --- |
| **Web Part Name** | **Content Item (optional)** | **Other Properties** |
| [Name of Web Part] | [Name of content item] | [Web Part/Content Item]: [Name of property]: [Value of property] |

## 

## Workflow

Include reference to a UML state chart and paste the chart into this section

### Workflow approvals/tasks

#### [Name of Workflow approval/task]

Element Type: [Approval/Task]

Change Type: [Add/Delete/Modify/Overlay]

Add a section for each approval/task

#### Properties of approval/task

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label |  |
| Help text |  |
| Configuration key |  |
| Document |  |

#### Action menu items

|  |  |  |
| --- | --- | --- |
| **Action** | **Menu item** | **Class** |
| Resubmit (Win) |  |  |
| Resubmit (EP) |  |  |
| Delegate (Win) |  |  |
| Delegate (EP) |  |  |

#### Display/URL menu items

|  |  |  |
| --- | --- | --- |
| **Display** | **Menu item** | **Form / Web URL** |
| Document (EP) |  |  |
| Document (Win) |  |  |

#### Event handlers

|  |  |
| --- | --- |
| **Event handler** | **Class** |
| StartedEventHandler |  |
| CanceledEventHandler |  |
| WorkItemsCreatedEventHandler |  |

#### Outcomes (Task only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Outcome** | **Enabled?**  **(y/n)** | **ActionWebMenuItem** | **ActionMenuItem (Win)** | **EventHandler** |
| [Name of Outcome] |  |  |  |  |

#### Outcomes (Approval only)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Outcome** | **Enabled?**  **(y/n)** | **ActionWebMenuItem** | **ActionMenuItem (Win)** | **EventHandler** |
| Approve |  |  |  |  |
| Deny |  |  |  |  |
| Reject |  |  |  |  |
| RequestChange |  |  |  |  |

### Workflow automated tasks

#### [Name of Workflow automated task]

Change Type: [Add/Delete/Modify/Overlay]

Add a section for each automated task

#### Properties of automated task

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label |  |
| Help text |  |
| Configuration key |  |
| Document |  |

#### Event handlers

|  |  |
| --- | --- |
| **Event handler** | **Class** |
| ExecutionEventHandler |  |
| CanceledEventHandler |  |

### Workflow types

#### [Name of Workflow Type]

Change Type: [Add/Delete/Modify/Overlay]

Add a section for each workflow type

#### Properties of workflow type

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label |  |
| Help text |  |
| Category |  |
| Configuration key |  |
| Document |  |

#### Action menu items

|  |  |  |
| --- | --- | --- |
| **Action** | **Menu item** | **Class** |
| Cancel (Win) |  |  |
| Cancel (EP) |  |  |
| SubmitToWorkflow (Win) |  |  |
| SubmitToWorkflow (EP) |  |  |

#### Display/URL menu items

|  |  |  |
| --- | --- | --- |
| **Display** | **Menu item** | **Form / Web URL** |
| Document (EP) |  |  |
| Document (Win) |  |  |

#### Event handlers

|  |  |
| --- | --- |
| **Event handler** | **Class** |
| StartedEventHandler |  |
| CompletedEventHandler |  |
| CanceledEventHandler |  |
| ConfigDataChangeEventHandler |  |

#### Organizational metadata

|  |  |
| --- | --- |
| AssociationType | [Global/Company/Other] |
| AssociationTypeRelationship |  |

#### Supported elements

|  |
| --- |
| **Name** |
| [Name of element supported by this Workflow Type] |
| (add rows as needed) |

## Service References

This section contains the design for integration and application services.

### Service Reference <Name>

Repeat this section and the subsections for each referenced service in the design document.

|  |  |
| --- | --- |
| **Service End Point** | **<URL>** |
| Accessed From | <Client / Server> |
| Authentication Scheme |  |

### Services

This section contains the design for integration of application services.

#### [Service Name]

Repeat this section and the subsections for each service in the design document.

#### General Design

*Are you exposing functionality through Custom (non-Axd based) Services? How is this implemented, secured, and what data contracts are exposed. If you are exposing AxD based services then describe the AxD overrides used and AxBC classes generated and customized. If your services expose a subset / superset of the interactive business logic exposed, please document the delta here.*

#### Defaulting Design

*Describe the defaulting rules and how they will be implemented*

[x] Do you also have defaulting code in forms?

If you have defaulting code in forms are you making an effort to consolidate your code in one location?

#### Validation Design

*Describe the validation rules and how they will be implemented.*

[x] Do you also have validation code in forms?

If you have validation code in forms are you making an effort to consolidate your code in one location?

#### Service Schema

[X] Contains AxD Schema

Query Definition

 [X] Custom Schema

Document X++ / .NET data contract

#### Permissions

* + *Include resources that require overrides of default auto-inferred behavior. DO NOT INCLUDE auto-inferred resources.*

***Manually added resources:***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Resource | | Reflect overrides (EffectiveAccess) under the relevant CRUD variant | | | | | | |
| Type | **Name** | **Create** | **Delete** | **find** | **findKeys** | **Read** | **Update** | **Custom** |
|  |  |  |  |  |  |  |  |  |

*Resource Types include controls, tables, server entry points and associated code permissions.*

## SSRS Reports

### [Name of report]

*Repeat this section for each report in your design*

Change Type: [Add/Delete/Modify/Overlay]

|  |  |
| --- | --- |
| **Description:** | Describe the report |
| **Property** | **Value** |
| Existing X++ report | Name of existing X++ report replaced by this SSRS report (if applicable) |
| Report library | Name of the report library/project where this report exists. |
| Report library type | New/Existing |

#### SSRS Datasets

*Describe all datasets that are used in the report.*

#### Dataset - [Name of dataset]

*Repeat this section for each dataset*

#### Properties

|  |  |
| --- | --- |
| **Name** | **Value** |
| Data Source | [Dynamics AX | DynamicsAXOLAP] |
| Data Source Type | [If data source is Dynamics Ax - Query/ReportDataProvide/Data method] |
| Query | [E.g. select \* from CustSRS] |
| Justification (optional) | [If using Data method as data source type, please provide reason] |

#### Report Data Provider design - [Name of X++ class]

*This section is required if a “ReportDataProvider” data source type is used in SSRS dataset*

#### Report data schema

*Describe the data tables used as part of the schema in report data provider class.*

|  |  |
| --- | --- |
| **Table** | **Table type** |
| [Table used in report provider schema] | [Physical | Temp table] |

#### processReport() method logic

*Describe the method logic used to populate the tables. Are you utilizing set based operations to insert into tables?*

#### Parameters

#### Parameter - [Name of parameter]

*Repeat this section for each parameter, list any of the properties that are \*not\* the default value*

|  |  |
| --- | --- |
| **Property** | **Value** |
| Allow Blank | [Default = False] |
| Data Type | [Default = System.String] |
| Default Value | [Default = null; May be from a query or non-queried] |
| Multi Value | [Default = False] |
| Nullable | [Default = False] |
| Prompt String | [Default = null] |
| Values | [The valid values of the parameter; Default = null; May be from a query, non-queried] |
| Visibility | [Default = False] |

#### Parameter Validation

*Describe parameter validation rules.*

#### Report design

|  |  |
| --- | --- |
| **Design type** | **Justification** |
| Auto Design  Precision Design | [If precision design, provide reasons for using it over Auto design] |

#### Permissions

* + *Include resources that require overrides of default auto-inferred behavior. DO NOT INCLUDE auto-inferred resources.*

|  |  |  |
| --- | --- | --- |
| Resource name | Resource Type | Effective Access/Access Level |
|  |  |  |

## Menu Items

*Describe your Client and Web menu items.*

### [Name of menu item]

Change Type: [Add/Delete/Modify/Overlay]

|  |  |
| --- | --- |
| **Property** | **Value** |
| Configuration Key | [Value of property] |
| Label | [Value of property] |
| Help Text | [Value of property] |
| Type | [Display/Output/Action] |
| Object | [Value of property] |
| Run On | [Called from/Client/Server] |
| ReadPermissions | [Value of property] |
| UpdatePermissions | [Value of property] |
| CreatePermissions | [Value of property] |
| CorrectPermissions | [Value of property] |
| DeletePermissions | [Value of property] |
| LinkedPermissionType | [Value of property] |
| LinkedPermissionObject | [Value of property] |

## Role Based Security

### Privileges

*Describe new privileges or changes to existing privileges*

#### [Name of privilege]

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label | [Value of property] |
| Description | [Value of property] |

#### Entry points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entry point name | ObjectType | ObjectName | ObjectChildName | AccessLevel |
|  |  |  |  |  |

#### Permissions

*Resource Types include tables and forms that override underlying entry point’s permission sets. Effective Access & manageby doesn’t apply to “form” resource types*

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource Type | Effective Access/Access Level | ManagedBy |
|  |  |  |  |

### Duties

*Describe new duties or changes to existing duties*

#### [Name of duty]

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label | [Value of property] |
| Description | [Value of property] |

#### Privileges

|  |
| --- |
| PrivilegeName |
|  |

### Process cycles

*Describe changes to existing duties*

#### [Name of process cycle]

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label | [Value of property] |
| Description | [Value of property] |

#### Duties

|  |
| --- |
| DutyName |
|  |

### Roles

*Describe new roles or changes to existing roles*

#### [Name of role]

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label | [Value of property] |
| Description | [Value of property] |
| PastDataAccess | [Value of property] |
| CurrentDataAccess | [Value of property] |
| FutureDataAccess | [Value of property] |

#### Duties, Privileges, policies and subroles

*The four columns are not related to each other, treat each column as a enumerated list.*

|  |  |  |  |
| --- | --- | --- | --- |
| DutyName | PrivilegeName | PolicyName | SubroleName |
|  |  |  |  |

#### Permissions

*Resource Types include tables, table fields and Server methods*

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource Type | Effective Access/Access Level | ManagedBy |
|  |  |  |  |

#### Sub roles

|  |
| --- |
| RoleName |
|  |

### XDS Policies

#### [Name of policy]

*Describe the purpose of this policy*

|  |  |
| --- | --- |
| **Property** | **Value** |
| Label | [Value of property] |
| PrimaryTable | [Value of property] |
| Query |  |
| PolicyGroup |  |
| ConstraintedTable |  |

#### Constrained Tables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tablename | ConstrainedTable | Table | TableRelation | ParentTablename |
|  |  |  |  |  |

# Unit Testing

*List the unit tests you will perform to validate this feature. Will you implement any automated unit tests? If so, describe the automation you will implement.*

*Note: Your unit tests should be sufficiently complete to ensure that a user of your feature is able to achieve each requirement listed in the Requirements section at the beginning of this document. At minimum, you should test that each requirement is met under normal circumstances – i.e. with typical data, typical UI flow and default settings. Also, it is acceptable for unit tests to be done only at the highest layer of your feature (i.e. if you execute a particular test through the UI, it is not necessary to have a corresponding automated unit test of any underlying objects).*

## Data Requirements

[Click here and add the appropriate content for this section]

## Unit Test Plan

[Click here and add the appropriate content for this section]

# Other Design Issues

*These design sections can be elevated or moved to other sections of the design as deemed necessary by the author.*

## Change Impact

*List the points of integration between this feature and the rest of your product. If your feature modifies rules or another business component, which parts of the UI (or other application layer(s)) call the modified methods? Identify any changes that must be made to other components or any measures that your implementation must take to avoid breaking other functionality that depends on this feature.*

[Click here and add the appropriate content for this section]

## Setup

*If your feature must be installed and it is not model based, then document what Setup needs to do to install this feature. Document all components (EXE, DLL, Reg Key, Windows Service etc.) that need to be installed. Document all configuration that must be done at Setup time. This would include configuring IIS, setting access rights, modifying database objects Document all prerequisites that Setup must validate before the feature can be installed. Document how to check for the prerequisite, (define the registry key to look at, etc.).If there are any Setup requirements for this feature, contact the Setup team to discuss and review this section of the spec. They must sign-off. The setup team has a document that defines how to work with them.*

[Click here and add the appropriate content for this section]

|  |  |  |
| --- | --- | --- |
| **Component** | **Name/Value** | **Registration Needed** |
| [EXE, DLL, Reg Key, Windows Service etc.] | [Name/Value] | [Regsvr32, Regasm, etc. ] |

## Configurations

*If feature can operate across multiple machines, what are the possible configurations? For each configuration, outline which components of your design will reside on each machine. Is there anything that your code must handle differently for different configurations?*

[Click here and add the appropriate content for this section]

# Schedule Breakdown

*As a guideline, you should break down your feature into Testable Units that have 1-4 weeks duration, and break each testable unit into work items as it makes sense for the feature. This should be a pull from TFS or an input into TFS (if you started here)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Testable Unit** | **Work Item(s)** | **Work Item Estimate in days** | **Week of Delivery** | **What TU/Feature depends on this TU (if any)** | **Which TU does this TU depend on (if any)** |
| [Testable Unit 1] | [Work Item 1]  [Work Item 2] | [Work Item 1 est]  [Work Item 2 est] | [D01..D10] | [Feature\TU] | [Feature\TU] |

# Risks and Open Issues

*Use this area to call out the biggest quality and schedule risks for your feature. What are the legacy scenarios affected by this feature that are most likely to break? What are the unanswered questions and problems you’d find most useful to discuss in a design review?*

[Click here and add the appropriate content for this section]

# Document Information

## Revision History

|  |  |  |
| --- | --- | --- |
| **Revision Date** | **Author** | **Summary of Changes** |
|  | [Enter You Name Here] | [Enter Description Here] |

## Feature Team

|  |  |
| --- | --- |
| **Role** | **Name** |
| Program Management |  |
| Development |  |
| Test |  |
| Review(s) | [Enter Reviewer Name Here] |
| Approver(s) | Feature team: [Enter Approver(s) Name Here]  Cross team (*optional based on impact*):  Pro: [Name], GFM: [Name], HCM: [Name], SCM: [Name]  AX Architecture (*optional based on impact*): [Name]  Performance Reviewer (*optional based on impact*): [Name] |

## Related Documents

|  |  |
| --- | --- |
| **Document** | **Location** |
| Functional spec |  |
| Architecture | [Enter link to Architecture Doc if available] |
| Threat Model | [Enter name of or link to Threat Model] |
| Related Features | [Enter link to functional Specs] |
| Additional references (e.g. SDK’s, Estimate worksheet, external specs for systems we integrate with) | [Enter link to any additional references] |

1. The primary index must implement a candidate key of a relation variable. For example, the relation <RecId, FieldId> can never be a candidate key because no candidate key can have a super key (the RecId) as a proper subset. [↑](#footnote-ref-1)