

# Portlet Development Documentation

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**[Transcript]**

[prjTranscript]

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## **1. Introduction**

*The first section of the document is an Introduction. Its purpose is to provide a brief overview of the function of the system and the reasons for its development, its scope, and references to the development context (e.g., reference to the problem statement written by the client, references to existing systems, feasibility studies). The introduction also includes the objectives and success criteria of the project.*

### **1.1. Purpose of the portlet**

*This Portlet facilitates SQU Academic and students to view transcript through centralized portal. Based upon predefined criteria privileged academics is eligible to select different students to see their transcript. A valid student is eligible to view his/her transcript. This portlet connected with SIS Common Control, through which eligible academics can request to view particular students transcript.*

### **1.2. Portlet Scope**

The scope of this portlet is to provide the following feature:

1. By default Transcript portlet having following feature
  - 1.1. Search for Student details
  - 1.2. View student's details
    - 1.2.1. View list of courses
2. View particular transcript

## **2. Definition, acronym, and abbreviation**

### 3. Functional Requirements

*This sub-section is used to described the functional requirements of portlet which are related with direct interaction with the users.*

<b>Requirement ID:</b>	TR01
<b>Title:</b>	<i>Transcripts Search</i>
<b>Description:</b>	Search for Academic transcript
<b>Priority:</b>	3 (high)
<b>Comments:</b>	
<b>Sketch:</b>	
<b>Reference (req.):</b>	

<b>Requirement ID:</b>	TR02
<b>Title:</b>	<i>List of Courses</i>
<b>Description:</b>	<i>Student details along with list of courses</i>
<b>Priority:</b>	3 (high)
<b>Comments:</b>	
<b>Sketch:</b>	
<b>Reference (req.):</b>	

<b>Requirement ID:</b>	TR03
<b>Title:</b>	<i>Transcript Details</i>
<b>Description:</b>	<i>Transcript Details</i>
<b>Priority:</b>	3 (high)
<b>Comments:</b>	
<b>Sketch:</b>	
<b>Reference (req.):</b>	

## 4. Non Functional Requirements

*This sub-section is used to described non-functional requirements of portlets which are not directly related to the users.*

### 4.1.1. Performance Requirement

### 4.1.2. Security Requirement

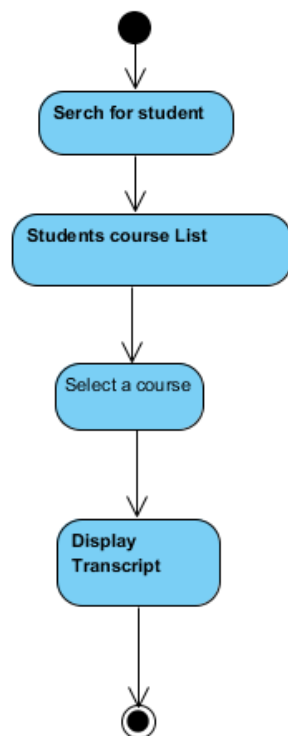
No Special security requirements

### 4.1.3. Other Requirements

No Special other requirements

## 4.2. Activity Diagrams

*This sub-section is used to present high level control flow of the portlet in question. If possible lower level control flow for each use case can also be presented.*



## 4.3. Business Rules & Validations

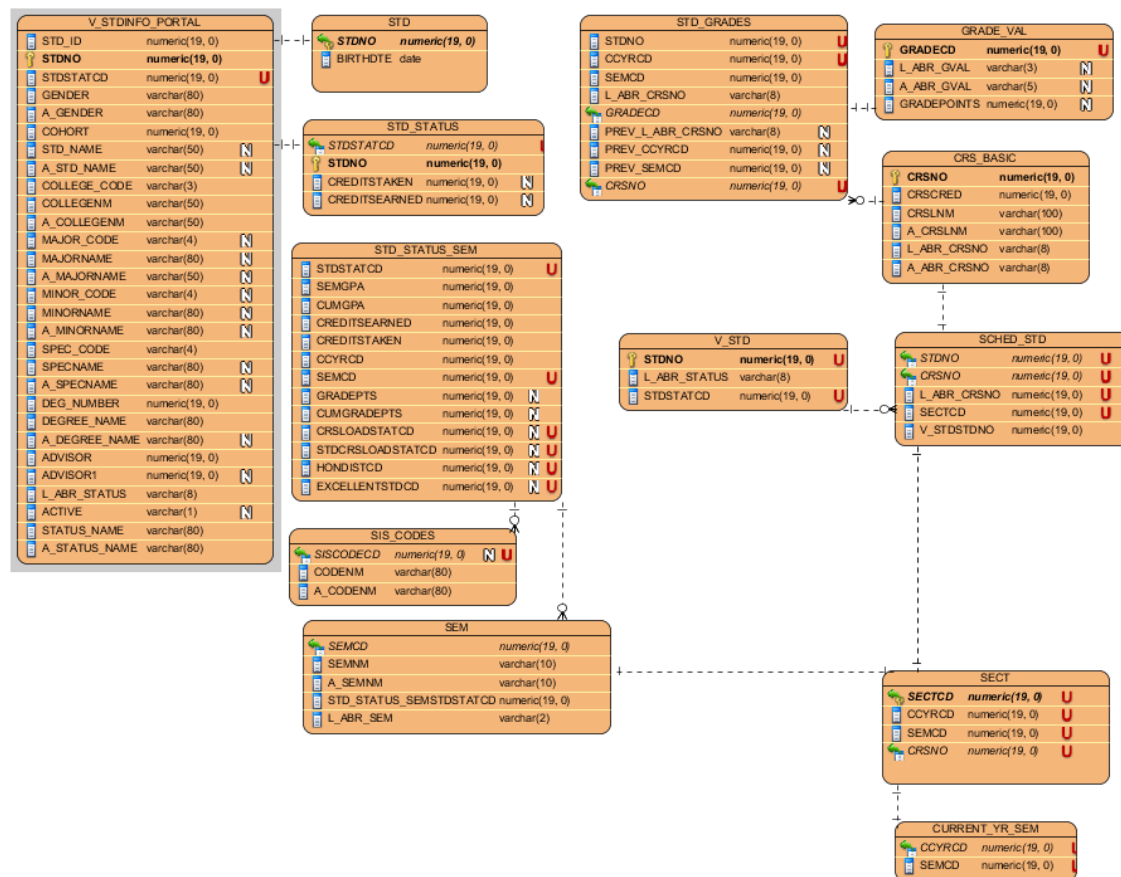
*The purpose of this sub-section is to describe all the business rules and validation that are applied on this portlet.*

### 4.3.1 Transcript Form

#### 4.3.1.1 Only authenticated user can search related students

#### 4.4. ER or Class Diagram

The purpose of this sub-section is to describe the persistent data layer of the portlet. All the tables with their relationships should be described in this subsection.



#### Entity Description

Entity	Description
V_STDINFO_PORTAL	Student data pull for portal
STD	Student table
STD_STATUS	Student status
STD_STATUS_SEM	Students Cumulative grade points, grade points, Semester GPA, Cumulative GPA etc
SIS_CODES	Code table
SEM	Semester description
STD_GRADES	Grade table
V_STD	View of the student table
GRADE_VAL	Grade values (A,A+ etc..)
CRS_BASIC	Courses in effect at from/to time frame
SCHED_STD	Registration data
SECT	Details of courses with first and second withdraw dates
CURRENT_YR_SEM	Current Year Semester

#### 4.5. Database stored procedures / functions

*All the stored procedures and/or functions used in this portlets are described in this sub section.*

<b>Procedure name / function name</b>	MISC_PKG.FAC_NAMES								
<b>Description</b>	Get Faculty name								
<b>Parameters</b>	<table><tr><th>IN/OUT</th><th>Description</th></tr><tr><td>IN</td><td>EmpNo</td></tr><tr><td>IN</td><td>'EMPNO'</td></tr><tr><td>IN</td><td>Language</td></tr></table>	IN/OUT	Description	IN	EmpNo	IN	'EMPNO'	IN	Language
IN/OUT	Description								
IN	EmpNo								
IN	'EMPNO'								
IN	Language								
<b>Return value</b>									
<b>Comments</b>	It provide arabic and english name of faculty								

<b>Procedure name / function name</b>	MISC_PKG.FIRST_ADMITTED								
<b>Description</b>	First college								
<b>Parameters</b>	<table><tr><th>IN/OUT</th><th>Description</th></tr><tr><td>IN</td><td>Student StatCode</td></tr><tr><td>IN</td><td>'COL'</td></tr><tr><td>IN</td><td>Language</td></tr></table>	IN/OUT	Description	IN	Student StatCode	IN	'COL'	IN	Language
IN/OUT	Description								
IN	Student StatCode								
IN	'COL'								
IN	Language								
<b>Return value</b>									
<b>Comments</b>	First college								

<b>Procedure name / function name</b>	MISC_PKG.CERT_INFO								
<b>Description</b>	School Certificate type								
<b>Parameters</b>	<table> <tr> <th>IN/OUT</th><th>Description</th></tr> <tr> <td>IN</td><td>Student no</td></tr> <tr> <td>IN</td><td>CERTTYPE/ STREAM</td></tr> <tr> <td>IN</td><td>Language</td></tr> </table>	IN/OUT	Description	IN	Student no	IN	CERTTYPE/ STREAM	IN	Language
IN/OUT	Description								
IN	Student no								
IN	CERTTYPE/ STREAM								
IN	Language								
<b>Return value</b>									
<b>Comments</b>	It gives English and Arabic School certificate type								
<b>Return value</b>									
<b>Comments</b>									

<b>Procedure name / function name</b>	STD_SCH_PERCENT						
<b>Description</b>	Check for valid research id						
<b>Parameters</b>	<table> <tr> <th>IN/OUT</th><th>Description</th></tr> <tr> <td>IN</td><td>Student No</td></tr> <tr> <td>IN</td><td>'PERC'</td></tr> </table>	IN/OUT	Description	IN	Student No	IN	'PERC'
IN/OUT	Description						
IN	Student No						
IN	'PERC'						
<b>Return value</b>	<b>VARCHAR2</b>						
<b>Comments</b>	School Percentage						



<b>Procedure name / function name</b>	MISC_PKG.STD_DEGREE_HISTORY												
<b>Description</b>	Degree History												
<b>Parameters</b>	<table> <tr> <th>IN/OUT</th><th>Description</th></tr> <tr> <td>IN</td><td>Student StatCode</td></tr> <tr> <td>IN</td><td>Course Year</td></tr> <tr> <td>IN</td><td>Sem code</td></tr> <tr> <td>IN</td><td>College Name</td></tr> <tr> <td>IN</td><td>Language</td></tr> </table>	IN/OUT	Description	IN	Student StatCode	IN	Course Year	IN	Sem code	IN	College Name	IN	Language
IN/OUT	Description												
IN	Student StatCode												
IN	Course Year												
IN	Sem code												
IN	College Name												
IN	Language												
<b>Return value</b>	VARCHAR2												
<b>Comments</b>	Degree History												

<b>Procedure name / function name</b>	REG_PKG.WAS_FSP														
<b>Description</b>	Course Credit Value														
<b>Parameters</b>	<table> <tr> <th>IN/OUT</th><th>Description</th></tr> <tr> <td>IN</td><td>Student No</td></tr> <tr> <td>IN</td><td>Course Year</td></tr> <tr> <td>IN</td><td>Sem Code</td></tr> <tr> <td>IN</td><td>Course Abbreviation No</td></tr> <tr> <td>IN</td><td>Grade Code</td></tr> <tr> <td>IN</td><td>Grade value</td></tr> </table>	IN/OUT	Description	IN	Student No	IN	Course Year	IN	Sem Code	IN	Course Abbreviation No	IN	Grade Code	IN	Grade value
IN/OUT	Description														
IN	Student No														
IN	Course Year														
IN	Sem Code														
IN	Course Abbreviation No														
IN	Grade Code														
IN	Grade value														
<b>Return value</b>	VARCHAR2														
<b>Comments</b>	Course credit value														

<b>Procedure name / function name</b>	WEB_PKG.SIS_Web_access																		
<b>Description</b>	Control the access																		
<b>Parameters</b>	<table> <tr> <th>IN/OUT</th><th>Description</th></tr> <tr> <td>IN</td><td>Student No</td></tr> <tr> <td>IN</td><td>Student Stat code</td></tr> <tr> <td>IN</td><td>College Code</td></tr> <tr> <td>IN</td><td>Employee Number</td></tr> <tr> <td>IN</td><td>Access Domain</td></tr> <tr> <td>IN</td><td>Degree Number</td></tr> <tr> <td>IN</td><td>Advisor 1 Number</td></tr> <tr> <td>IN</td><td>Advisor 2 Number</td></tr> </table>	IN/OUT	Description	IN	Student No	IN	Student Stat code	IN	College Code	IN	Employee Number	IN	Access Domain	IN	Degree Number	IN	Advisor 1 Number	IN	Advisor 2 Number
IN/OUT	Description																		
IN	Student No																		
IN	Student Stat code																		
IN	College Code																		
IN	Employee Number																		
IN	Access Domain																		
IN	Degree Number																		
IN	Advisor 1 Number																		
IN	Advisor 2 Number																		
<b>Return value</b>	VARCHAR2																		
<b>Comments</b>	Control the access																		

#### 4.6. Sequence Diagram

*Any important or critical feature/process/code should be explained in more details with an interaction diagram.*

### 5. Implementation

*The purpose of this section is to describe implementation details like package & classes information, project details, spring framework related details, repository details etc.*

#### 5.1. Portlet Information

*This sub-section is used to describe portlet related information.*

##### 5.1.1. Portlet Details

<b>Title</b>	Transcript
<b>Short Title</b>	Transcript
<b>Abbreviated Title</b>	TR
<b>Keywords</b>	Transcript

### 5.1.2. Modes & Action

Portlet Mode	Action	Func. Req.	Description
View	<i>Default, welcome</i>	TR01	<i>Show list of Transcripts for requester</i>
View	<i>resAccessPermissionForStudent</i>	TR02	<i>Find eligibility of an academics to view transcript</i>
View	<i>submitStudentInfo</i>	TR03	<i>Submit Student Id by Academics</i>
View	<i>studentDetails</i>	TR04	<i>Render to student details</i>
View	<i>resSummary</i>	TR05	<i>Student Summary List</i>
View	<i>pdfTranscript</i>	TR06	<i>PDF Generation of transcript</i>
View	<i>back2main</i>	TR07	<i>Back button</i>
View	<i>eventStudentDetails</i>	TR08	<i>Render back to student details</i>

### 5.2. Spring MVC Portlet Details

*The purpose of this sub-section is to provide information related to spring frame like controller, action mapping, model(s), view (JSP) etc.*

Portlet Mode	Request / Resource/Mapping	Func. Req.	Controller	Method Name	Model(s)	View
View	<i>default</i>	TR01	<i>TranscriptController</i>	<i>welcome</i>	<i>TranscriptModel</i>	<i>welcome.jsp</i>
View	<i>resAccessPermissionForStudent</i>	TR02		<i>getAccessPermission</i>		
View	<i>submitStudentInfo</i>	TR03		<i>submitStudentId</i>		
View	<i>studentDetails</i>	TR04		<i>studentDetails</i>		<i>studentInfo.jsp</i>
View	<i>resSummary</i>	TR05		<i>getSummary</i>		
View	<i>pdfTranscript</i>	TR06		<i>pdfTranscript</i>		
View	<i>back2main</i>	TR07		<i>back2main</i>		
View	<i>eventStudentDetails</i>	TR08		<i>eventStudentDetails</i>		

### 5.3. Packages & Classes

This sub-section is used to describe java packages and classes used in this portlet project. 'om.edu.squ.squportal.portlet' is used as base package followed by portlet name and then sub packages.

Ex: om.edu.squ.squportal.vehiclebooking

Sub-Package	Class	Description
transcript.controller	TranscriptController	Main spring controller class which handles all the request in VIEW mode.
transcript.model	TranscriptModel	Model bean for class list portlet. This bean property attached with the form field of jsp page/s
transcript.dao.bo	AccessDTO	Business object to held Approver Access data
	GradeSemester	Grade semester object
	Postpone	Postpone object
	Budget	Budget object
	RegistrationBO	Student registration status object
	Student	Student object
	StudentStatus	StudentStatus object
	User	User object
transcript.dao.db	TranscriptDbDao	Dao Interface for transcript db activity
	TranscriptDbImpl	DataBase activity to get transcript records
transcript.dao.service	TranscriptServiceDao	Service layer dao interface
	TranscriptServiceImpl	Service layer activity to for transcript and communicate view and data layer
transcript.dao.pdf	TranscriptPdfDao	Interface for Implementation class to generate pdf
	TranscriptPdfImpl	Generating PDF
transcript.utility	Constants	Constants
	UtilProperty	Property file handler
	UtilService	Get user Student/Staff (Academic)
transcript.security	Crypto	Interface for Encryption
	CryptoAES	Encrypt and Decrypt using Base64

## 5.4. Form & Validations

*This sub-section is used to provide details of form(s) (if any) used in the portlet. Information like field names, type of field (text, select etc.), validation applied etc.*

S.No.	Field	FieldName	FieldType	Data Type	Validations	Comments
1	TextBox for Student Id	stdId	Text box	text	Required	

## 5.5. Project Details

*The purpose of this sub-section is to provide project details for the portlet*

<b>Project Name</b>	prjTranscript
<b>Project file name</b>	prjTranscript
<b>Version</b>	V1
<b>IDE + version</b>	Eclipse Luna – Release (4.4.0)
<b>Java version</b>	1.7
<b>J2EE version</b>	
<b>Spring version</b>	3.2.3
<b>Other Details</b>	

## 5.6. Repository Details (CVS/SVN)

*This sub-section describes the repository details where the project and its source are stored. The should include the final locked versions and the working copy version details.*

<b>Repository Server Host</b>	gitlab.squ.edu.om
<b>Repository Server URL</b>	http://gitlab.squ.edu.om
<b>Trunk folder</b>	<a href="http://gitlab.squ.edu.om/portal-team/transcript/tree/master">http://gitlab.squ.edu.om/portal-team/transcript/tree/master</a>
<b>Last released branch</b>	
<b>Last released date</b>	

## 6. Styling

*This sub-section will include styling & UI theme (CSS), client side scripting related information. Any information apart from the one followed by all portlets will be mentioned in this sub-section*

## 7. Deployment

*This section is used to describe deployment related details like application server + version, portlet container + version, operating system, machine hardware details etc.*

### 7.1. Test Environment

<b>Platform (OS)</b>	Red Hat 7
<b>Application Server</b>	Liferay 6.2
<b>Portlet Container</b>	Liferay 6.2
<b>Machine Details</b>	
<b>Other Details</b>	

### 7.2. Production Environment

<b>Platform (OS)</b>	Linux (RHEL)
<b>Application Server</b>	Liferay 6.2
<b>Portlet Container</b>	Liferay 6.2
<b>Machine Details</b>	Processor: RAM:GB
<b>Other Details</b>	

## 8. Test Scenarios & Result

*This section will describe various test scenarios with criticality factor which should be used for testing. Each scenario will refer to a functional and/or non-functional requirement. Test results can be attached as a separate form/document to this document.*

- Check valid student id

## 9. Authorization Group

*This section will contain authorization details like list of employees/developers/group with access permission (read/write) to this portlet and its source.*

## 10. Revision History

*This section will describe the revision history for this document.*

S.No.	Author	Version	Date	Comments
1	Bhabesh Bhabani Mukhopadhyay	1.0	24-Sept-2019	First version