Histology Interface

Web Service

Version 8.0

Table of Content

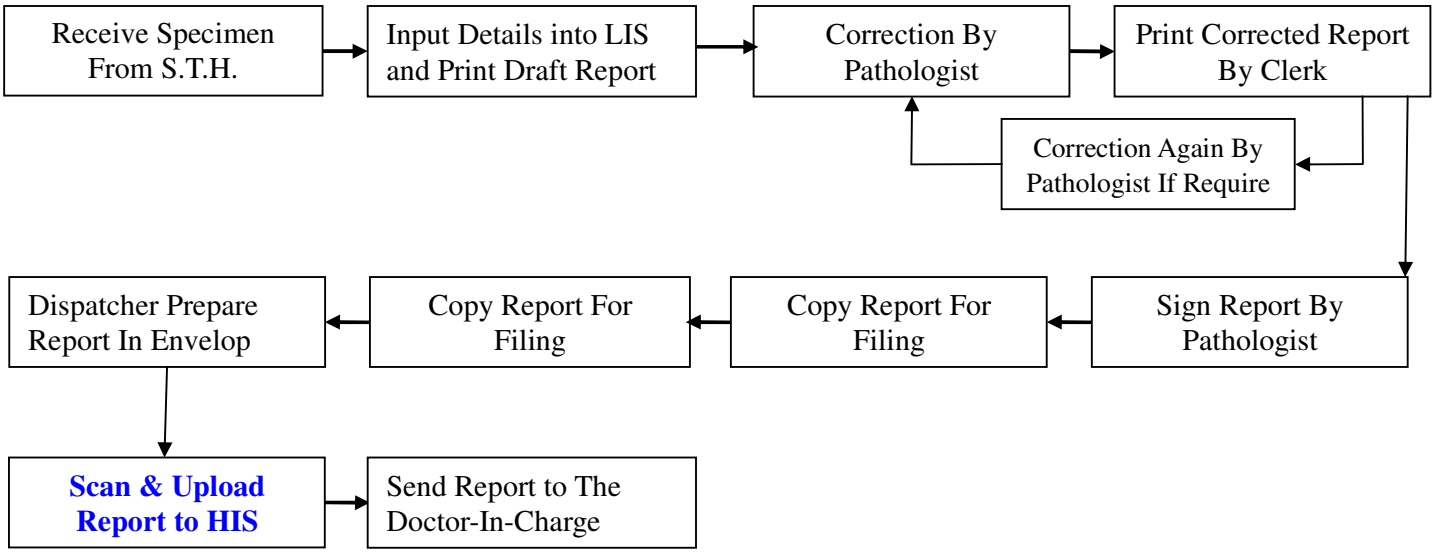
Revision Log

Revision	Date	Author	Remarks
1.0	02-02-2011	*Chris Chung*	*Initial version*
2.0	22-03-2011	*Senthil Kumar*	*Updated*
3.0	15-07-2011	*Cardin Chu*	*Provide configuration information*
4.0	22-08-2011	*Cardin Chu*	*Add 2 more functions*
5.0	26-08-2011	*Senthil Kumar*	*Updated*
6.0	07-09-2011	*Cardin Chu*	*Updated*
7.0	05-06-2014	*Cardin Chu*	*Updated*
8.0	29-10-2014	*Cardin Chu*	*Updated*

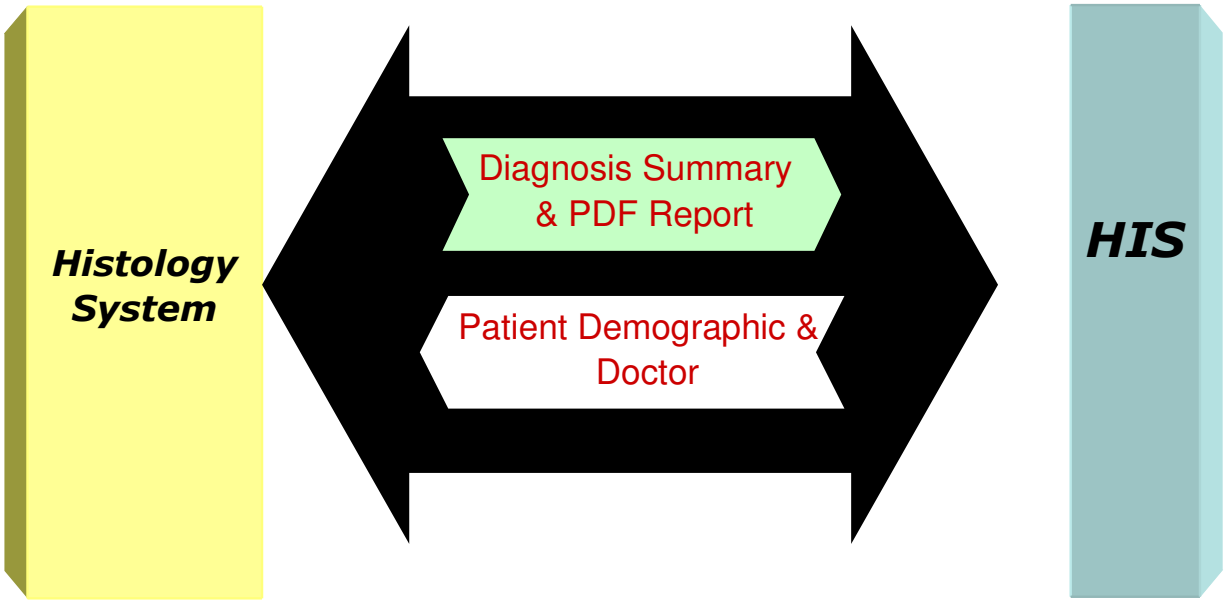
1. Objective

The objective of this interface is to exchange the data between Hospital Information System (HIS) and Histology System. The HIS supplies patient demographic and Doctor information to Histology and in return Histology system supplies history result in text and PDF format to HIS. This data exchange is handled using web service and XML as data format.

Workflow for Histology result



2. Integration Steps for data exchange



3. Configuration

WSDL Location	http://[host]:[port]/Histology/ws/HistologyWebservice.asmx?wsdl
WS Endpoint	http://[host];[post]/Histology/ws/HistologyWebservice.asmx
Username	<To be advised per hospital>
Password	<To be advised per hospital>
[host]:[port]	<To be advised per hospital>

4. Methods

4.1. updateResult

updateResult(String Username, String Password, String HistoReportXML)	
Purpose	The histology system generates a XML string which contains diagnosis summary, PDF report and Meta data of PDF report. It will be send to HIS by calling web service.
Input parameter	- Username - Password - XML format datagram

Sample XML Request

```
<?xml version="1.0" encoding="utf-8"?>
<Histology_PDF>
<Record Path_No="XXXXXXXXXX">
<Visit_No>XXXXXXXXXXXXX</Visit_No>
<Version_No>xx</Version_No>
<Tx_Type>X</Tx_Type>
<Report_Type_Code>XX</Report_Type_Code>
<Report_DT>XX/XX/XXXX</Report_DT>
<Order_Doctor_Code>XXXXX</Order_Doctor_Code>
<Order_Doctor_Name>XXXXXXXXXXXX</Order_Doctor_Name>
<Copy1_Doctor_Code>XXXXX</Copy1_Doctor_Code>
<Copy1_Doctor_Name>XXXXXXXXXXX</Copy1_Doctor_Name>
<Copy2_Doctor_Code>XXXXX</Copy2_Doctor_Code>
<Copy2_Doctor_Name>XXXXXXXXXX</Copy2_Doctor_Name>
<Copy3_Doctor_Code></Copy3_Doctor_Code>
<Copy3_Doctor_Name></Copy3_Doctor_Name>
<Copy4_Doctor_Code></Copy4_Doctor_Code>
<Copy4_Doctor_Name></Copy4_Doctor_Name>
<Copy5_Doctor_Code></Copy5_Doctor_Code>
<Copy5_Doctor_Name></Copy5_Doctor_Name>
<Approved_Doctor_Name>XXXXXXX</Approved_Doctor_Name>
<Clinical_History>XXXXXXXXXXXXXXXXXXX</Clinical_History>
<Diagnosis1>XXXXXXXXXXXXXXXXXXXXXXXXXX</Diagnosis1>
<Diagnosis2>XXXXXXXXXXXXXXXXXXXXXXXXXX</Diagnosis2>
<Diagnosis3>XXXXXXXXXXXXXXXXXXXXXXXXXX</Diagnosis3>
<Diagnosis4 />
<Diagnosis5 />
<Diagnosis6 />
<Diagnosis7 />
<Diagnosis8 />
<Diagnosis9 />
<File_Name>xxxxxxxxx.pdf</File_Name>
<File_Content> Base64 encoding</File_Content>
</Record>
</Histology_PDF>
```

	Note: - The PDF report should be changed to Base64 encoding and put it into File content element in the XML file.
Return	- Upload Status - Upload Status Description **Sample XML** **<RESULT>** **<STATUS>x</STATUS >** **<STATUS _DESC>xxxxxxxxxxxxx</STATUS _DESC>** **</RESULT>** STATUS:- 1 → Successful, 2 → Failure STAUTS_DESC:- Blank if successful or descriptive reason if failure

Data Structure (Input XML datagram)

Field	Data Length	Short description
Input		
Tx_Type	Char(1)	A → Add / Amend, D → Delete
Path_No	Char(15)	Pathology Number
Version_No	Tinyint	Version number
Visit_No	Char(13)	Visit Number
Report_Type_Code	Char(2)	01 – Histopathology Report 02 – EBV Serology Report 03 – Cytology Report 04 - Gynecological(Cytology) Report
Report_DT	Datetime	Report date & time
Order_Doctor_Code	Char(5)	Order Doctor
Order_Doctor_Name	Varchar(60)	Doctor name
Copy1_Doctor_Code	Char(5)	Copy Doctor 1
Copy1_Doctor_Name	Varchar(60)	Doctor name
Copy2_Doctor_Code	Char(5)	Copy Doctor 2
Copy2_Doctor_Name	Varchar(60)	Doctor name
Copy3_Doctor_Code	Char(5)	Copy Doctor 3
Copy3_Doctor_Name	Varchar(60)	Doctor name
Copy4_Doctor_Code	Char(5)	Copy Doctor 4
Copy4_Doctor_Name	Varchar(60)	Doctor name
Copy5_Doctor_Code	Char(5)	Copy Doctor 5

Copy5_Doctor_Name	Varchar(60)	Doctor name
Approved_Doctor_Name	Varchar(60)	Approved Doctor name
Clinical_History	Varchar(300)	Patients clinical history
Diagnosis1	Varchar(800)	Diagnosis1
Diagnosis2	Varchar(800)	Diagnosis2
Diagnosis3	Varchar(800)	Diagnosis3
Diagnosis4	Varchar(800)	Diagnosis4
Diagnosis5	Varchar(800)	Diagnosis5
Diagnosis6	Varchar(800)	Diagnosis6
Diagnosis7	Varchar(800)	Diagnosis7
Diagnosis8	Varchar(800)	Diagnosis8
Diagnosis9	Varchar(800)	Diagnosis9
File_Name	Varchar(100)	PDF file name, format Visit_No + Path_No + Version No + .PDF
File_Content	Byte[]	PDF File Content in Base64 encoding
Output		
Status	Tinyint	1 – Success, 2 – Failure
Status_Desc	Varchar(120)	Reason for failure

4.2. getDoctor

getDoctor(**String Username, String Password**)	
Purpose	The Histology system calls the web service to get Doctor's information in XML format.
Input parameters	- Username - Password
Return	**Sample XML** **<NewDataSet>** **…** **…** **<Histo_Doctor>** **<Doctor_Code>00003</Doctor_Code>** **<Doctor_Surname>CHAN</Doctor_Surname>** **<Doctor_Givenname>TAI MAN</Doctor_Givenname>** **<Doctor_Chiname>陳大文</Doctor_Chiname>** **<Doctor_Status>2</Doctor_Status>** **<Mobile_Phone>9000 0000</Mobile_Phone>** **<Pager>7000 0000</Pager>**

```
    <Office_Phone>2000 000</Office_Phone>
    <Office_Fax />
    <Address1>P.O. BOX 00000</Address1>
    <Address2>KOWLOON CENTRAL POST OFFICE</Address2>
    <Address3 />
    <Address4> HONG KONG</Address4>
    <LastUpdate>20090818170843</LastUpdate>
  </Histo_Doctor>
  <Histo_Doctor>
    <Doctor_Code>00004</Doctor_Code>
    <Doctor_Surname>CHAN</Doctor_Surname>
    <Doctor_Givenname>SIU MING</Doctor_Givenname>
    <Doctor_Chiname>陳小明</Doctor_Chiname>
    <Doctor_Status>1</Doctor_Status>
    <Mobile_Phone />
    <Pager />
    <Office_Phone>2000 0000</Office_Phone>
    <Office_Fax />
    <Address1>RM. 000</Address1>
    <Address2>100 ABC ROAD,</Address2>
    <Address3>KOWLOON</Address3>
    <Address4 />
<LastUpdate>20090708124104</LastUpdate>
  </Histo_Doctor>
...
...
</NewDataSet>
<Status>1</Status>
<Status_Desc>The doctor information is successfully
retrieved.</Status_Desc>
```


Sample XML for failure


```
<Status>2</Status><Status_Desc>XXXXX</Status_Desc>
```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<Doctor_Status >: 1 - Non Active, 2 - Active, 4 - Deceased, 8 - Emigrated

<Status> : 1 – Success, 2 – Failure

<Status_Desc>: Status description

4.3. getPatient

getPatient(String Username, String Password, String VisitNo)	
Purpose	The Histology system calls the web service to get patient demographic data in XML format.
Input parameters	- Username - Password - VisitNo
Return	**Sample XML for successful** **<NewDataSet>** **…** **…** **<Histo_Patient>** **<Patient_No>PN19970000000</Patient_No>** **<Visit_No>HN20080000000</Visit_No>** **<PV_Surname>CHAN</PV_Surname>** **<PV_Givenname>YAT YAT</PV_Givenname>** **<PV_ChiName>陳一一</PV_ChiName>** **<PV_ID_Type>1</PV_ID_Type>** **<ID_Type_Code>ID</ID_Type_Code>** **<PV_IDNo>G000000</PV_IDNo>** **<PV_IDNo_CD>3</PV_IDNo_CD>** **<PV_Sex>M</PV_Sex>** **<PV_DOB>19500101</PV_DOB>** ~~**<PV_DOB_YY>0</PV_DOB_YY>**~~ **<Exact_Date_Indicator_Code>EDMY** **</Exact_Date_Indicator_Code>** **<PV_PhoneNo>90000000</PV_PhoneNo>** **<PV_Discharge_DT>20081204095310</PV_Discharge_DT>** **<PV_Type>1</PV_Type>** **<Bed_No>368-4</Bed_No>** **<Dept_Code>E3W</Dept_Code>** **<Hosp_Class_Code>C</Hosp_Class_Code>** **<Doctor_Code>01763</Doctor_Code>** **<PV_Visit_DT>20081201000711</PV_Visit_DT>** **<Doctor_Surname>CHAN</Doctor_Surname>** **<Doctor_Givenname>TAI MAN</Doctor_Givenname>** **<Doctor_Chiname>陳大文</Doctor_Chiname>** **<Request_No xml:space="preserve">**

</Request_No>
<Clinical_Notes />
<Surgical_Procedure />
<Nature_Of_Specimen />
</Histo_Patient>
</NewDataSet>
<Status>1</Status><Status_Desc>The patient visit detail is successfully retrieved. </Status_Desc>

Sample XML for failure

<Status>2</Status><Status_Desc>XXXXX</Status_Desc>

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<PV_ID_Type>: 1 - HKID#,2 - PP#,4-Birth Cert#, 8 – Others; 16 – EEP (Exit-entry Permit)

<ID_Type_Code >:

AR	領養證明書	Adopted Children Register (include those issued by HKSAR and non-HKSAR government authorities)
BC	香港出生證明書	Hong Kong Birth Certificate
EC	豁免登記領取身份証明書豁免身份證	Exemption Certificate
ED	電子醫療紀錄文件	eHR Document
ID	香港身份證	Hong Kong Identity Card
OC	中華人民共和國發之其他旅遊証件	Identity/travel documents - PRC
OP	其他國家發之其他旅遊証件	Other travel documents issued by non- PRC government / authorising agent
OW	單程証	One-way Permit
STHPS	香港特別行政區護照	HKSAR Passport
STHN	未定義	Undefined Identity Document
TW	雙程証	Two-way Permit
VR	越南難民證	Vietnamese refugee card

<PV_Sex>: M – Male, F – Female

~~**<PV_DOB_YY>:** Date of birth year only, 0 – No, 1 – Yes~~

<Exact_Date_Indicator_Code>: EY – Exact Year
EMY – Exact Month and Year
EDY – Exact Date and Year
EDMY – Exact Date, Month and Year

<Status> : 1 – Success, 2 – Failure

<PV_Type>: 1 - In Patient, 2 - Out Patient, 4 - Walk In Patient

<Status> : 1 – Success, 2 – Failure

<Status_Desc>: Status description

5. Sample source code in VB.NET

The LIS system from Histology department could call sHistologyReportInterface method provided by HistologyResultReportInterface, passing the XML string parameter to the method call. The invocation is a synchronous call.

```
Dim srv As New [WebServiceNamespace].HistologyReportInterface()
Dim sr As New StreamReader([XMLFilePath], System.Text.Encoding.UTF8)
Dim sTmp As String = srv. sHistologyReportInterface([UserName], [Password], sr.ReadToEnd())
sr.Dispose()
```

End of document