INTERNET WHITEBOARD

Technocrats

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1. Preface

The primary aim of the project is to build the internet white board which basically works as a correspondence path between employees of ConTech and clients, it helps them to communicate and work together.

Release v1.6 on 9-11-2017

Description for each module is written clearly. Tests and Creations dates are added to the requirements table. Block diagrams are changed so that it would be easier to understand and in preface versions are added.

Release v1.5 on 28-10-2017

Playback is added.

Release v1.4 on 16-10-2017- Few User and System requirements are added

Release v1.3 on 28-5-2017- No changes recorded.

Release v1.2 on 21-5-2017- System Architecture is modified.

Release v1.1 on 7-5-2017- No changes recorded.

Release v1.0 on 30-4-2017

The software requirements specification **(SRS)** is organized into three sections, each section describes respective requirements. Section 2 describes glossary and abbreviations that are used in the document, section 3 describes System architecture is modified, which further describes respective modules 1 and module 2, module 2 figure is modified, proper labelling is given to all figures. section 4 describes requirements which further classified into user requirements and system requirements, user requirements are modified and are given a detailed explanation. Section 5 describes references

Playback is added.

2. Glossary and Abbreviations

1**. IP Address**: It is known as Internet Protocol Address. It is a unique number assigned to each system which are connected in a Network.

2. **SQL:** Standard Queuing Language. It is a special purpose language which is used to manage related data.

1 **GUI:** Graphical User Interface. It enables the user to interact with the system through visual indicators.

2 **RESTful API:** Representational State Transfer (REST) is an architectural style that specifies constraints, such as the uniform interface, that if applied to a web service induce desirable properties, such as performance, scalability, and modifiability, that enable services to work best on the Web. API is Application Programmable Interface.

5. **PyMySQL:** PyMySQL is a database connector for Python programming language libraries and its used to enable Python programs to talk to a MySQL server [2]

6**. MySQLdB:** Its having same functionality as PyMySQL [2]

7. **Timestamp:** It is considered as a series of characters or encoded information that identify the occurrence of an event. Mostly expressed based on a calendar year.

8. **Python Tkinter:** Tkinter is one of the standard Pythons Graphical User Interface(GUI) package. [3]

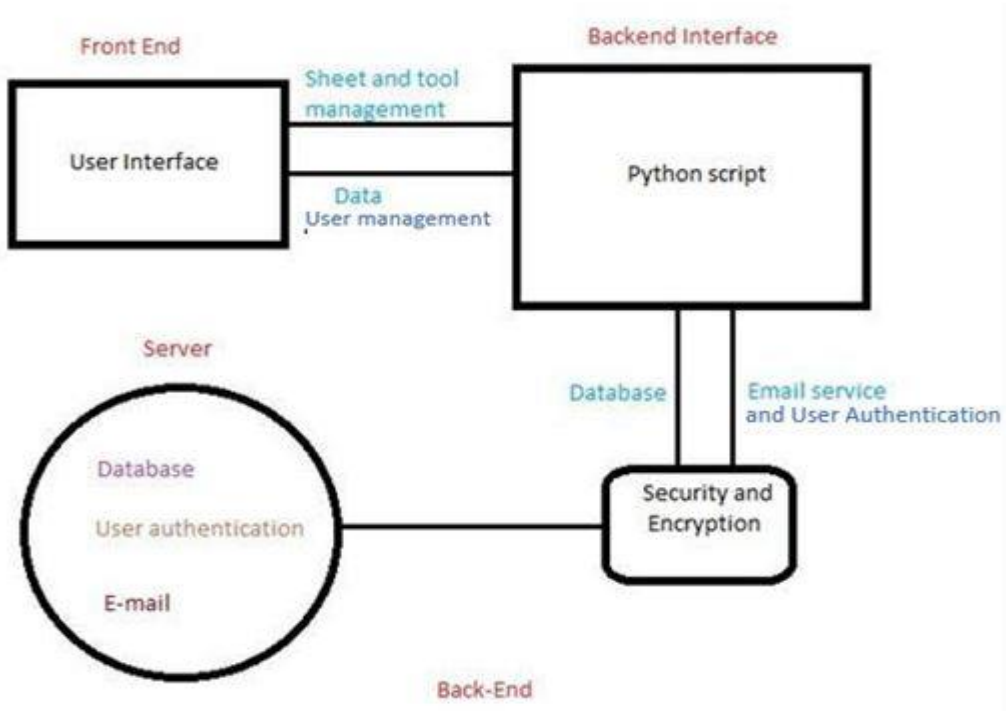
9. **PHP:** Hyper Text Pre-processor is a server scripting programming language that is used for making dynamic and user interactive web based pages.

10. **FLASK**: It is an implementation of the web browsable APIs like Django REST framework. It gives proper content negotiated responses. It also provides smart request parsing. we can start building kick-ass web browsable APIs using FLASK.

3.System Architecture

The internet whiteboard application, must provide a secure user-to-user and user-to-server chat conversation from user-to-user. The chat system is thus being divided to 2 modules. They are:

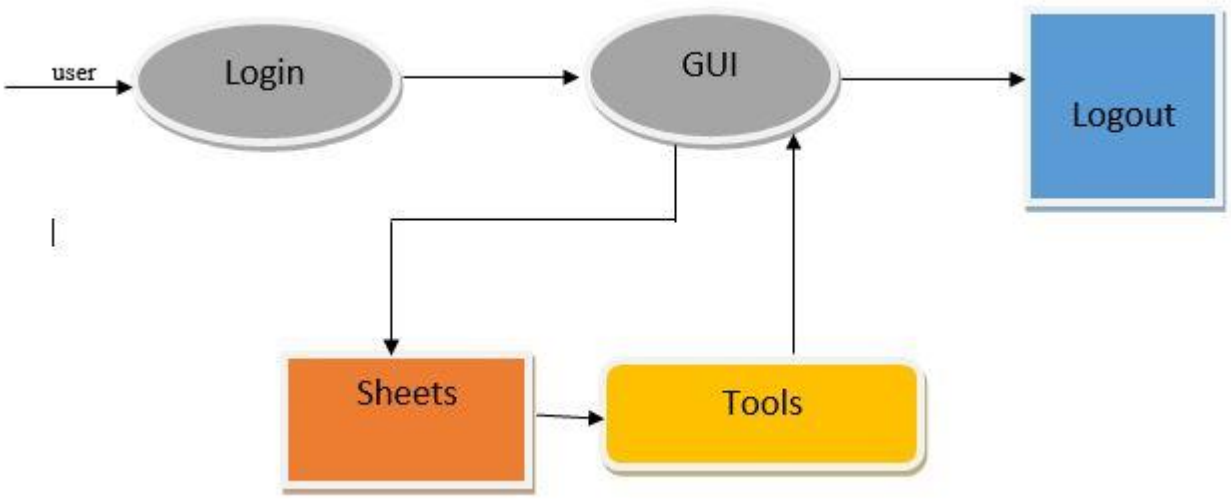
- Module 1- Frontend: This module describes how the user connects to the other users using the interactive web page.
- Module 2- Backend: To provide administration and monitoring facility for the administrator



Block diagram 1

- In backend the sheets, data are managed and stored.
- In front end everything is provided where a user can see and interact with.
- Python script is used in back end interface which acts as a mediator.

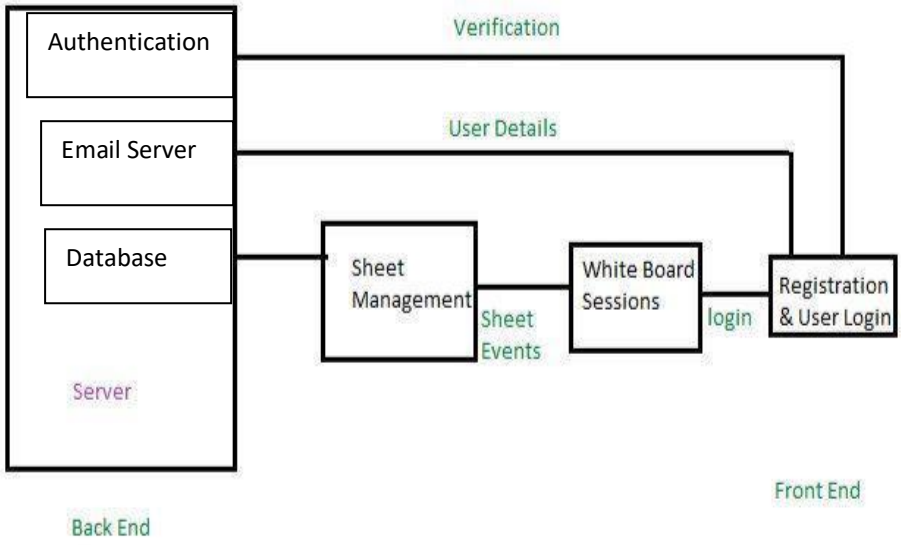
3.1 Module-2:



Block diagram 2

This module speaks to the front end of the framework design. The client can join the whiteboard session through the login page. After the successful login, the client can access the GUI window. Depending upon the kind of client (Admin, Employee and Customer), tools are accessible in the GUI window. A sheet is the place where the client can draw utilizing the tools such as line, circle, square, rectangle, oval, pencil, eraser etc. For each tool the client will have the capacity to choose thickness, shading and filling.

3.2 Module-2:



Block diagram 3

The clients must have a record for utilizing the white board. Once a record is enlisted, the email server sends the client their login details and the clients are approved through the authentication server. Once the clients of the application login to their whiteboard session, they can draw on the sheets and utilize the tools. Every change is recorded, and the information is sent to the MySQL database. A client can reload the changes in a succession utilizing this information. The application will continually recover information from the database and consequently every client will see the alterations recreated in their session.

4. REQUIREMENTS

In this section, the user requirements are described, and each user requirement is assigned with specific string, module, type, assignee and description. Some of user requirements may or may not be dependable on system requirements.

4.1 User requirements:

Services provided by product for customer

The Internet white board is shared whiteboard application and user can able to register in the session with his email and password then user account is created in the database. Email is sent to the user with his account credentials with which user can login and join the session. User can draw and type text with a set of tools provided on the sheet and the same is replicated on all devices in the session, where application is installed. The internet whiteboard provides the user to select thickness, the drawing colour and the filling colour and a set of standard shapes drawing tools like line, arrow, circle, oval, square, rectangle, polyline, text, eraser and free-drawing tool. User can select the font, size and style on their own. The content drawn in the sheets can be erased by user. These sheets are saved in the admin server and each modification made in the sheets are also saved in the same admin server so that user can login the session and view the content drawn anytime. To prevent editing wars one participant is designated as moderator and the moderator will have access to lock the sheets, undo modifications and switch to different sheets.

Requirements	Module	Type	Assignee	Description	Creation Date	Test cases
Login page	Front end	Functional	Manoj, Giri Sai, Monica, Akhilesh, ADIL SHAIK	The product MUST provide a page for user to login.	18-4-17	UR1
Registration page	Front end	Functional	Akhilesh, ADIL SHAIK, kaushik	The product Must provide a page for registration	19-4-17	UR2
Admin page	Front end	Functional	Mansa, kaushik	Product must provide a page for registration.	20-4-17	UR3

Employee page	Front end	Functional	Sina, Manasa	Product must provide a page for employee.	21-4-17	UR4
User page	Front end	Functional	Sina, Manasa	Product must provide a page for user.	24-4-17	UR5
Line	Backend	Functional	Sina, Manasa	The product must provide a facility to draw a line	26-4-17	UR6
Arrow	Backend	Functional	Sina, Manasa,	The product Must provide a tool for Arrow.	28-4-17	UR7
Poly-line	Backend	Functional	Sina, Manasa	It must provide a tool to Draw Polyline.	29-4-17	UR8
Circle or oval	Backend	Functional	Sina, Manasa,	The product Must provide a tool to draw circle	30-4-17	UR9
Text	Backend	Functional	Sina, Manasa,	The product Must provide a tool to write text	31-4-17	UR10
Eraser	Backend	Functional	Sina, Manasa,	The product Must provide a tool to erase drawings.	1-4-17	UR11
Square/Rectangle	Backend	Functional	Sina, Manasa,	The product Must provide a tool to draw square/rectangle	2-4-17	UR12
Thickness	Backend	Functional	Sina, Manasa, Kaushik	The product Must provide a tool to adjust thinkness	3-4-17	UR13

Drawing colour	Backend	Functional	Manasa, Sina	The product Must provide a tool to select colour.	4-4-17	UR14
Select filling colour	Backend	Functional	Manasa, Sina	The product Must provide a tool to fill color	5-4-17	UR15
Clearing history	Backend	Functional	Manasa Sina	It must provide to clear the history.	6-4-17	UR16
Clear paper	Backend	Functional	Manasa	It must provide to clear the paper.	7-4-17	
Sheet management	Backend	Functional	Manasa, Sina	The product SHALL provide a facility to switch between sheets	15-4-17	UR18
Reload	Backend	Functional	Manasa, Sina	The product SHALL provide a facility to reload the sheet	2-5-17	UR19
Pencil	Backend	Functional	Manasa,sina	The product MUST provide a facility for pencil to draw	16-4-17	UR20
Font Selection	Backend	Functional	Manasa, Sina	The product MUST provide a facility for font selection.	17-4-17	UR21
Rest-Api	Backend	Functional	Manasa, sina	It MUST provide a facility for Rest-Api.	1-8-17	UR22

Lock and unlock	Backend	Functional	Manasa,sina	It must lock and unlock the sessions.	10-8-17	UR23
Undo	Backend	Functional	Manasa,sina	It must remove the last drawn in the sheet.	17-8-17	UR24

Change moderator	Backend	Functional	Manasa ,sina	It must provide the list of other users as an option to change the moderator.	21-8-17	UR25
Saving drawing tools into database	Backend	Functional	Manasa ,sina	When tools like line, arrow, circle etc are drawn, they must be saved into database	24-8-17	UR26
Saving login details into database	Backend	Functional	Manasa ,sina	When the user or the employee register the information shall have sent to the database.	25-8-17	UR27
Email notification	Backend	Functional	Manasa ,sina	Email with username and password details must be sent to the user mail when registered.	17-4-17	UR28
Playback	Backend	Functional	Manasa sina	All modifications are provided with a time delay between each modification.	26-8-17	UR29
Documentation	-	Non-functional	-	It includes user manuals that provide instructions about software installations as well as tool operating instructions.	-	

Table 1- User Requirements

4.2 SYSTEM REQUIREMENTS

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Below is an analysis of the system requirement that used as a complement of the user requirements as specified above.it comprises of a detailed and technical explanation of the systems functionalities, its services and operational constraints. Also, it outlines the purpose of each requirement and respective tools/ technology intended to be used [1] [2].

Requirement	Module	Type	Assignee	Description	Creation date	Tests
Database (SR1)	Backend	Functional	Sina, Manasa, Kaushik	Tool: MSQL: -Must authenticate data of authorised/registered users. -Must store user's login data -Must limit access to authorised system users - Must store user created widgets -Must display user's data upon request. -Must store widget history and releases when requested to retrieve by admin server.	15-5-17	(SR1)
Script Language	Backend	Functional	Sina, Manasa, Kaushik	- Backend scripting shall be done using Python Script Language. This is an object oriented and higher-level programming language built in a data structure together with dynamic specifications	20-5-17	(SR2)
Script	Frontend	Functional	Manoj, Giri Sai, sreelekha,	- Backend scripting shall be done using Python Script Language. This is an object oriented and higher-	21-5-17	-
Platform	-	Non-functional	-	Windows 7,8 or 10 and RAM required is 2GB.	-	-

Language (S R3)			kaushik, ADIL SHAIK	level programming language built in a data structure together with dynamic specifications	-	(SR3)
Testing	Backend	Functional	Sina, Manasa, elvis, sreelekha	- Backend specified requirements shall be tested by use of Linux operating system	16-10-17	(SR4)
Testing	Front end	Functional	Manoj, Giri Sai, Monica, Akhilesh, ADIL SHAIK	The users' functional requirements shall be tested by using a Microsoft operating system.	16-10-17	(SR5)
Admin server	Back end	Functional	Sina, Manasa, sreelekha, elvis	-Must provide a signup sheet for new-users to register. -Must authenticate and validate new-users by forwarding validation mail to them. -Must verify users logging data before allowing access to system. -Must forward modified user's data to database. -Must encode all messages from the user-user or user-server via use of RESTful API with JSON.		(SR6)

Table 2 System Requirements

REFERENCES

[1] I. Sommerville, *Software Engineering*, 9 editions. Boston: Pearson, 2010.

[2] "Software requirements specification," *Wikipedia*. 11-Apr-2017.