TRUECALLER PROGRAM

THIS FORM IS FOR BOTH THE GENERAL & MEDICAL INFORMATICS PROGRAMMES

SE-I COURSE PROJECT (PHASE 1 COVER SHEET)

Discussions Scheduled for Week 10 *(more details will be announced later)*.

- Print 1 copy of this cover sheet and attach it to a printed copy of the documentation *(SRS, … etc.)*. You must also submit softcopies of all your documents *(as PDFs)*; details will be announced later.
- Please write all your names in Arabic.
- Please make sure that your students' IDs are correct.
- Handwritten Signatures for the attendance of all team members should be filled in before the discussion.
- Please attend the discussion on time *(announced separately)*, late teams will lose 5 grades.

Project Name: _____

Team Information ***(typed not handwritten, except for the attendance signature)*:**

	ID [Ordered by ID]	Full Name [In Arabic]	Attendance [Handwritten Signature]	Final Grade
1	20 2000 175	ايمان عبد السيد أبو العطا محمد		
2	20 2000 429	شروق شحاته ابراهيم ضاحي		
3	20 2000 487	عائشة محمد احمد عطيه		
4	20 2000 461	صباح حسن عزت كامل		
5	20 2001 109	يوسف مصطفى محمد عبدالغني حسن		
6	20 2000 329	روان أنور محمد الشحات		

Grading Criteria:

10 Items		Grade	Notes
1. Functional Requirements	**1**		
2. Non-Functional Requirements	**1**		
3. Use-Case Diagram(s) *including general use-cases for the system, and the detailed use-cases description*	**2**		
4. System Architecture – *including applied Architectural Pattern(s)*	**1**		
5. Activity Diagrams	**2**		
6. Database Specification *(ERD, Tables)*	**2**		
7. Class Diagram *(Interfaces, Classes, Relations)* – An initial version based on the requirements and Use-Case/Activity diagrams.	**2**		
8. Object Diagrams *(Including object diagrams that illustrate the preconditions and the post-conditions of selected functions)*	**1**		
9. Package Diagram(s)	**1**		
10. Sequence Diagrams *including* ***System Sequence Diagrams (SSDs)***	**2**		

Teaching-Assistant's Signature: _____

_____

15

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INTODUCTION

PURPOSE

The purpose of the software True-caller is to overcome the situations of responding to an unknown contact. Here the software acts as a guard and allows the user know about any unknown person's details.

PRODUCT SCOPE

True-caller, one of the going-to-be successful software in the app market, has an excellent feature of allowing the user to know about any unknown person's details if he/she has phoned. Developments and upgrades were to be done according to that, and most importantly, maintenance is to be done with every upcoming version of this product.

PRODUCT PERSPECTIVE

True-caller is a smartphone application which has features of caller identification, call-blocking, flash-messaging, call-recording, Chat & Voice which uses the internet. The service requires users to provide a standard cellular mobile number for registering with the service.

OPERATING ENVIRONMENT

True-caller is a software that can run on both iOS and Android, with any kind of hardware. It can also run on any kind of operating system.

STACKHOLDERS

DEVOLOPERS : He is responsible for designing the program according to the Admin's request and developing it upon request.

USERS : Use app to manage calls and messages and know the unknown contacts.

TRUECALLER REQUIRMENTS

1-FUNCTIONAL:

1) Start :

1.1→ prompt messages ask the user permission to some other apps as :

1.1.1) permission to make a call .

1.1.2) permission to access the contact list .

1.1.3) permission to access SMS message and show it in the app .

1.1.4) Allow Truecaller to make and manage phone calls:

Set Truecaller as default dialler .

2) signing up

2.1→ the user can sign up with (Name, Phone NO., country) OR, by login with google or Facebook .

2.2→ Verification :

2.2.1) after user enters his/her phone number the system should verify its number by sending verification code .

2.2.2) if the verification done well , the system transfers the user to home page

if the verification failed , so , the system should resent the verification code or sent another alternative verification ways.

3) Caller Identification :

Description : Identify unknown numbers, spam or companies calling before picking up! See the true identity of each incoming call anywhere in the world - landline, mobile or pre-paid!

3.1→ if the caller was from the contact list (appears it) shows that with the same name and the location .
3.2→ if the caller was not from the contact list (appears it) show data from trueCaller's server (data: name, location)

4) Call Blocking :

Description: **Call blocking**, or **call rejection** allows a user to block incoming calls from specific telephone numbers.

This calls may be : "annoying calls ", "threating calls " ," unreliable calls " … etc.

4.1 → You can block a phone number in multiple ways. The easiest is maybe to search for the contact and select 'block' in the detail view.
If you want to block a number in your call log, tap and hold on the number and tap on the block symbol.

4.2→ in user side, if user blocks someone on truecaller ,whenever the blocked one calls him The call appear at the blocked mode

4.3→ In the caller side , the call will be disconnected after the 1st ring and he/she will be notified with a missed call that you called him/her.

5) Call Recording :

Description: Call Recording is a feature which enables you to record incoming and outgoing calls. You can listen to the recordings in the Truecaller app or open call recordings in your phone storage.

5.1→ Sequences

- The sequences of user actions is to

- open the software
- right swipe the screen
- click on View Recording Settings
- to click on Call Recording
- click on Start Recording on the popped up window, so that the system responses to that feature.

6) Flash messaging :

Description :Flash messages is a way to add some simple notifications to users of your website or application about important events that may have happened. As soon as the user navigates to another page, the flash message goes away.

Truecaller flash messaging is a new and quick feature to send messages to other Truecaller users with your name using the internet connection. Flash SMS appears directly on the main screen of the mobile phone without any user interaction and it is not stored in the message inbox.

Sequence :

6.1 →by tapping on the “spark” icon in Truecaller.

6.2→The flash message will be shown only for 60 seconds then leave a short message in the notification tray which you can tap on to read and reply later.

6.3 →You can see your flash history in your call log

7) Chat & Voice by using internet :

Description : Unlike other SMS apps, Truecaller’s messaging feature offers receiving and sending SMS and Chat.

Sequence :

7.1→ When chatting in blue, this is using the Internet, and when chatting in green, this is sending an SMS from your phone plan

7.2→ people in a group to share messages, videos, photos, voice messages, files and more.

8) who view my profile

Description : If you received a notification saying that "someone has viewed your profile", it means that someone has searched for you on Truecaller, either using your number or your name.

Sequence:

8.1→ If you click on the notification or click on "**Who viewed my profile**" in the navigation area of the app, you'll be able to see the profile of the person who viewed your profile.

8.2→You can always control who views what information on your own profile by going to the ' **Privacy Center** ' in the Settings of your Truecaller app.

9) Last seen

Last seen feature makes it possible for you to know if the person you're about to call is busy or not.

For example, if you see a red bell icon next to that number it means that phone is on silent mode. If you see a red phone icon, it means that person is on the phone. You can also see the last time a user was active in the app through the 'Last Seen' time displayed.00:44 AM

Sequence:

9.1 → Last seen is activated by default

9.2→ it can be disabled in Truecaller's Settings > Privacy Center.

10) Invite friends :

Description :

You can invite your friends to join the Truecaller community

Sequence:

10.1→

10.1.1) In the app, click on the upper left-hand icon: ☰ .

10.1.2) Click the option that says “Invite friends.”

10.1.3) Select the invitation option you prefer: SMS, WhatsApp, Facebook Messenger, etc.

11) Dark mood :

Description:

You can now customise the look and feel of the verification consent screen as per your app theme, and provide a rich experience to your users. Additionally, dark mode also reduces the strain on end users eyes in low lighting conditions.

Sequence:

11.1→ to enable it, simply go to the top left corner when you open the app and select dark mode

12) After call details:

Description:
This notification is an aftercall notification that shows the contact info of the person who has called you, so in case you have missed the Caller ID, you can still see contact info and quickly save that contact in your phonebook or report it as spam.

Sequence :

12.1→ after call is activated by default

12.2→ to disable Open the Truecaller app on your phone and then click on the three dots icon on the top right.
After that, you will see a few options. Just click on the Settings option.
Under the settings, click on the Caller ID option

13) Remind me of missed calls

Description: To get rid of the missed call notification from your stock dialer kindly

sequence:

13.1 →

13.1.1) Tap on Truecaller menu
13.1.2) Tap on Settings.

13.2→ to disable Tap on General scroll to bottom and disable "Remind me of missed calls".

14) deleting the call log :

Description: is a feature that allow the user to delete the call log

Sequence:

14.1→You can delete the call log

by clicking on the 3 dotted menu and choosing "Delete all calls".

15) search

Description: is a feature that allows the user to search for any number calls him/her

Sequence :
15→ From any screen in our app, just tap the Truecaller search bar and type in the phone number you want to look up

16) video calls:

Description: is a feature that allow you to talk and see the person you are talking to

Sequence:

16→ open app

16.2→ enter chat

16.3 →choose video call

16.4→access a camera and a microphone

17) update by admin:

Description: the admin can update the features in the application

18) Modification of contact list by the user

Description: the user can update, delete and add the numbers in his/her contact list

Sequence:

18.1 → enter contact list

18.2 → add , update and delete the number that you need

19) Help

Description: This function help the user to solve the problems he encounters

Sequence:

19→In the app, click on the upper left-hand icon: ☰ .

19→ click FAQ

19→ choose browser

2-NON FUNCTOIN REQUIRMENTS

1) Look-and-Feel REQs (interface):

- The product should use a lot of animations.
- The product shall use colours palette.
- The product shall use a large range of exciting sounds.
-the product shall use emojis
-the product shall use trendy icons.

2) Usability & Humanity REQs:

-the program shall be easy to use and not be a complex software.

-the program shall be a -user friendly as The product shall be easy to use on the first attempt by a member of the public without training .

3) Performance requirements:

-the product shall be fast and the processes shall not take a lot of times to execute.

-The product shall handle up to 10 users simultaneously.

-The product shall, on average, operate without failure for 30 days.

- the program shall do the tasks required from it accurately without editing or deleting.

-in Flash Messaging: The ability for you to transmit quick bits of messages such as emojis to your friends.

-in Last Seen features : Shows you whether the other person is, at any particular moment, available or on a call or has put the ringer on silent mode.

-Remediations of missed calls: Essentially sends you notifications every hour nudging you to call the person back

4) Operational & Environmental REQs:

-The product shall conserve battery.

5) Maintainability & Support REQs:

-The product shall be able to be modified to cope with a new class of user.

- Any bugs or problem in executions shall be supported and fixed.

6) Cultural REQs :

-The language used in the interface should be formal and polite.

7) Legal REQs:

- The product shall comply with our ISO 9001 certification.
- it shall reserve copyrights .

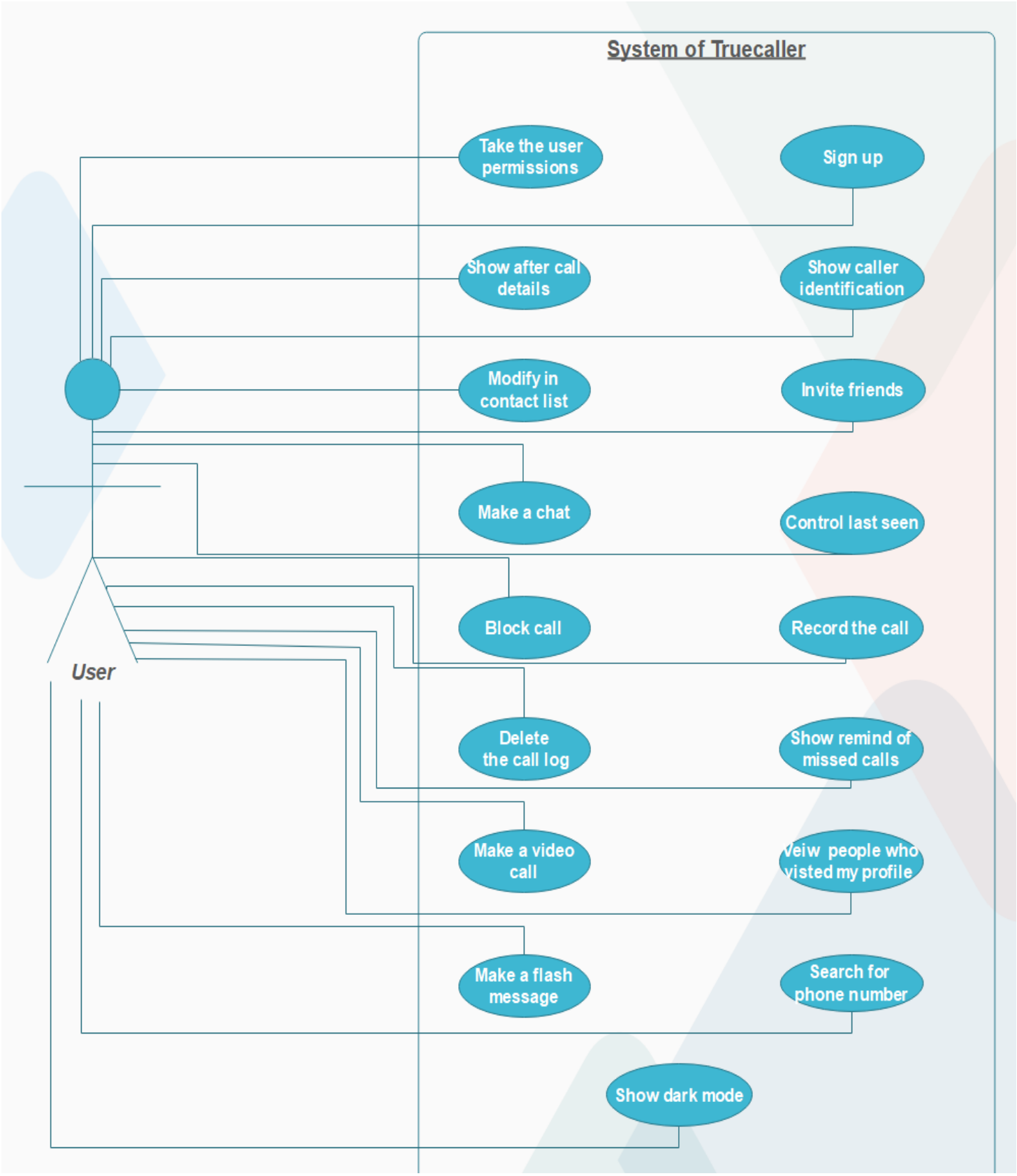
8) Security REQs:

- The product shall ensure that only authorized users are able to gain access.
- The product shall distinguish between authorized and non-authorized users.
- Access; uninterrupted/continual access to data & functionality by authorised users.
- Privacy; protection of data from unauthorised access/disclosure.
- Integrity; prevention of unauthorised modification/deletion of data (data consistency).
- Immunity; protection against threats and attacks.

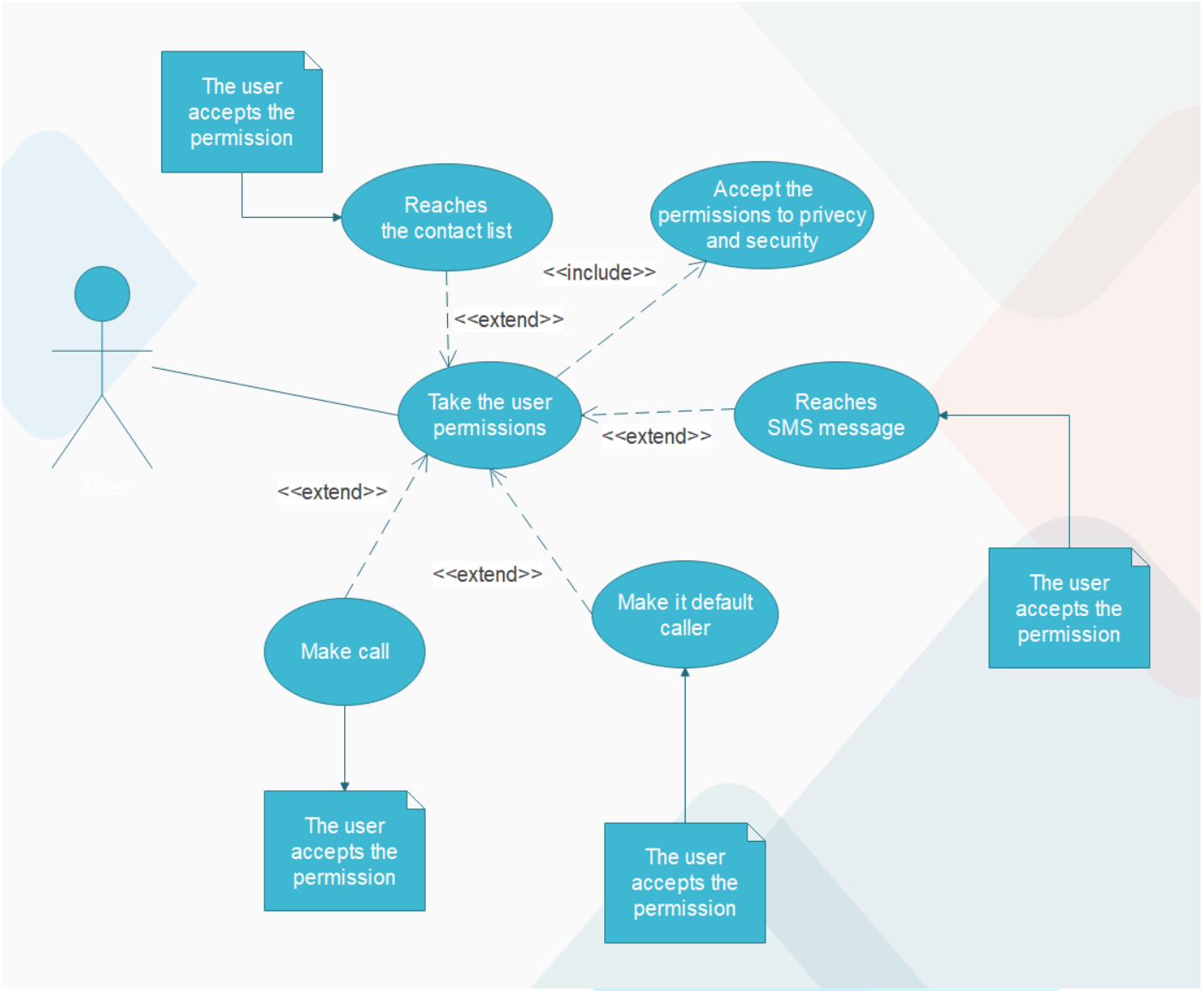
-the app checks the privacy and security and statistics with phone numbers .

- use of database so as to maintain the data as well as actions that must be done in order to prevent data leak.
- The requirements regarding security, such as data leak or privacy issues, such as disclosing the details of a person to some other person.
- Identity authentication requirements such as while creating an account, a verification code will appear which will ensure the presence of the user as the only user of that account.

3.Use-Case Diagram

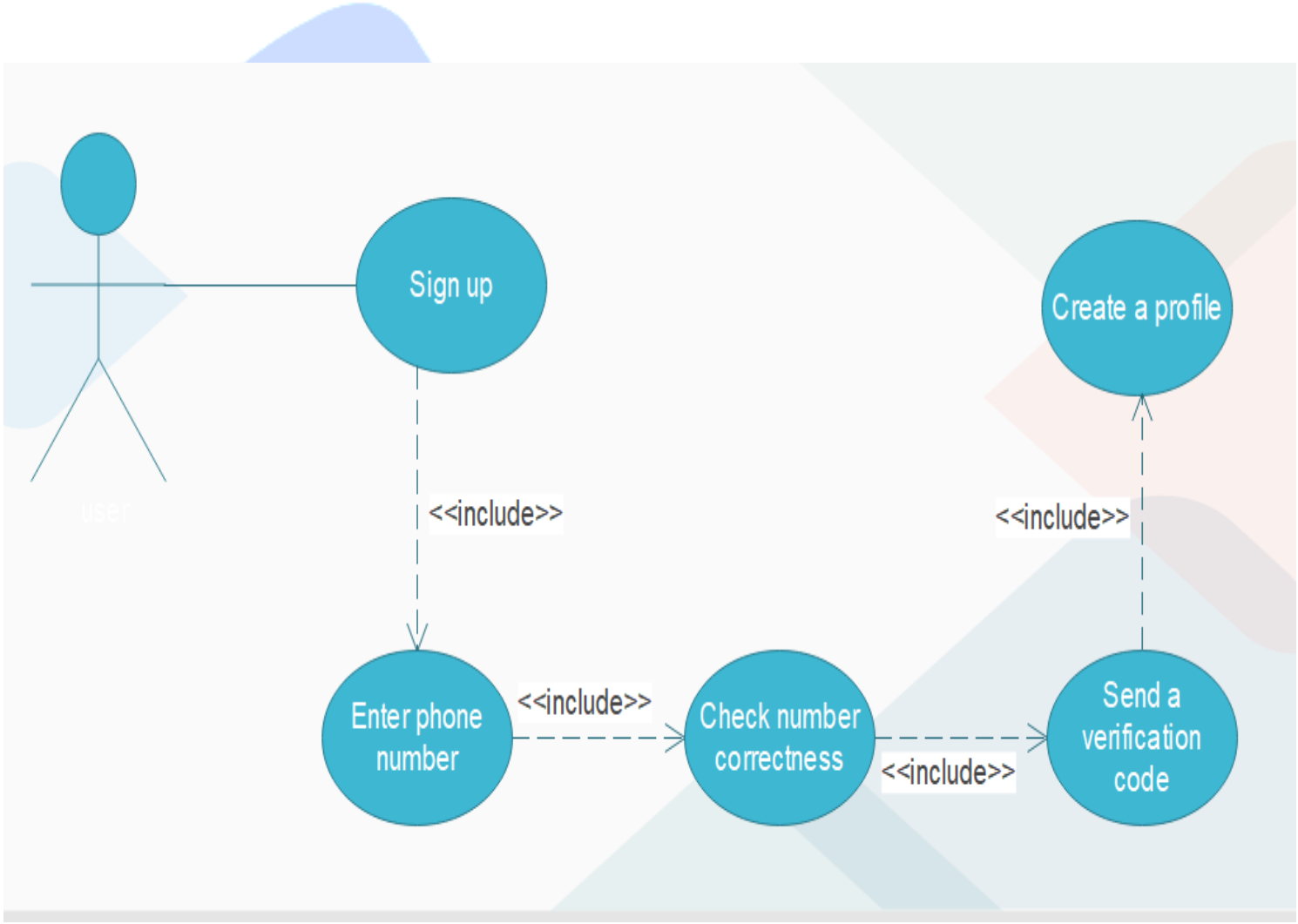


3.1) permissions



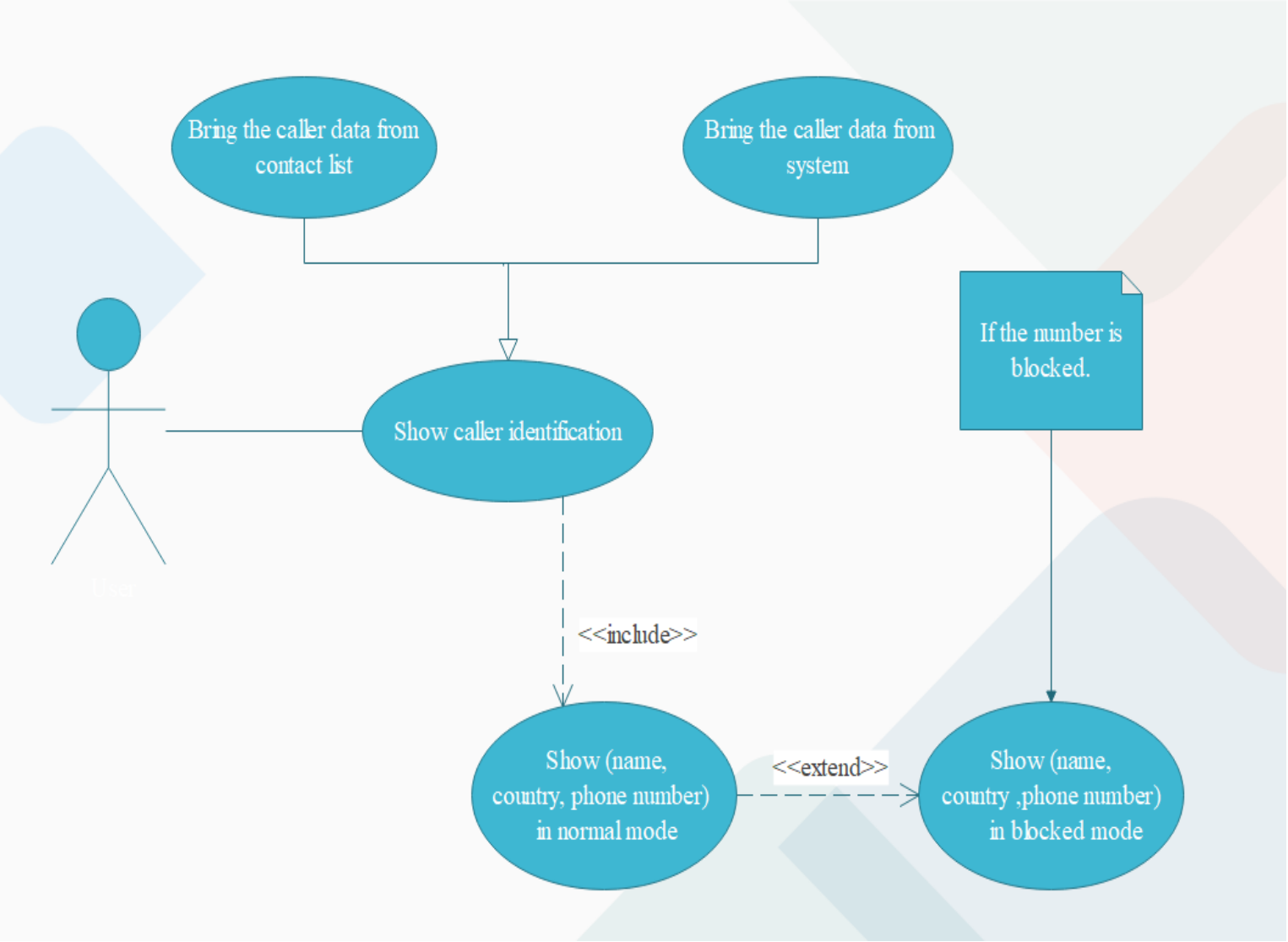
ID Number - Name:	1. User permission
Short Description:	some messages ask for permissions, that appear for just the first time after downloading the application
Preconditions:	Install program
Postconditions:	System can access the data in the phone
Error Situations – System State in the Event of an Error:	The application is not opened
Actors:	The user & the system
Trigger:	Open the application
Standard Process (Main Success Scenario):	1- User opens the app 2- System shows the first Permission then the user accepts it 3- System shows the second Permission then the user accepts it 4- System shows the third Permission then the user accepts it 5- System shows the fourth Permission then the user accepts it 6- System can access the data in the phone
Alternative Processes (Alternative Scenarios):	Nothing

3.2) signing up



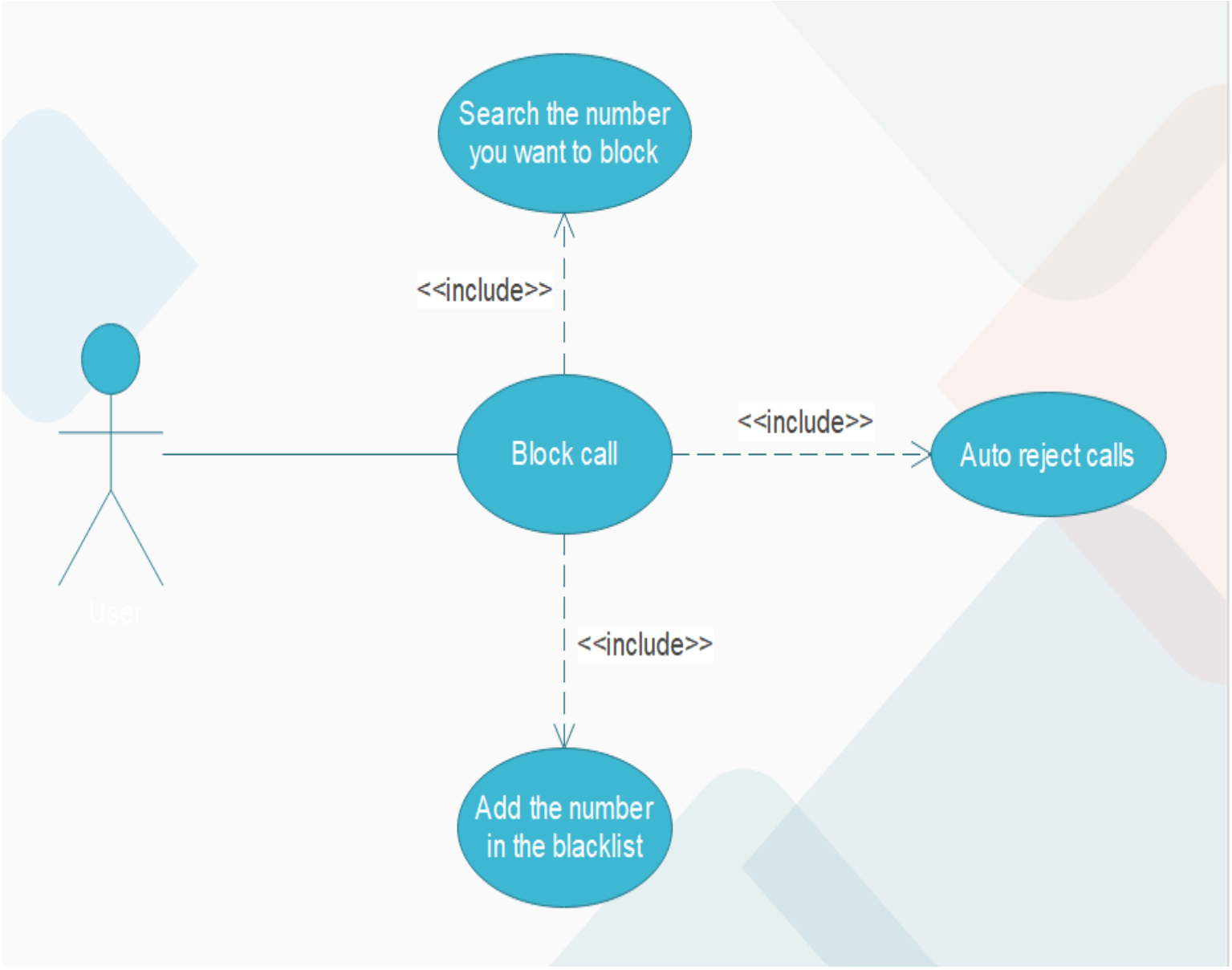
ID Number - Name:	2. Sign up
Short Description:	User enter her/his data ,, system saves the data
Preconditions:	User’s data(phone number/name), his own e-mail.
Postconditions:	User can access application features(make calls, chatting,…….).
Error Situations – System State in the Event of an Error:	Data entered is invalid.
Actors:	User & System
Trigger:	Permissions is shown.
Standard Process (Main Success Scenario):	1)user opens the app. 2) user accepts all permission accesses / privacy /security. 3)user enters his phone number. 4)user signup with his e-mail 5)database saves user data.
Alternative Processes (Alternative Scenarios):	5’) user can access app.

3.3) Caller Identification :



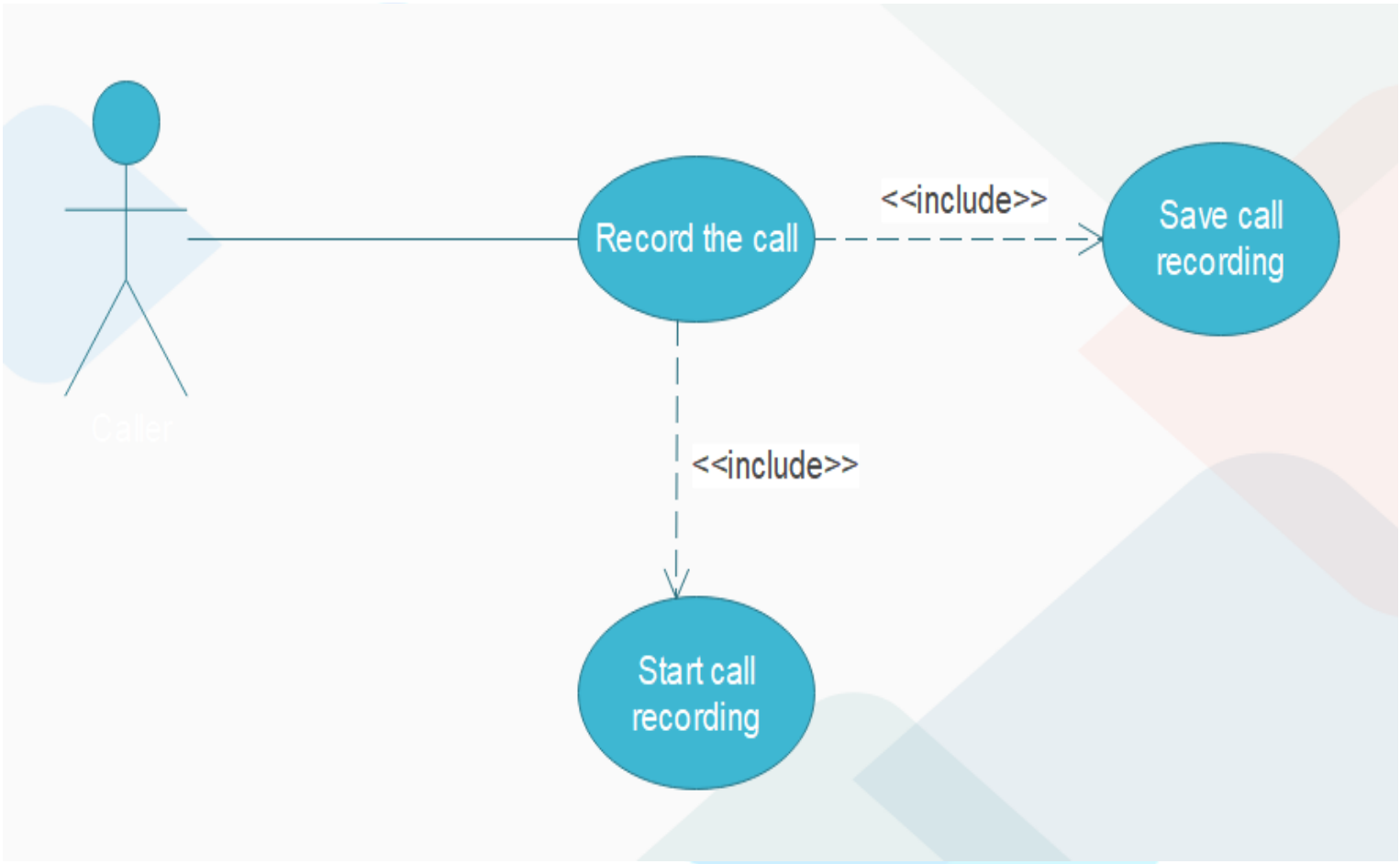
ID Number - Name:	3. Caller identification.
Short Description:	System shows caller id.
Preconditions:	System saves caller's data.
Postconditions:	User can recognize the caller id.
Error Situations – System State in the Event of an Error:	The system can not determine the data of the caller
Actors:	User, caller & System
Trigger:	User receives a call.
Standard Process (Main Success Scenario):	1) Caller make a call. 2) System check caller data. 3) User receives the call and can see the caller id.
Alternative Processes (Alternative Scenarios):	1') the call reaches the user .

3.4) Call Blocking :



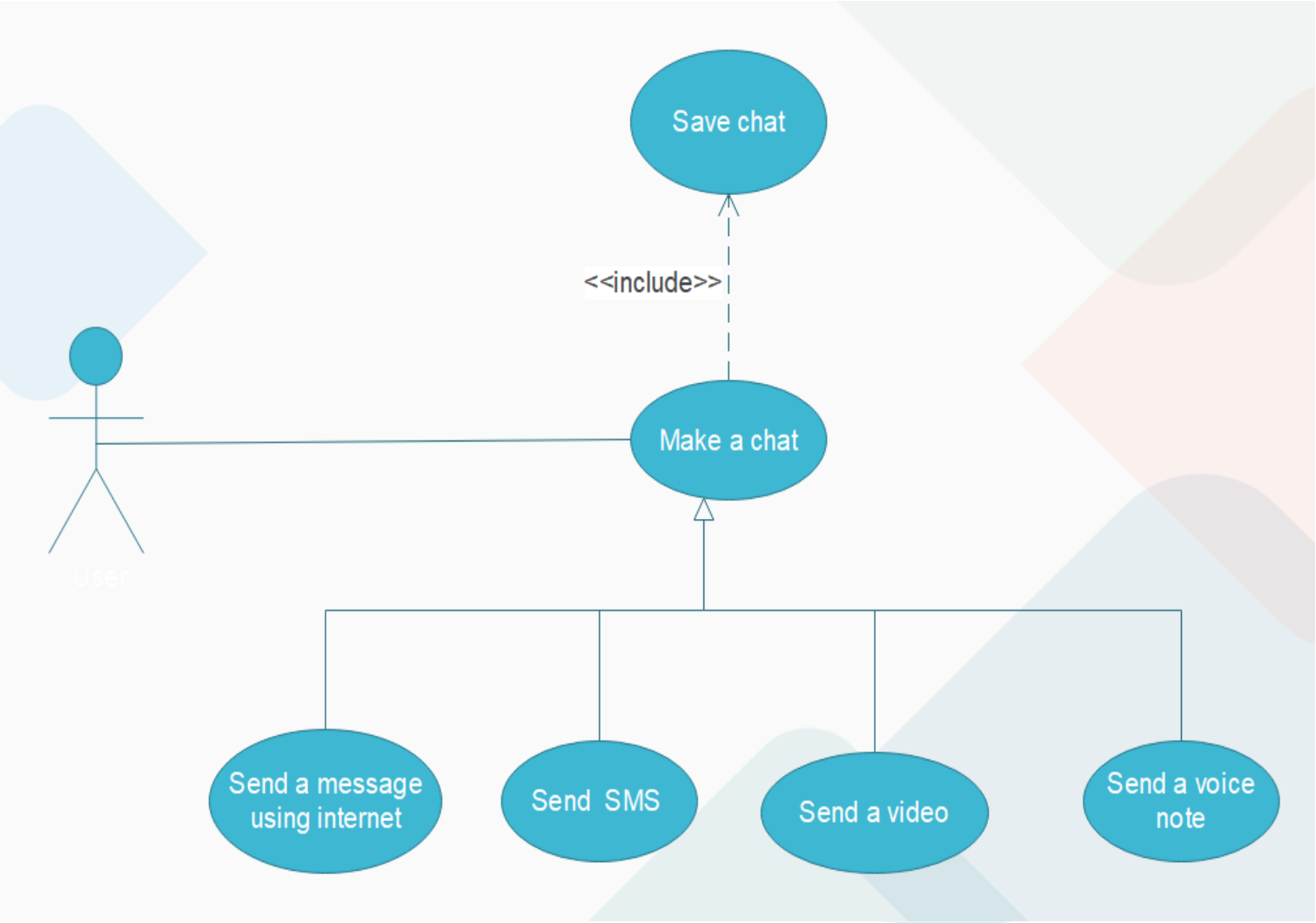
ID Number - Name:	5 - call blocking
Short Description:	Call blocking, or call rejection allows a user to block incoming calls from specific telephone numbers.
Preconditions:	There is someone annoying I don't want it to call me
Postconditions:	Prevent the caller from reaching me
Error Situations – System State in the Event of an Error:	There is no thing
Actors:	User & System.
Trigger:	Select number
Standard Process (Main Success Scenario):	1)search for the contact 2) select 'block' in the detail view
Alternative Processes (Alternative Scenarios):	1’) tap and hold on the number 2’) tap on the block symbol

3.5) Call Recording :



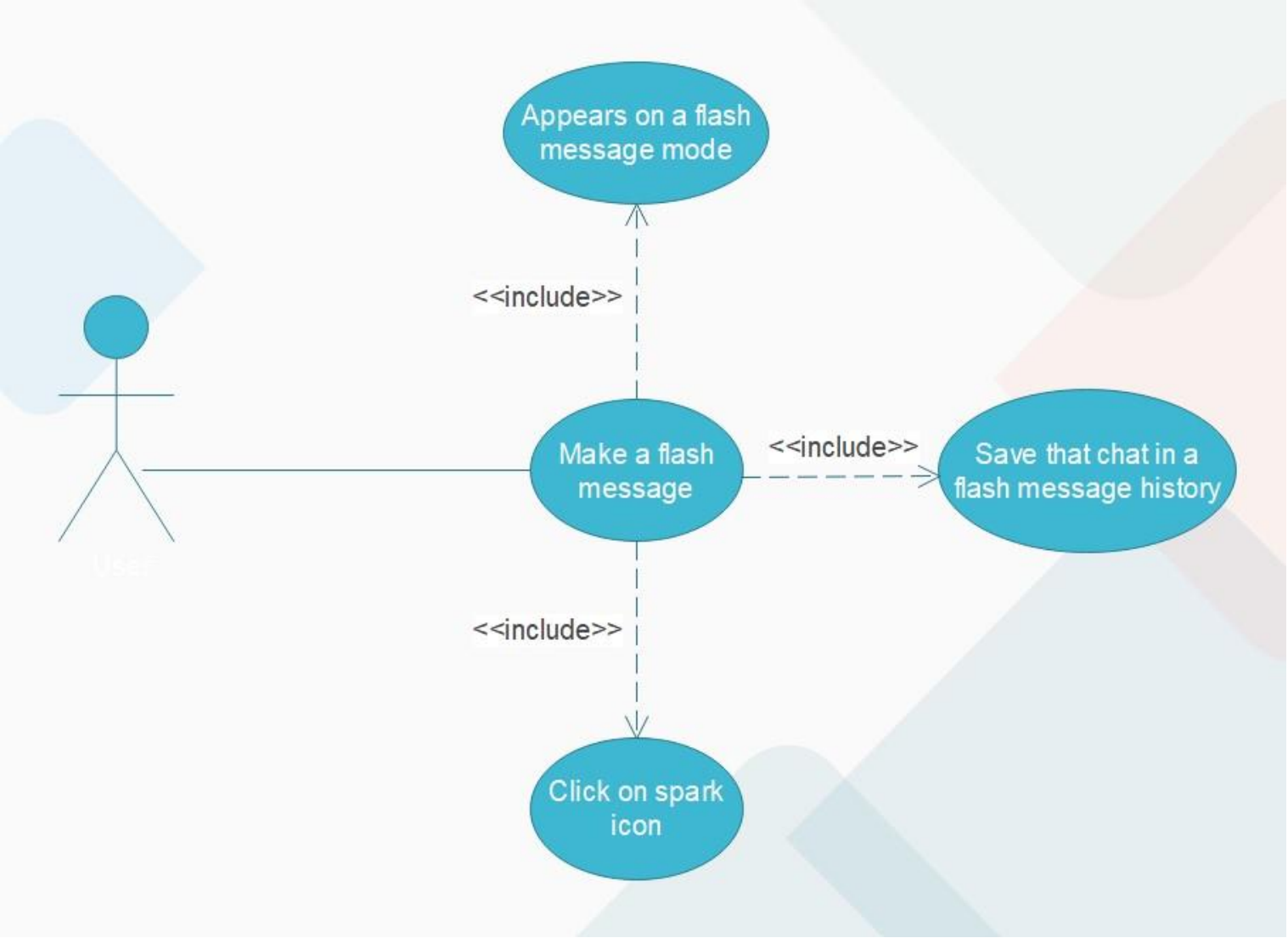
ID Number - Name:	4-Call recording .
Short Description:	It is a feature that enables the user to record calls on the phone storage /server.
Preconditions:	Activate the call recording feature .
Postconditions:	Recording the call and saving it in the phone and the server.
Error Situations – System State in the Event of an Error:	-Unavailability of space on the phone . -Some countries do not allow call recording .
Actors:	User, caller & system.
Trigger:	The user clicks on Call Recording button.
Standard Process (Main Success Scenario):	1) open the software 2) right swipe the screen 3) click on View Recording Settings 4) to click on Call Recording 5) click on Start Recording on the popped-up window, so that the system responses to that feature. 6) the call is recording on the app storage
Alternative Processes (Alternative Scenarios):	6') the call is recording on the phone storage

3.7) Chat & Voice by using internet :

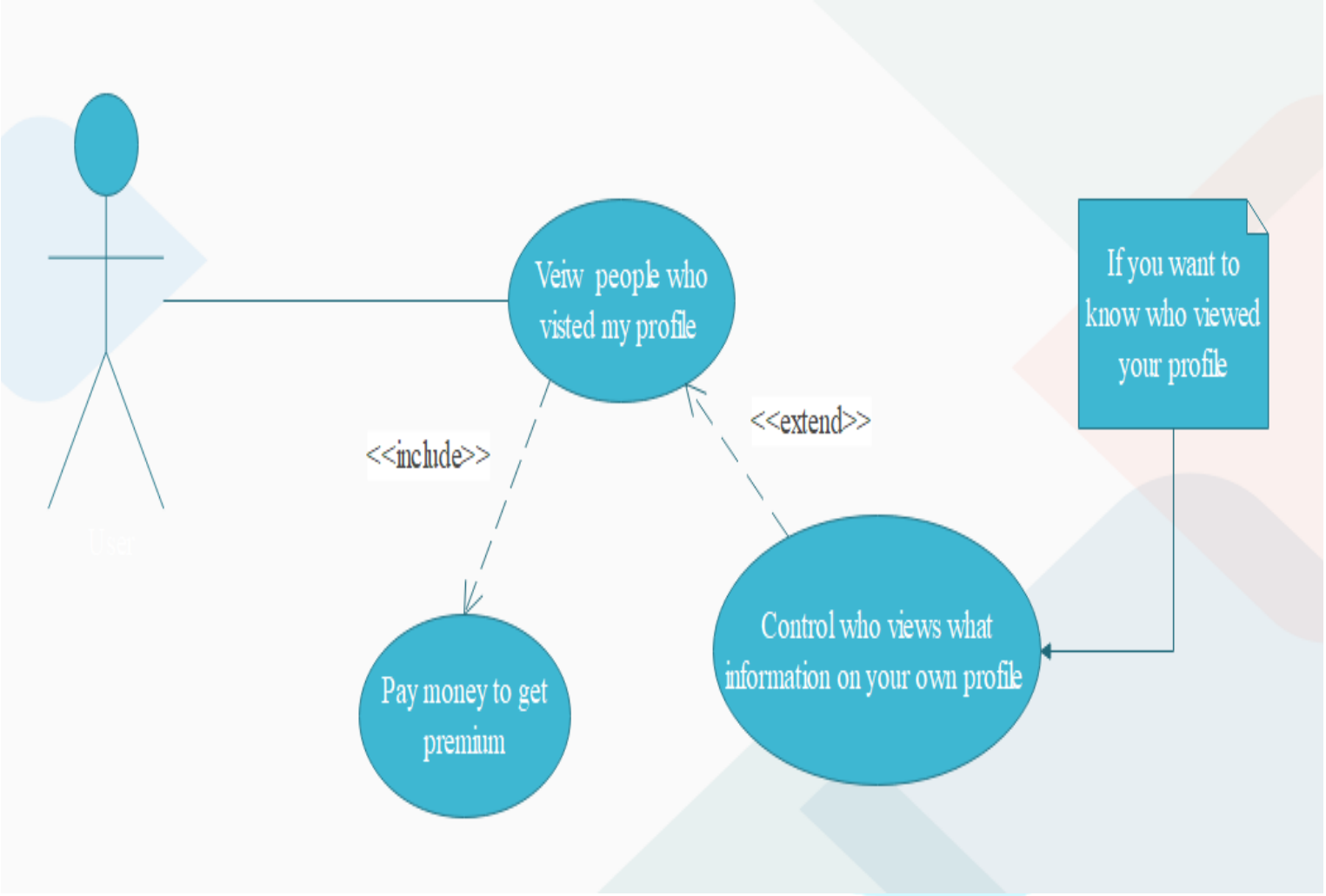


ID Number - Name:	6 - Chat & Voice by using internet.
Short Description:	Unlike other SMS apps, Truecaller's messaging feature offers receiving and sending SMS and Chat.
Preconditions:	There is a connection with the internet
Postconditions:	Message received
Error Situations – System State in the Event of an Error:	-There is no connection with the internet - The other number blocked the sender
Actors:	Sender, Receiver & System.
Trigger:	Select chat icon
Standard Process (Main Success Scenario):	1)open truecaller app. 2) select number to make chat with. 3) Select chat icon. 4) determine the chatting way. 5) send message(s) in chat mode.
Alternative Processes (Alternative Scenarios):	5') send message(s) in flash message mode.

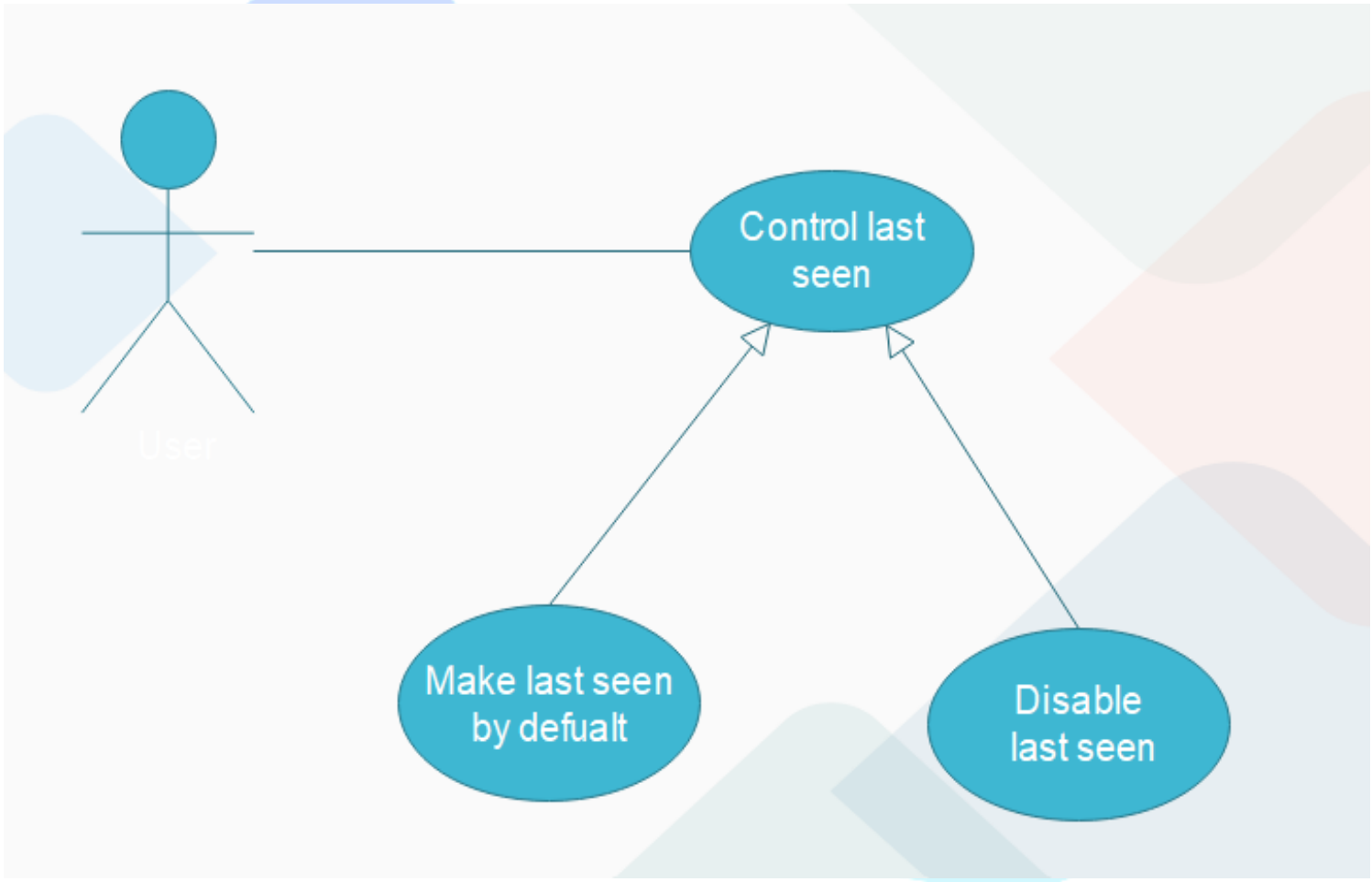
3.7) Flash messaging :



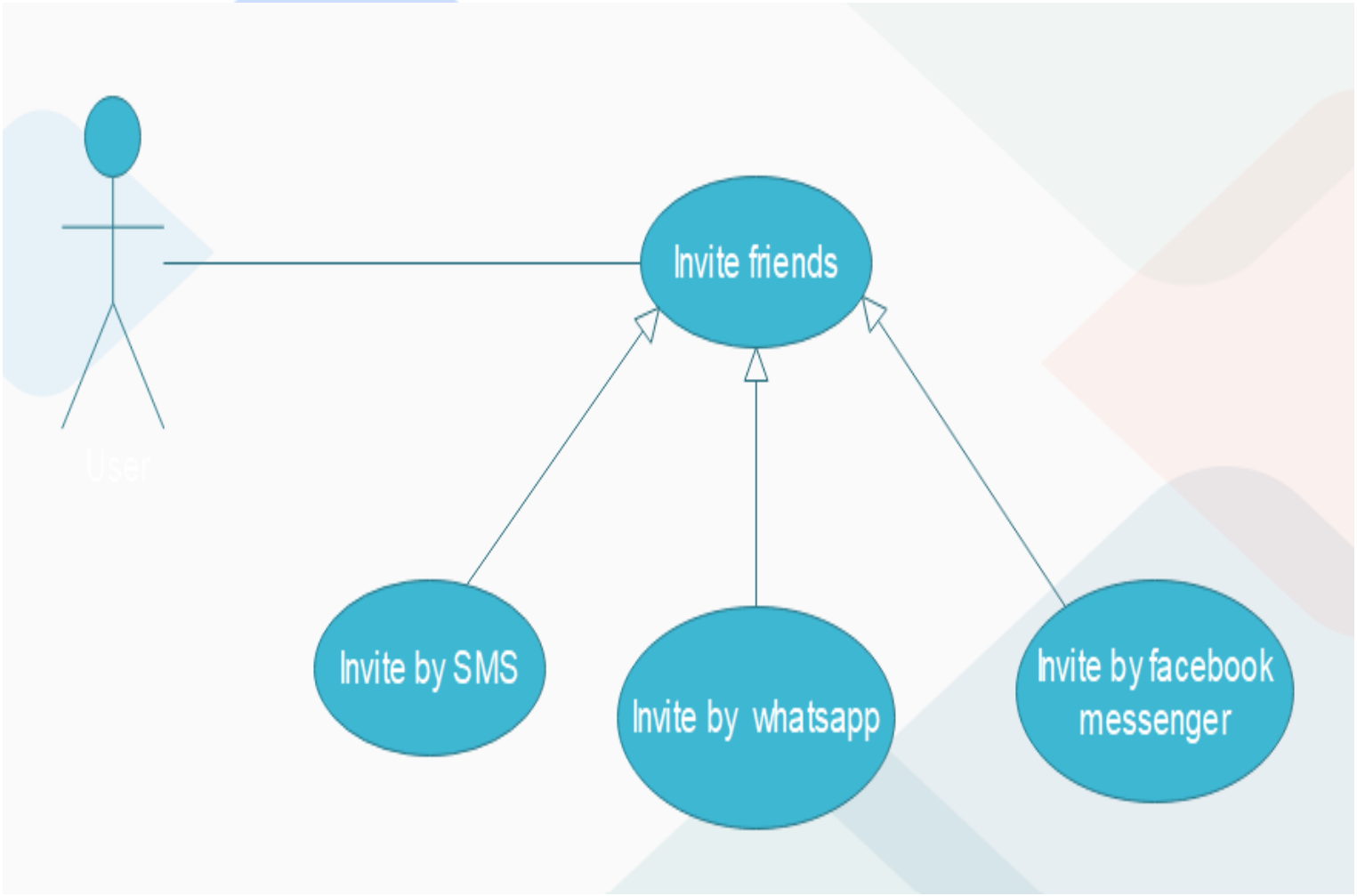
3.8) who view my profile



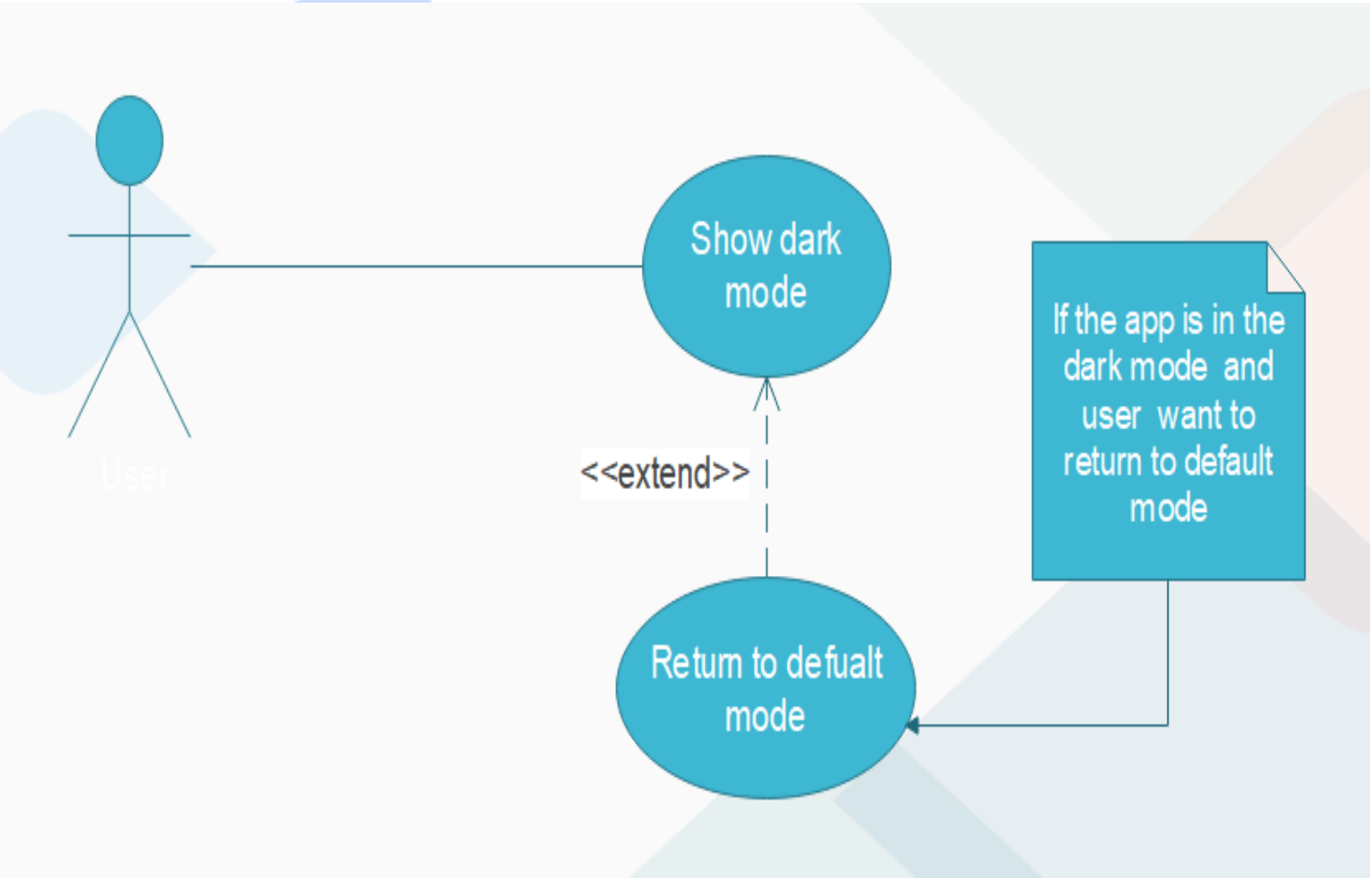
3.9) Last seen


Control last seen
User
Make last seen by defualt
Disable last seen

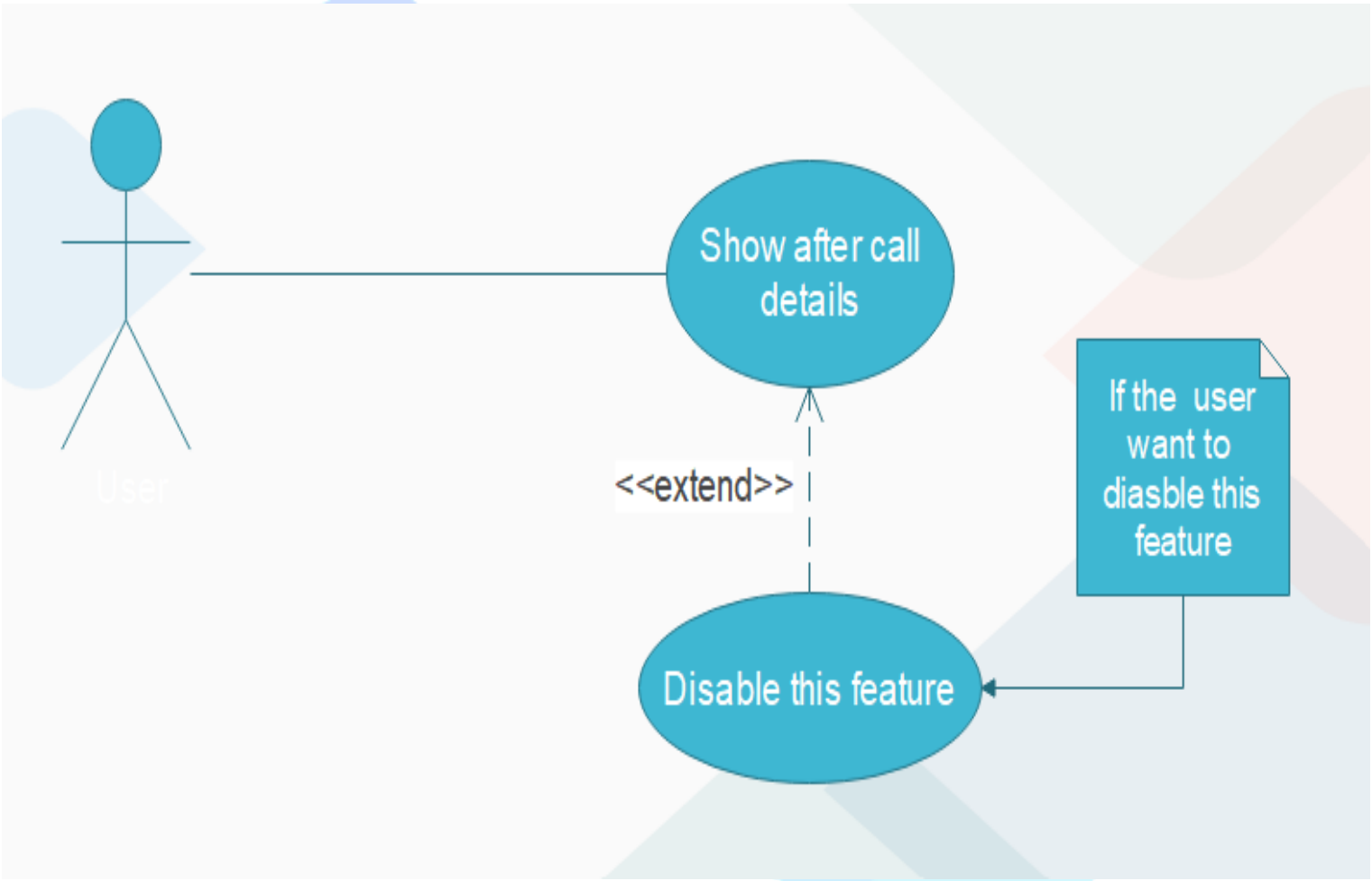
3.10) Invite friends :



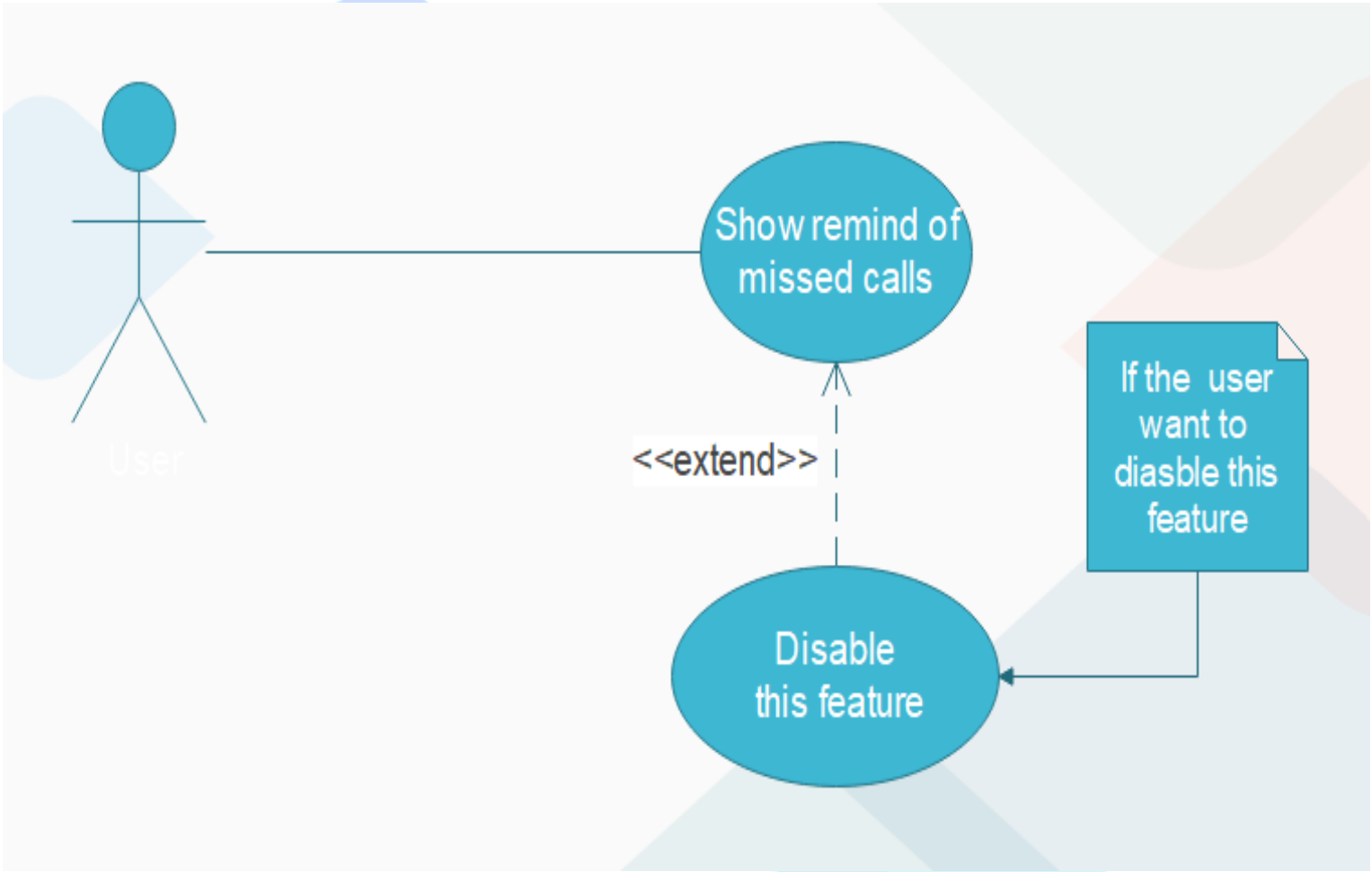
3.11) Dark mood :



3.12) After call details:

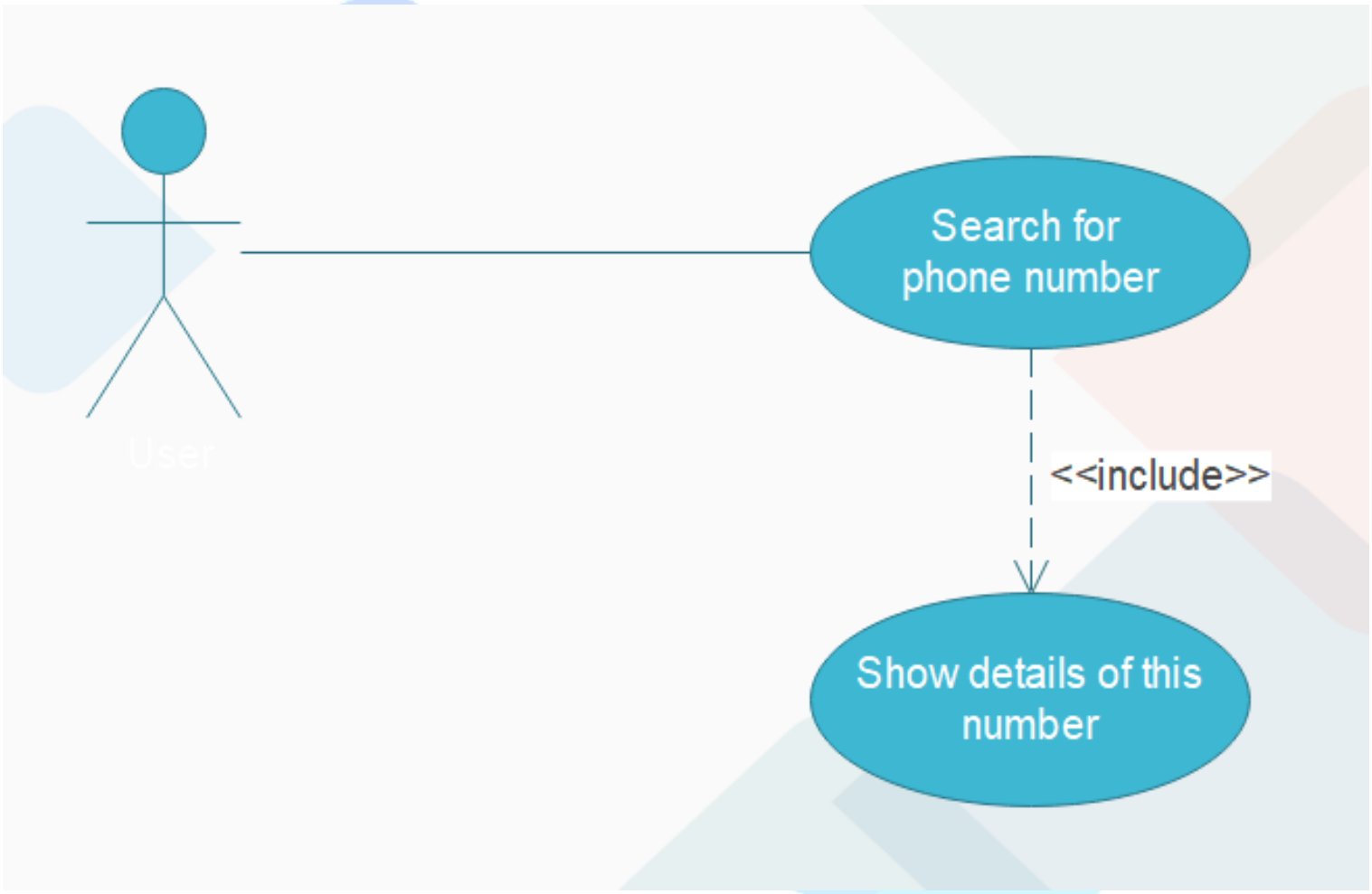


3.13) Remind me of missed calls

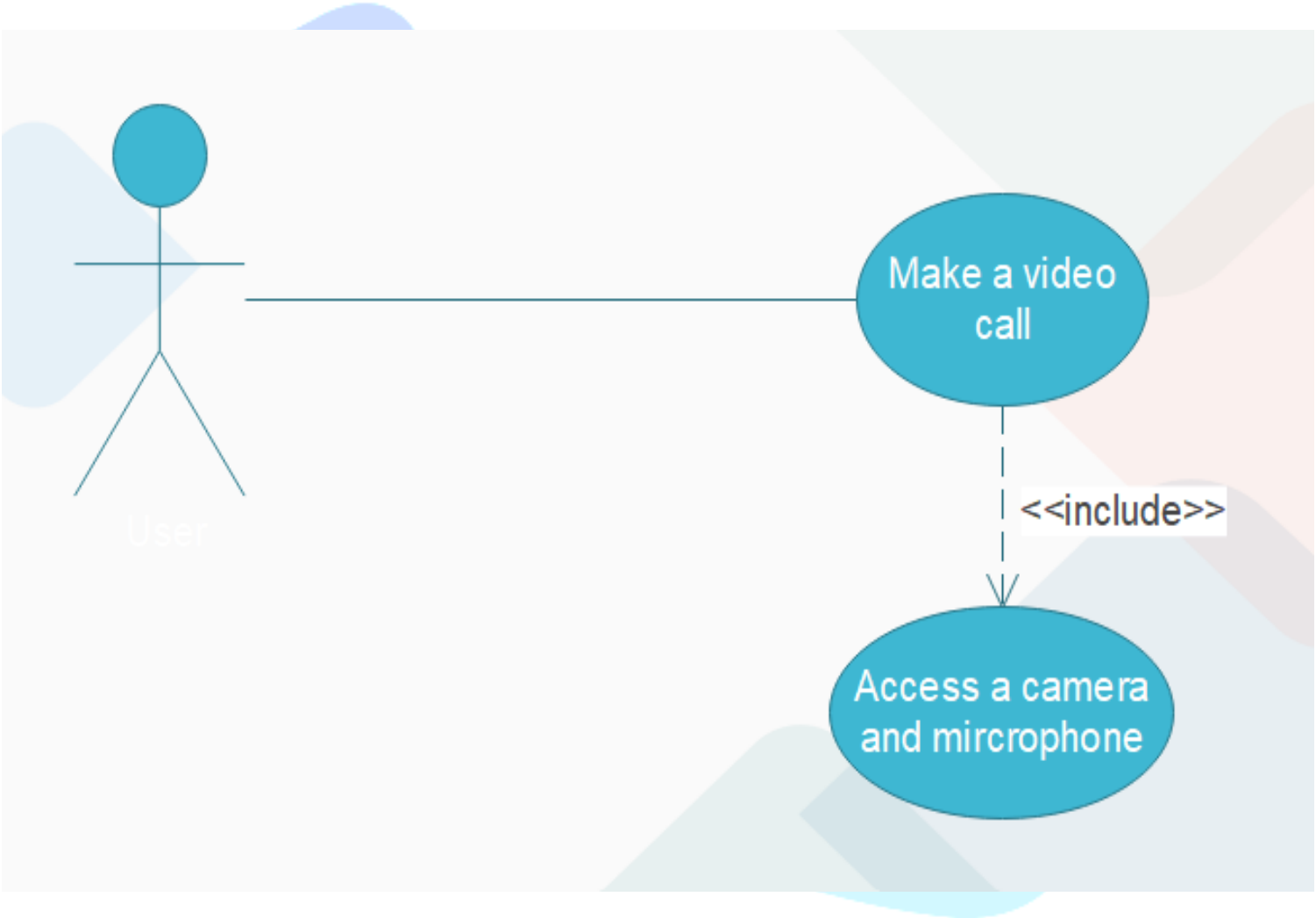


3.14) deleting the call log :

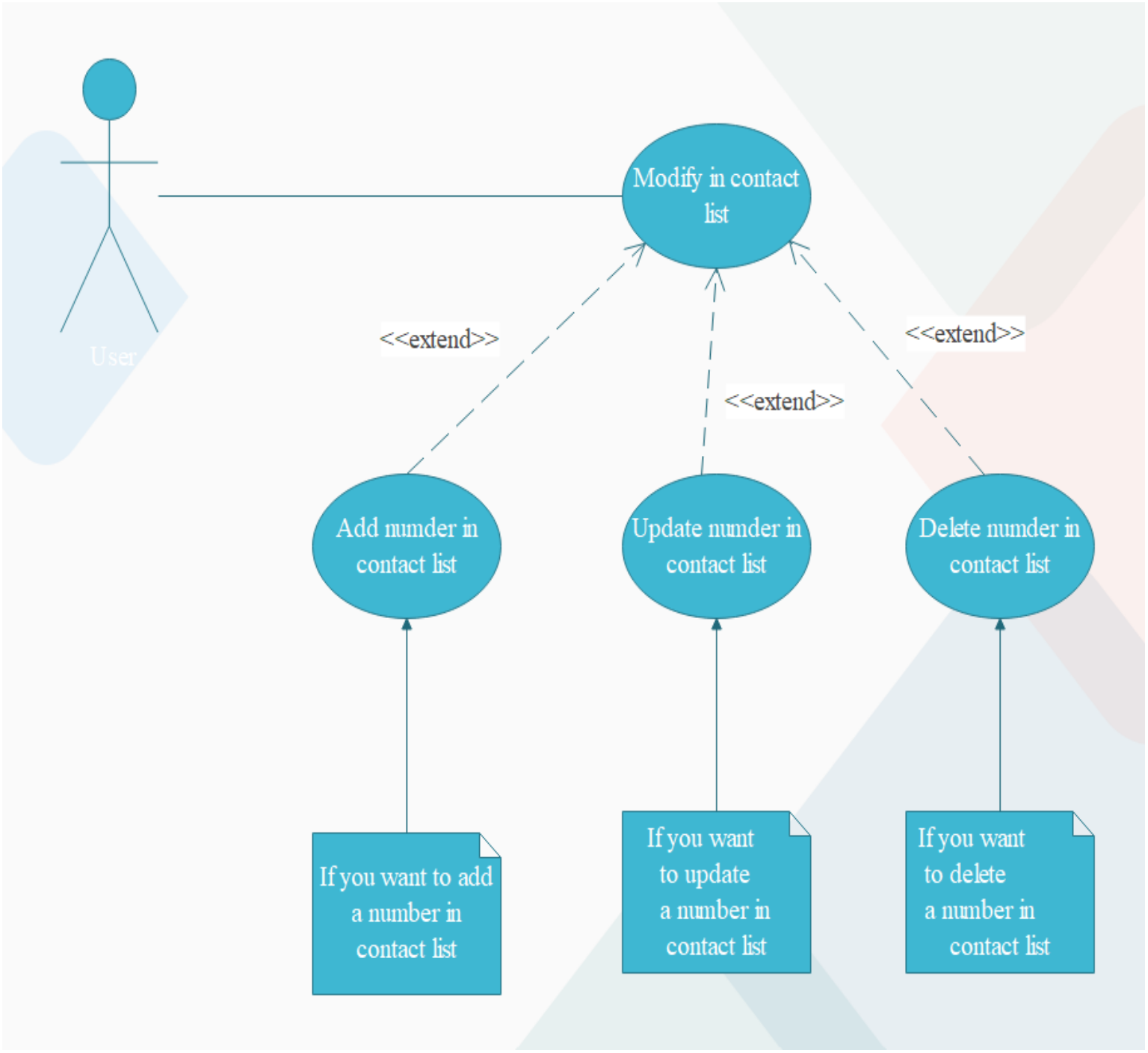
3.15) search


User
Search for phone number
<<include>>
Show details of this number

3.16) video calls:

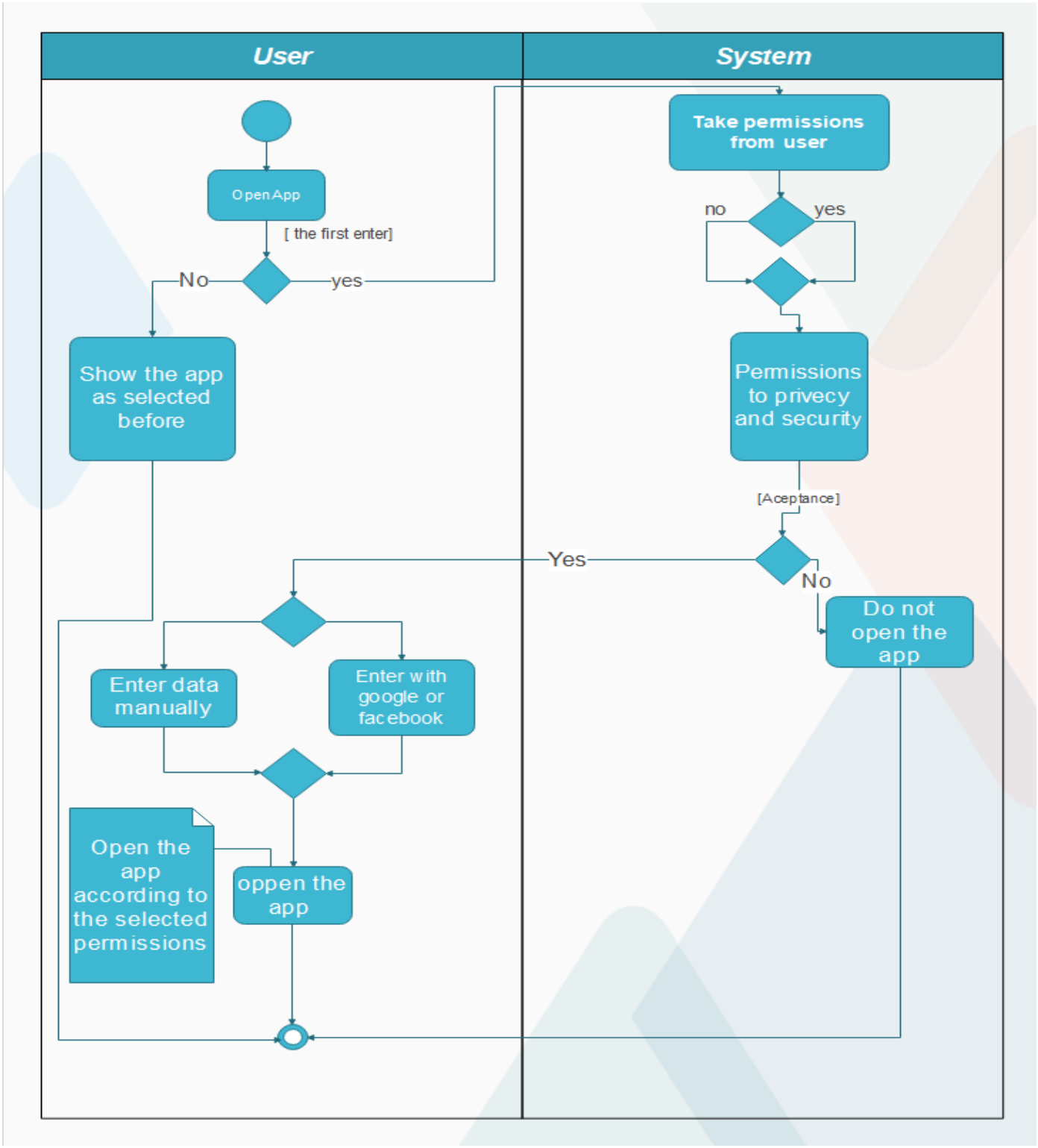


3.18) Modification of contact list by the user

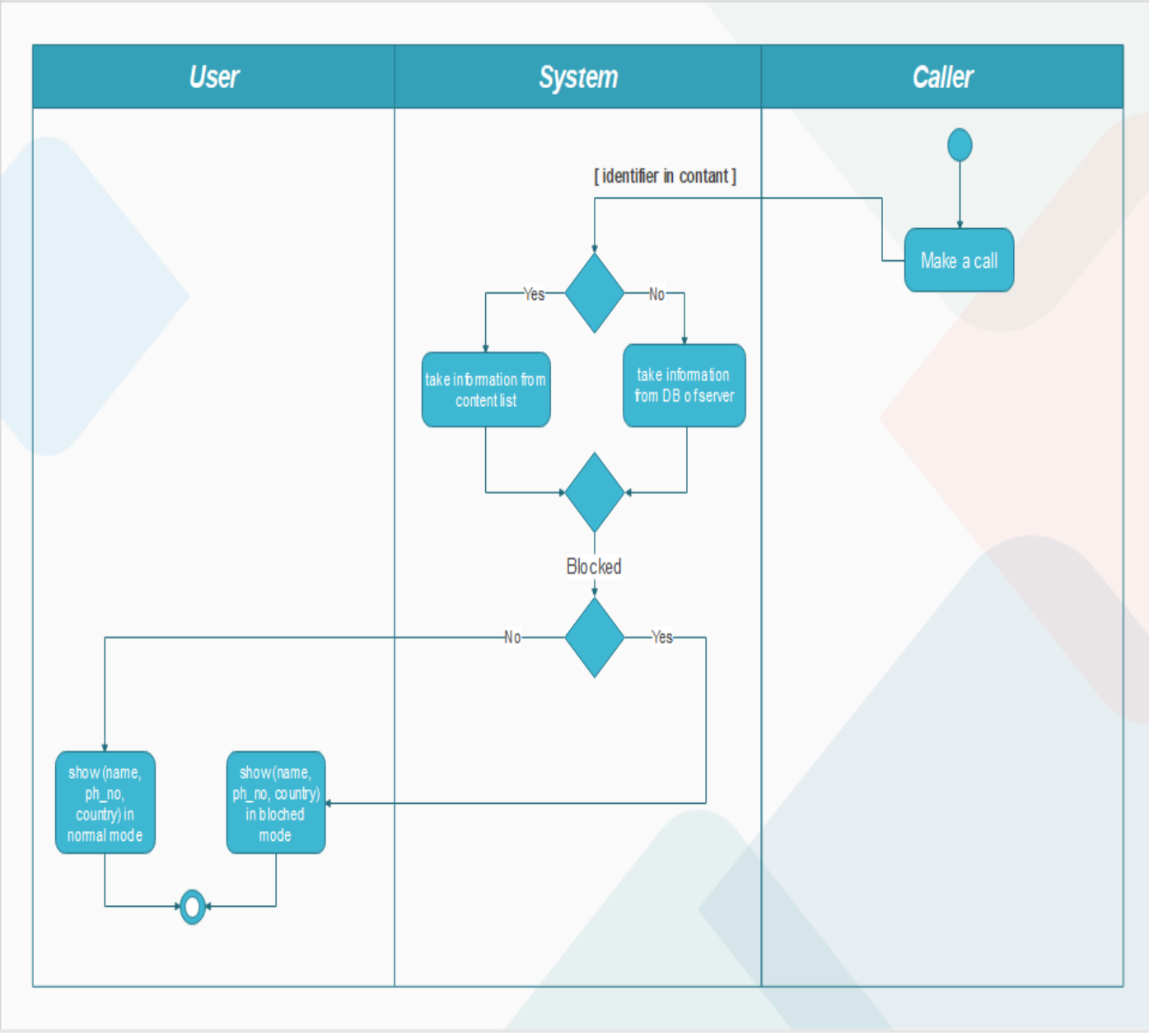


4.Activity Diagram

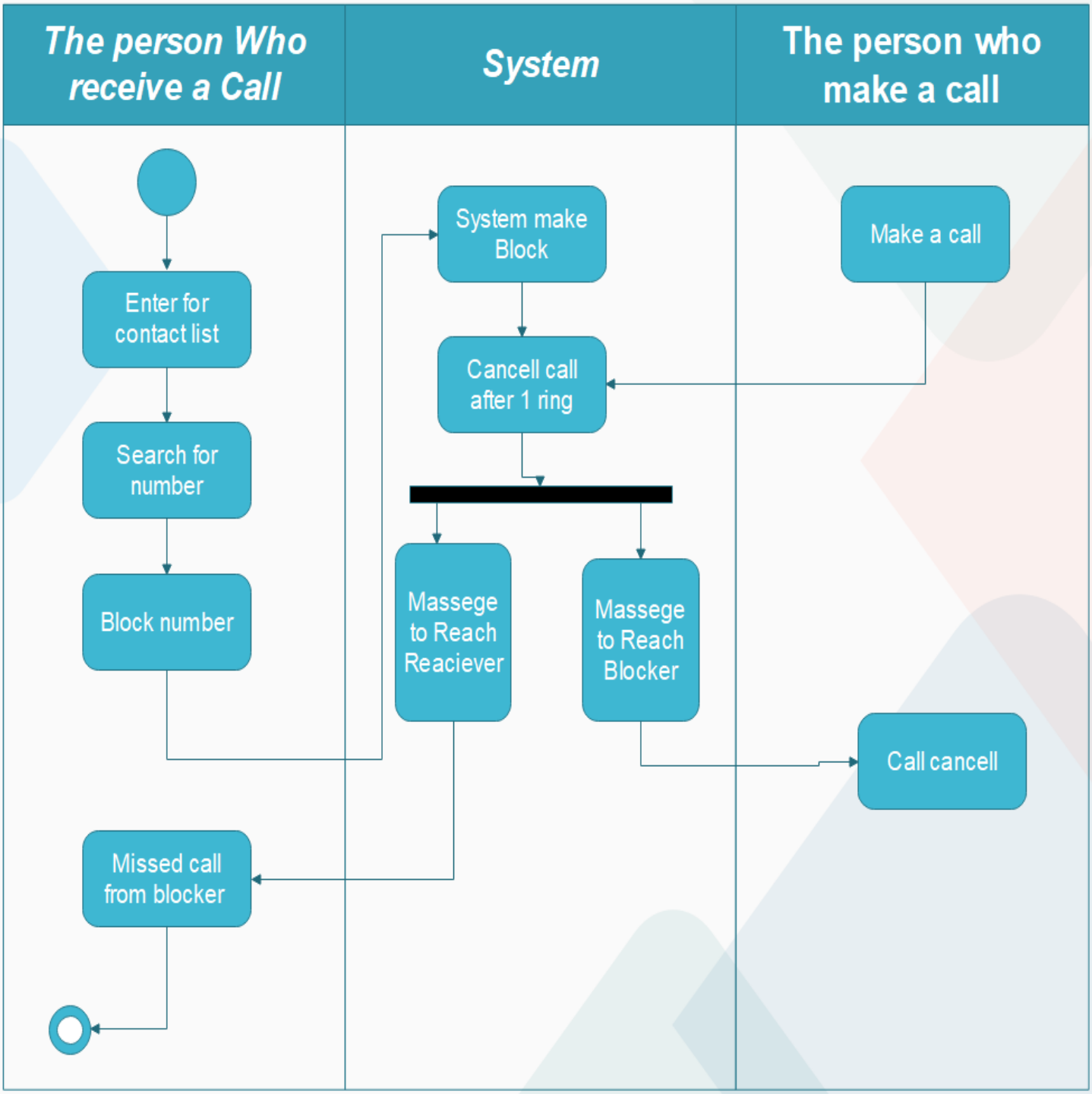
4.1) sign up



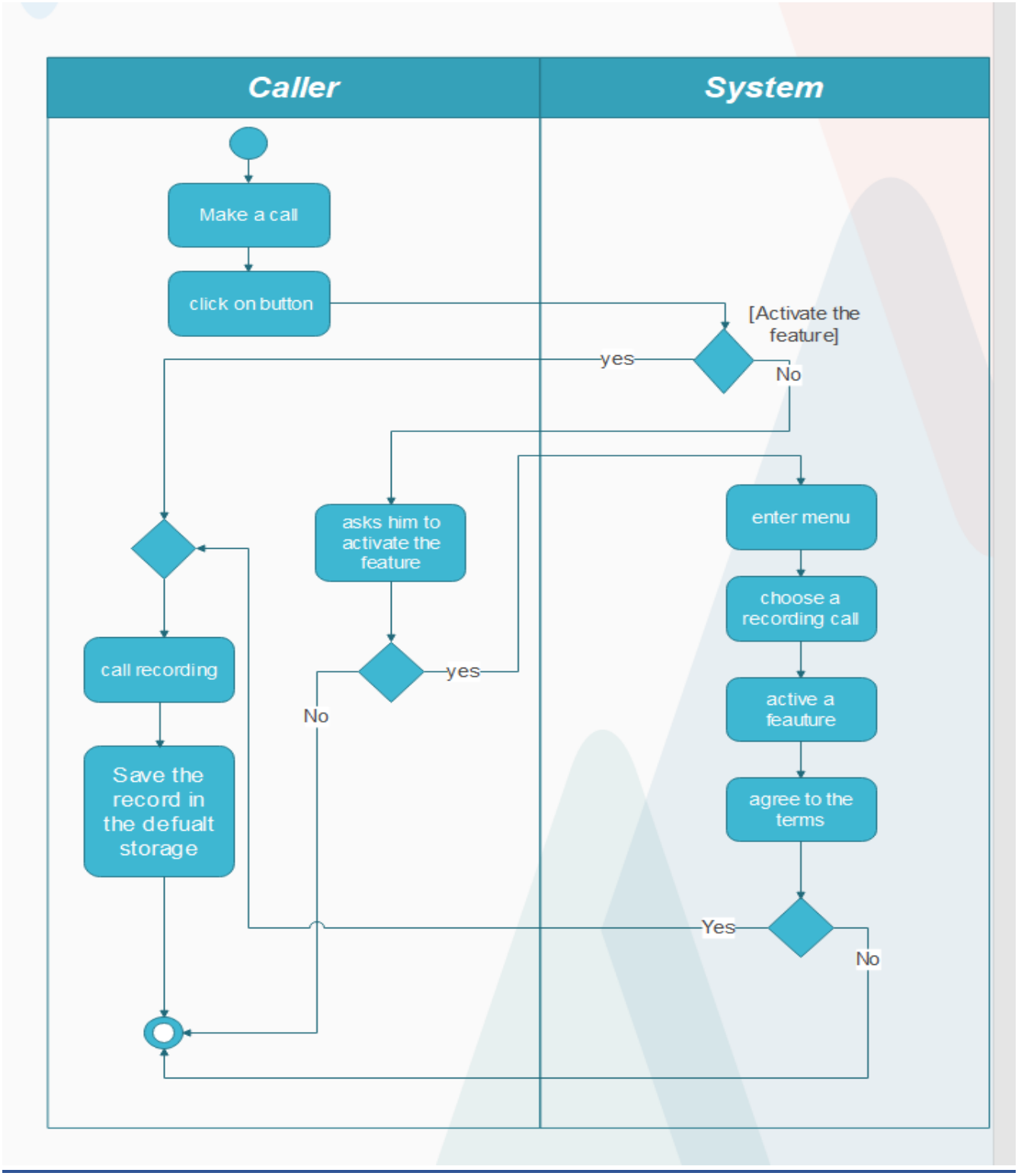
4.2) caller identification



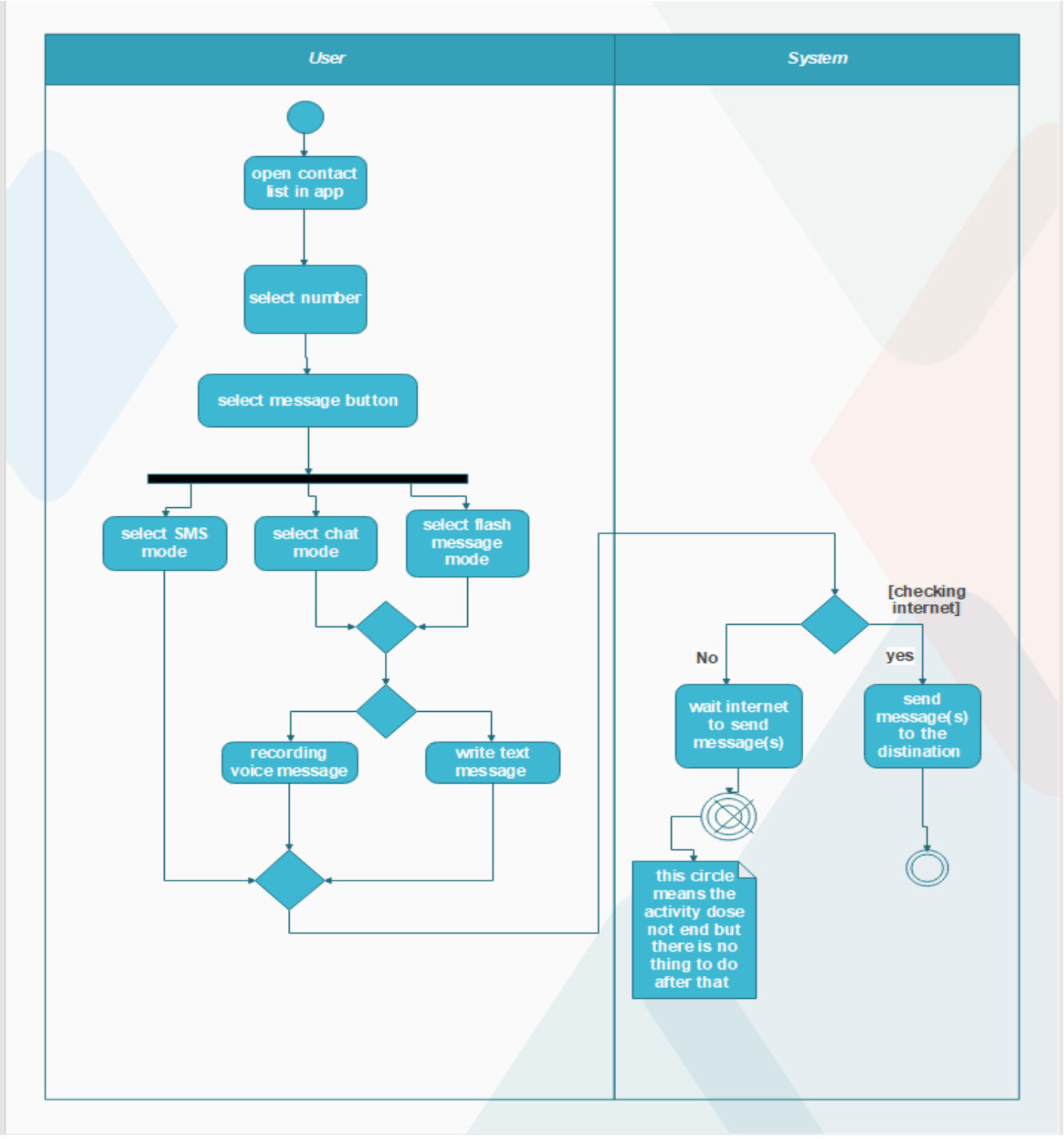
4.3) call blocking



4.4) call recording

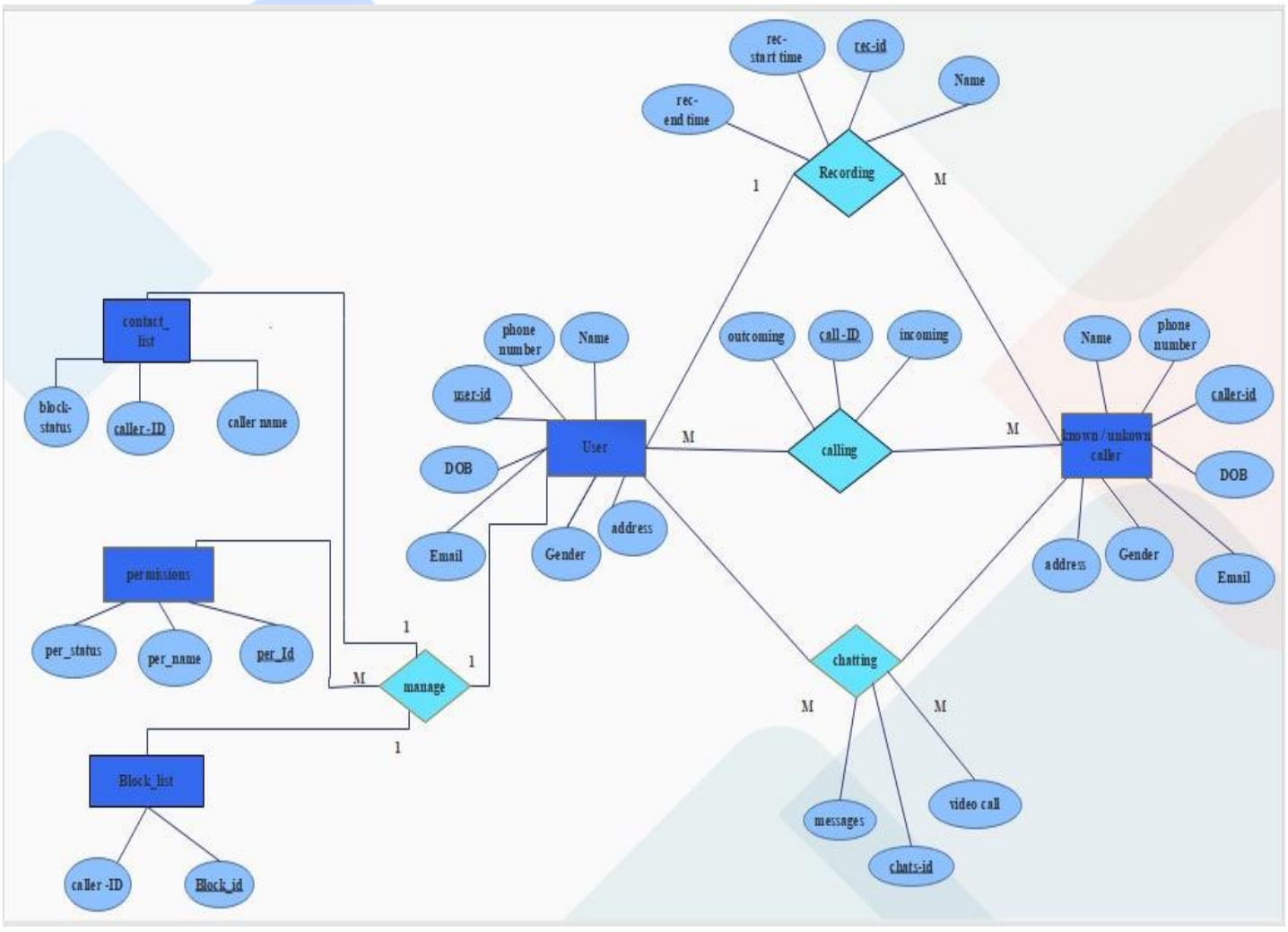


4.5) Chat & Voice by using internet

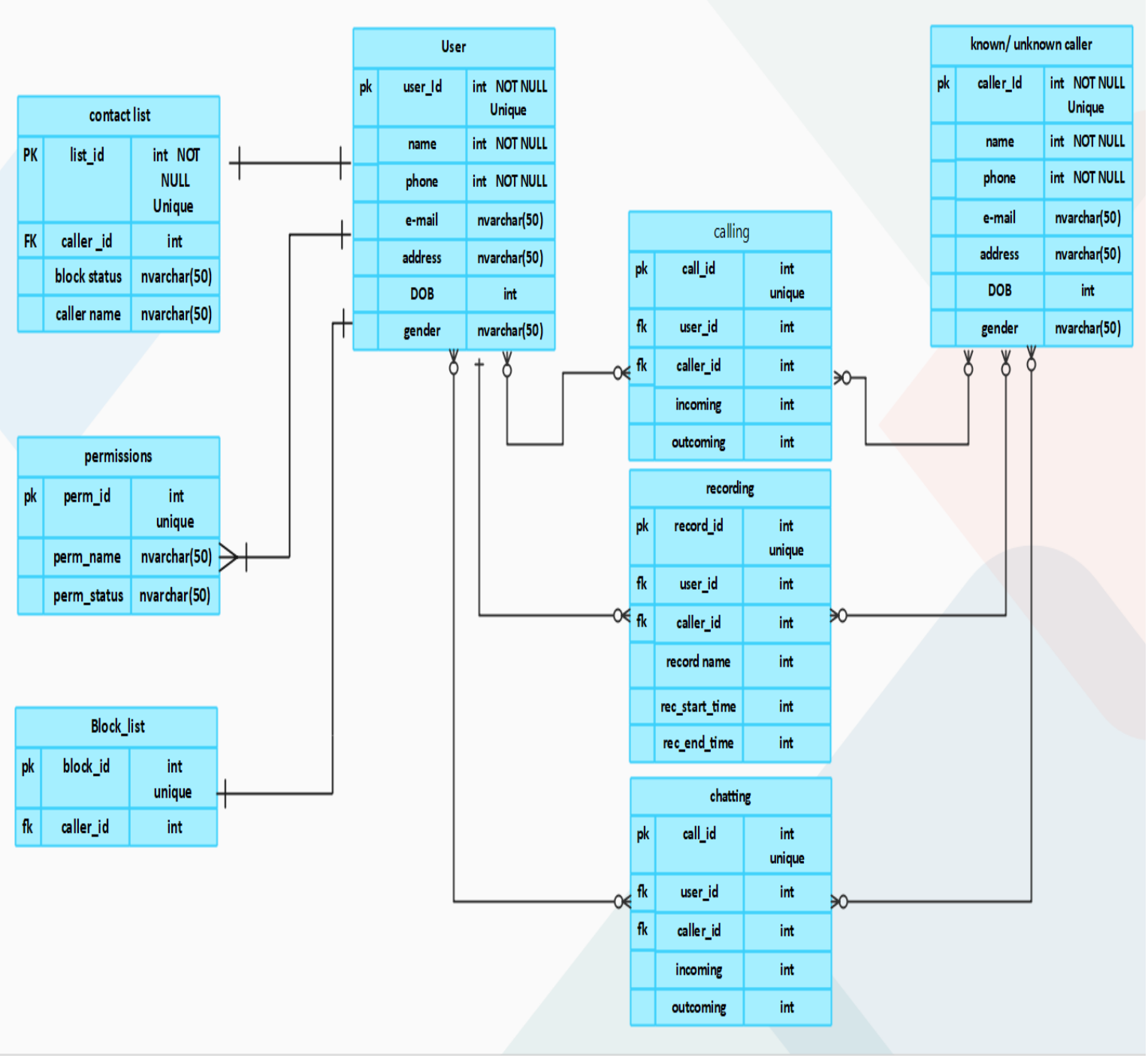


5) Data Base

5.1 ER Diagram

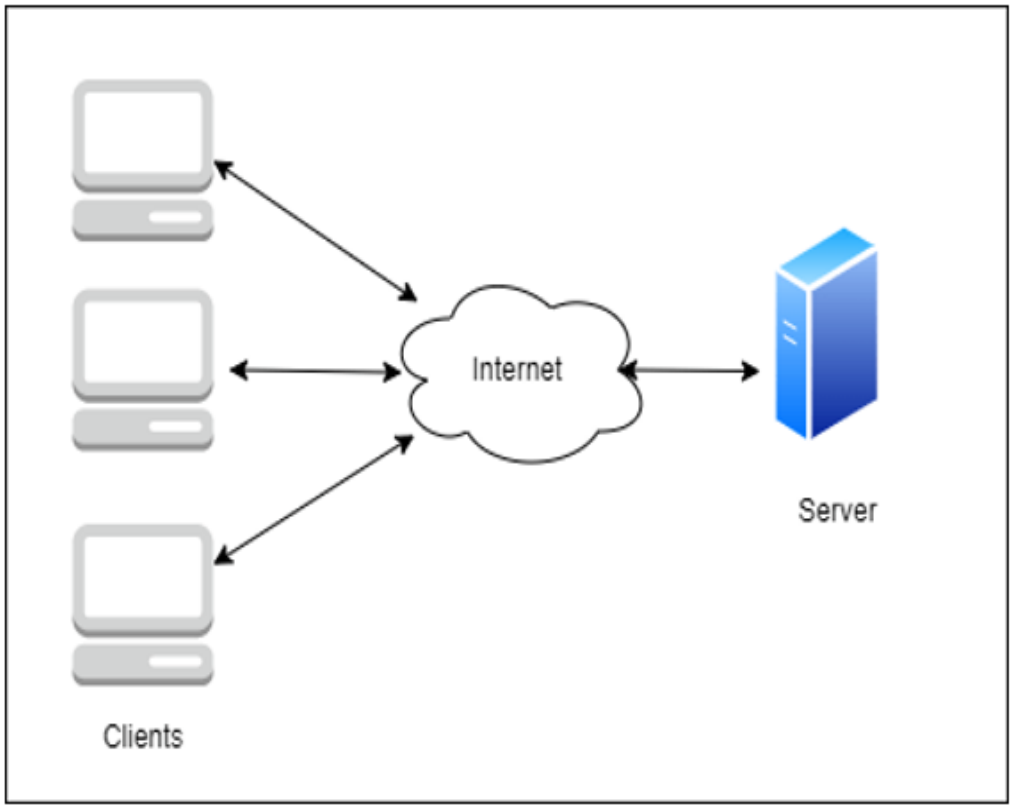


5.2 ER Diagram tables



6) System architecture

System architecture:

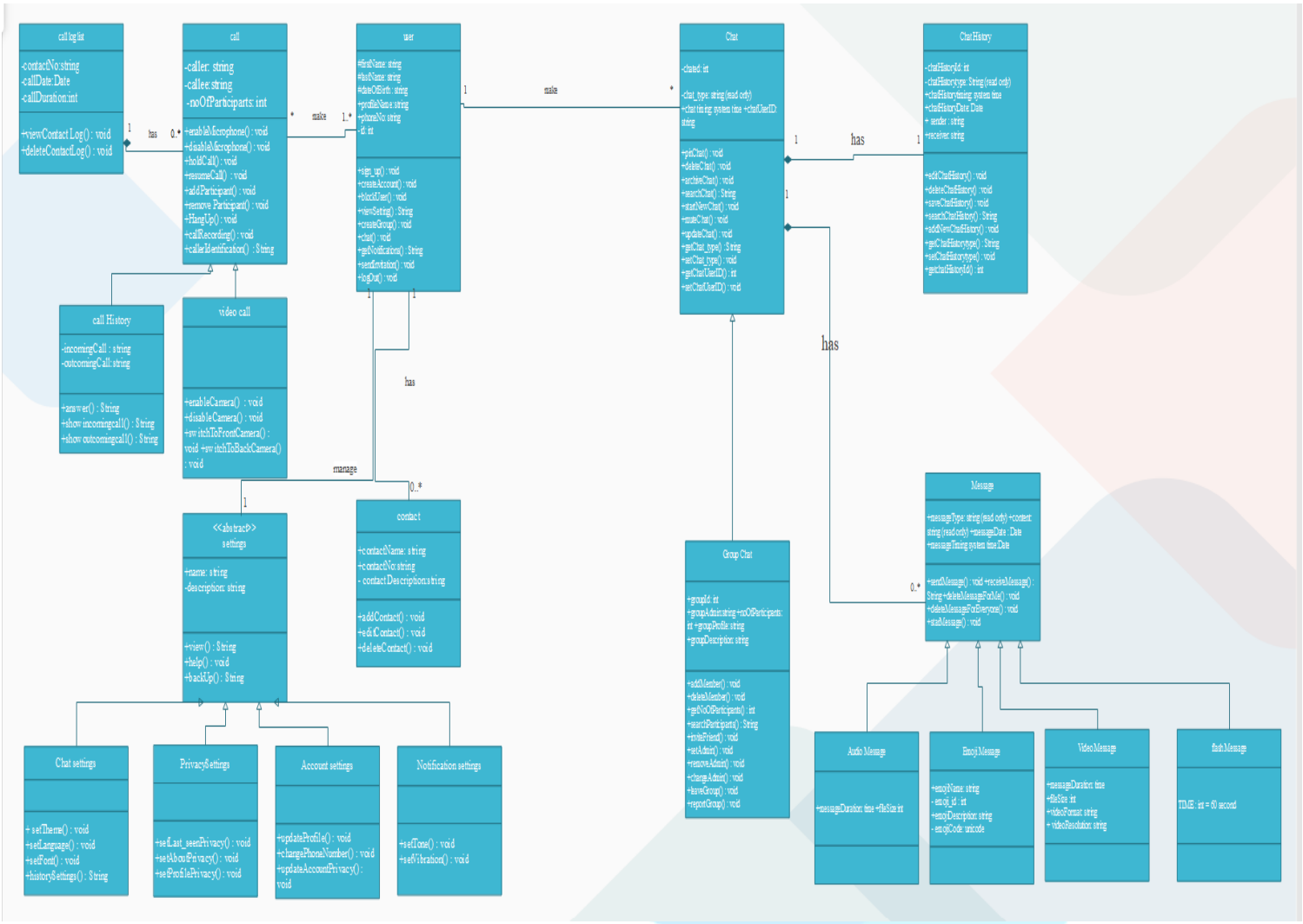


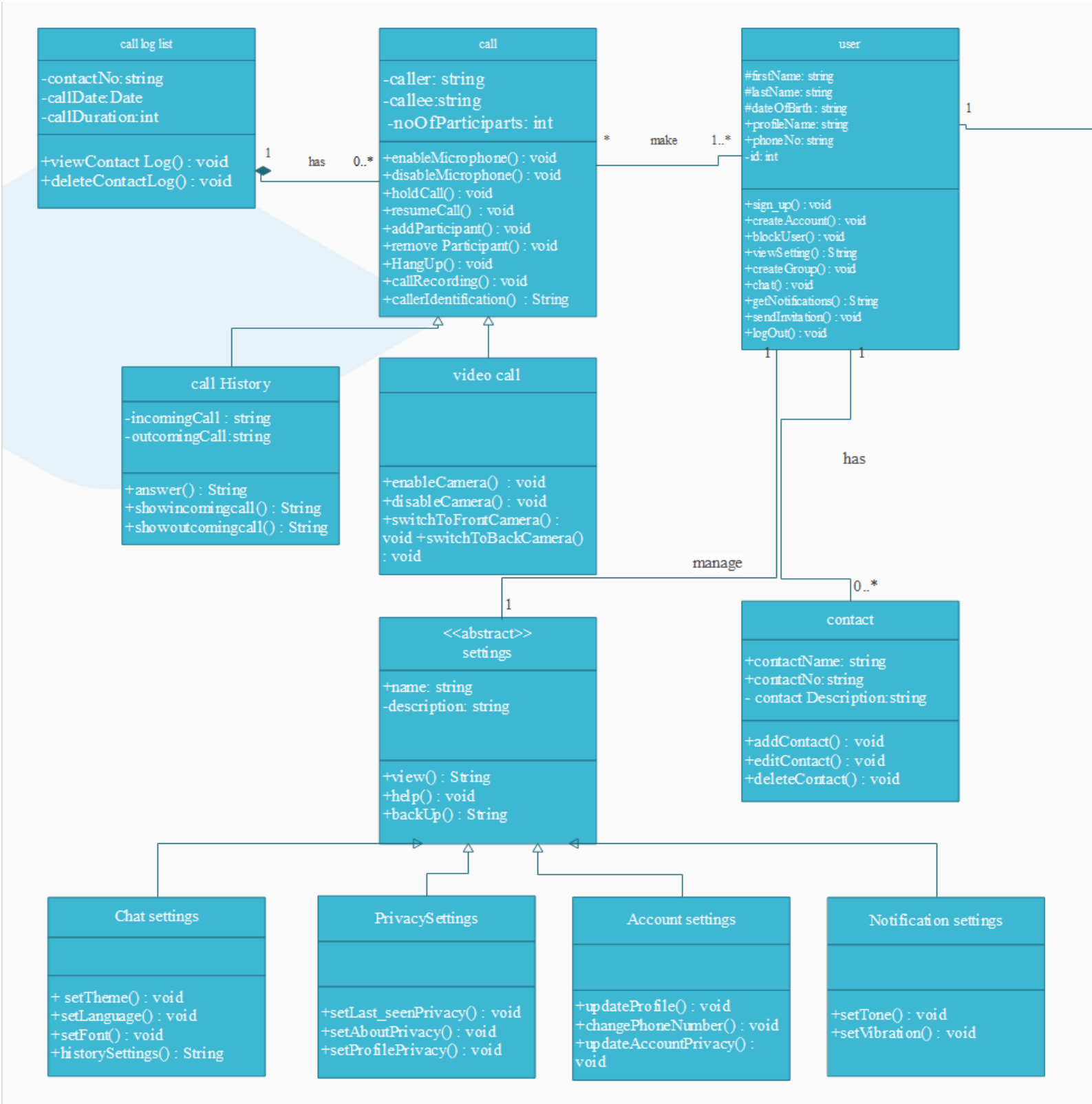
- One component (the Server) provides a service to the other components (the Clients).
- A server waits for requests from clients, processes them when received, and returns a response to the client.

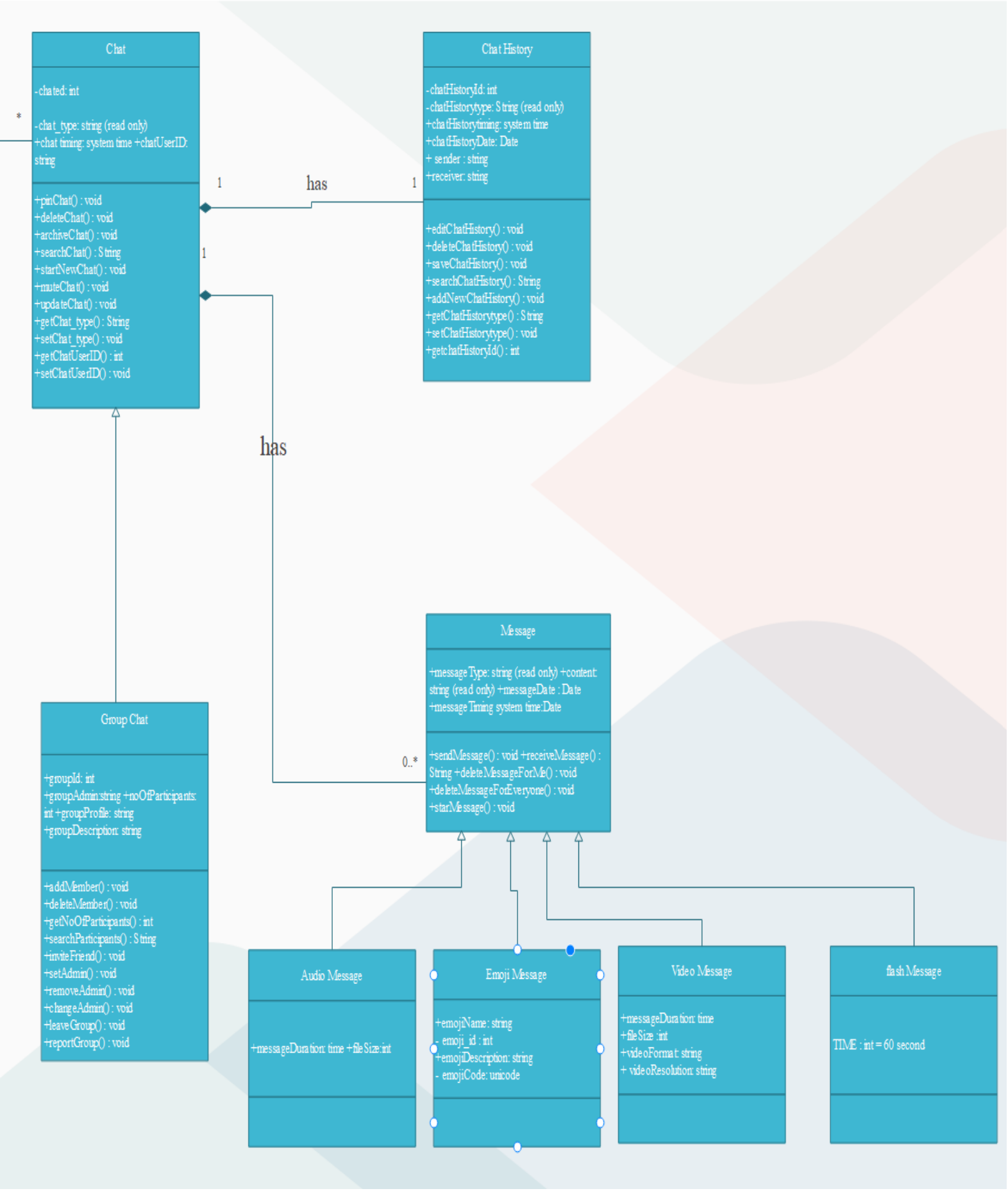
Example: True Caller is the server and the user is the client .

The user sends a request to the server and responds to the user.

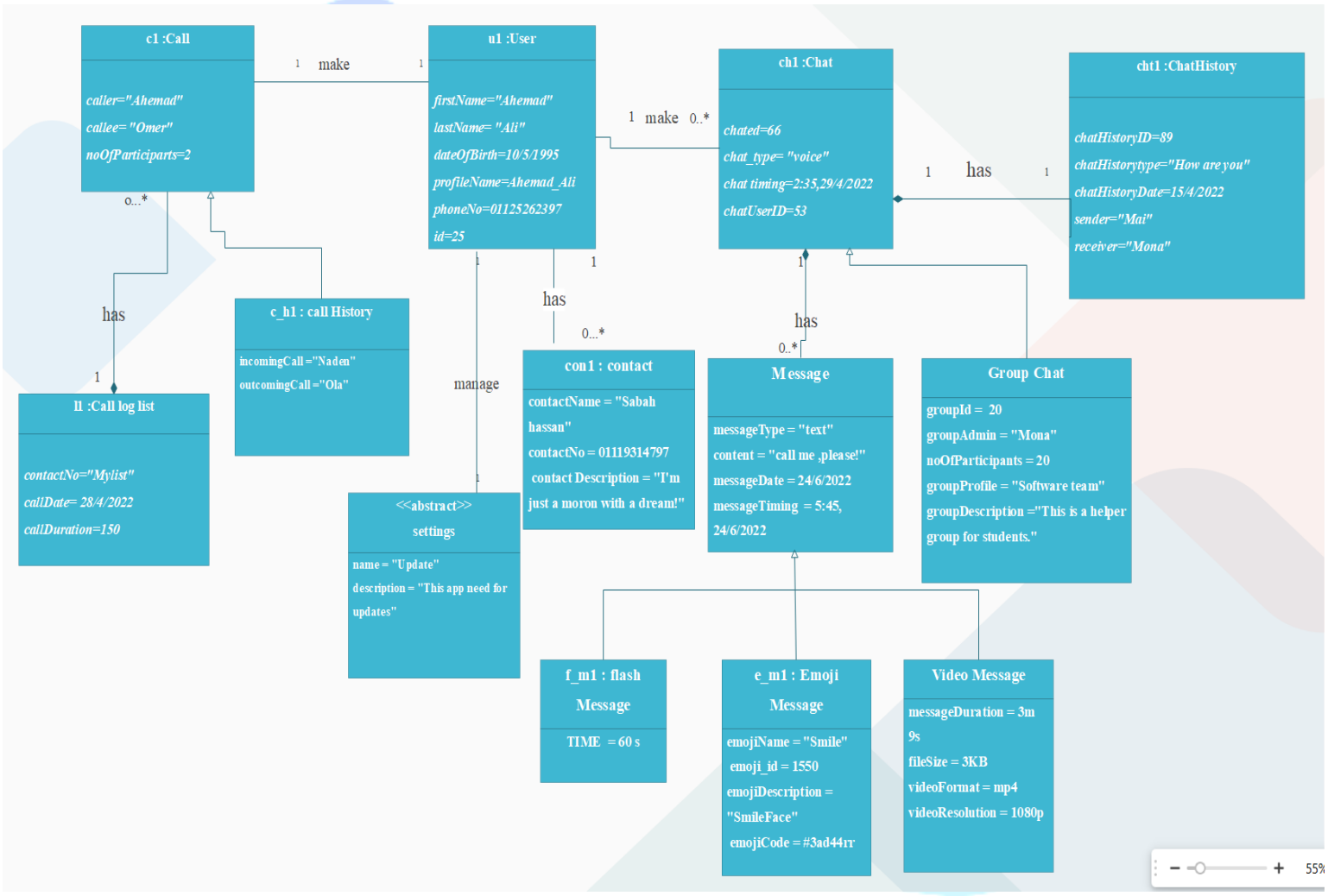
7) Class diagram



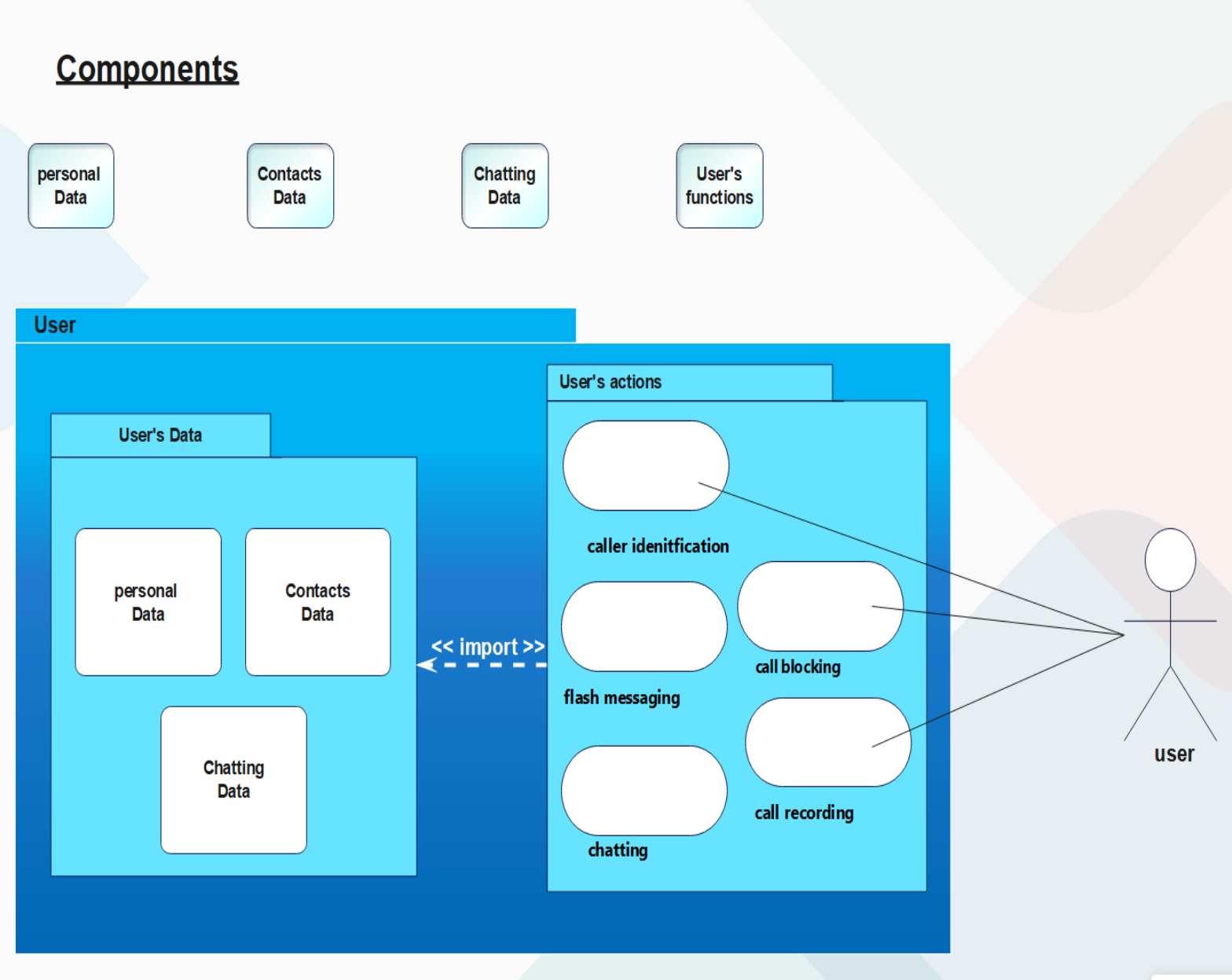

call log list
-contactNo:string
-callDate:Date
-callDuration:int
+viewContact Log() : void
+deleteContactLog() : void
1
has
0..*
call
-caller: string
-callee:string
-noOfParticiparts: int
+enableMicrophone() : void
+disableMicrophone() : void
+holdCall() : void
+resumeCall() : void
+addParticipant() : void
+remove Participant() : void
+HangUp() : void
+callRecording() : void
+callerIdentification() : String
*
make
1..*
user
#firstName: string
#lastName: string
#dateOfBirth : string
+profileName: string
+phoneNo: string
-id: int
+sign_up() : void
+createAccount() : void
+blockUser() : void
+viewSetting() : String
+createGroup() : void
+chat() : void
+getNotifications() : String
+sendInvitation() : void
+logOut() : void
1
1
1
call History
-incomingCall : string
-outcomingCall:string
+answer() : String
+showincomingcall() : String
+showoutcomingcall() : String
video call
+enableCamera() : void
+disableCamera() : void
+switchToFrontCamera() : void +switchToBackCamera() : void
has
manage
1
0..*
<<abstract>>
settings
+name: string
-description: string
+view() : String
+help() : void
+backUp() : String
contact
+contactName: string
+contactNo: string
- contact Description:string
+addContact() : void
+editContact() : void
+deleteContact() : void
Chat settings
+ setTheme() : void
+setLanguage() : void
+setFont() : void
+historySettings() : String
PrivacySettings
+setLast_seenPrivacy() : void
+setAboutPrivacy() : void
+setProfilePrivacy() : void
Account settings
+updateProfile() : void
+changePhoneNumber() : void
+updateAccountPrivacy() : void
Notification settings
+setTone() : void
+setVibration() : void


Chat
-chated: int
-chat_type: string (read only)
+chat timing: system time +chatUserID: string
+pinChat() : void
+deleteChat() : void
+archiveChat() : void
+searchChat() : String
+startNewChat() : void
+muteChat() : void
+updateChat() : void
+getChat_type() : String
+setChat_type() : void
+getChatUserID() : int
+setChatUserID() : void
Chat History
-chatHistoryId: int
-chatHistorytype: String (read only)
+chatHistorytiming: system time
+chatHistoryDate: Date
+ sender : string
+receiver: string
+editChatHistory() : void
+deleteChatHistory() : void
+saveChatHistory() : void
+searchChatHistory() : String
+addNewChatHistory() : void
+getChatHistorytype() : String
+setChatHistorytype() : void
+getchatHistoryId() : int
1
has
1
1
has
Message
+messageType: string (read only) +content: string (read only) +messageDate : Date
+messageTiming system time:Date
+sendMessage() : void +receiveMessage() : String +deleteMessageForMe() : void
+deleteMessageForEveryone() : void
+starMessage() : void
0..*
Group Chat
+groupId: int
+groupAdmin:string +noOfParticipants: int +groupProfile: string
+groupDescription: string
+addMember() : void
+deleteMember() : void
+getNoOfParticipants() : int
+searchParticipants() : String
+inviteFriend() : void
+setAdmin() : void
+removeAdmin() : void
+changeAdmin() : void
+leaveGroup() : void
+reportGroup() : void
Audio Message
+messageDuration: time +fileSize:int
Emoji Message
+emojiName: string
- emoji_id : int
+emojiDescription: string
- emojiCode: unicode
Video Message
+messageDuration: time
+fileSize :int
+videoFormat: string
+ videoResolution: string
flash Message
TIME : int = 60 second

8) object diagram

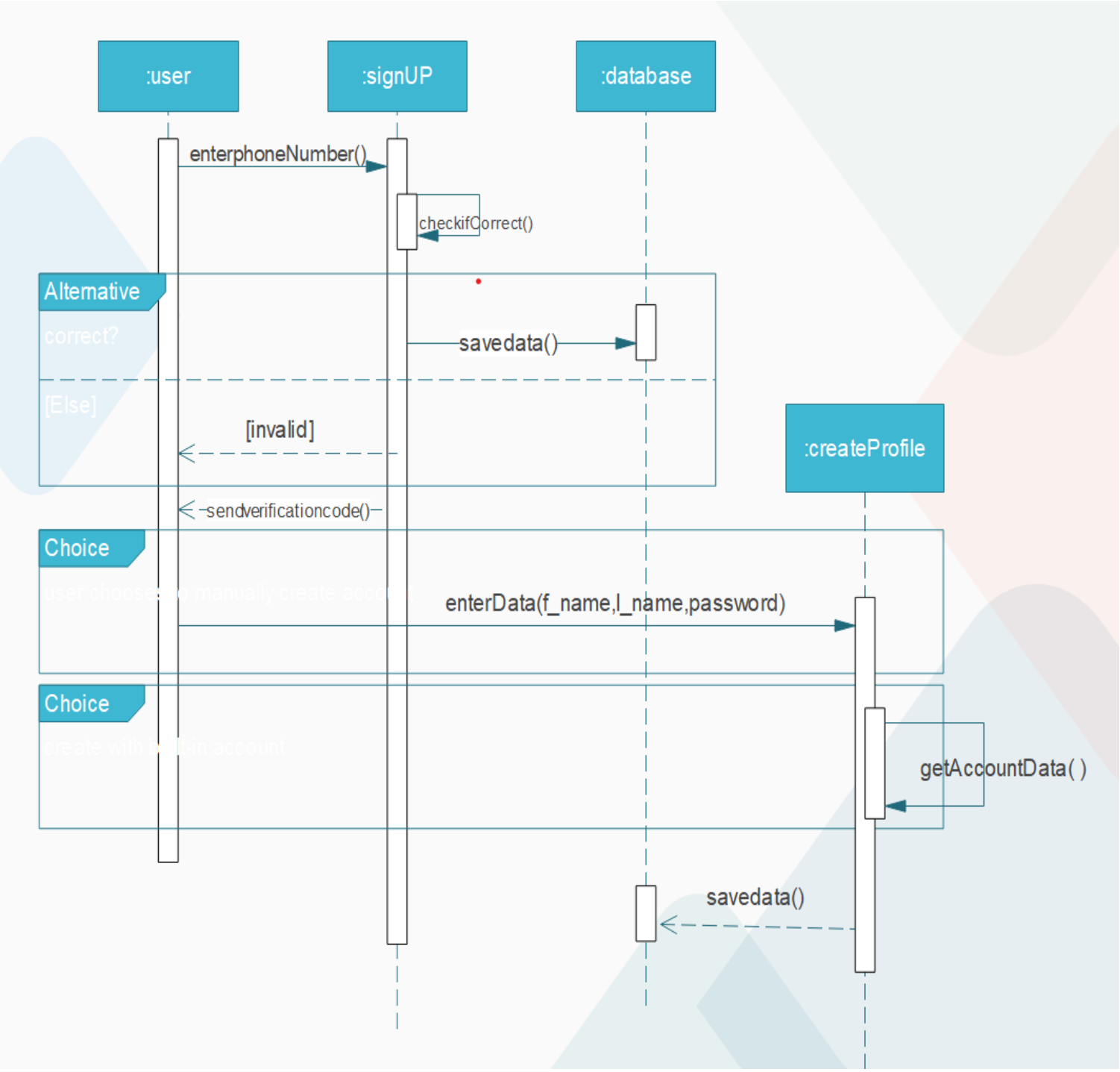


9) Package diagram

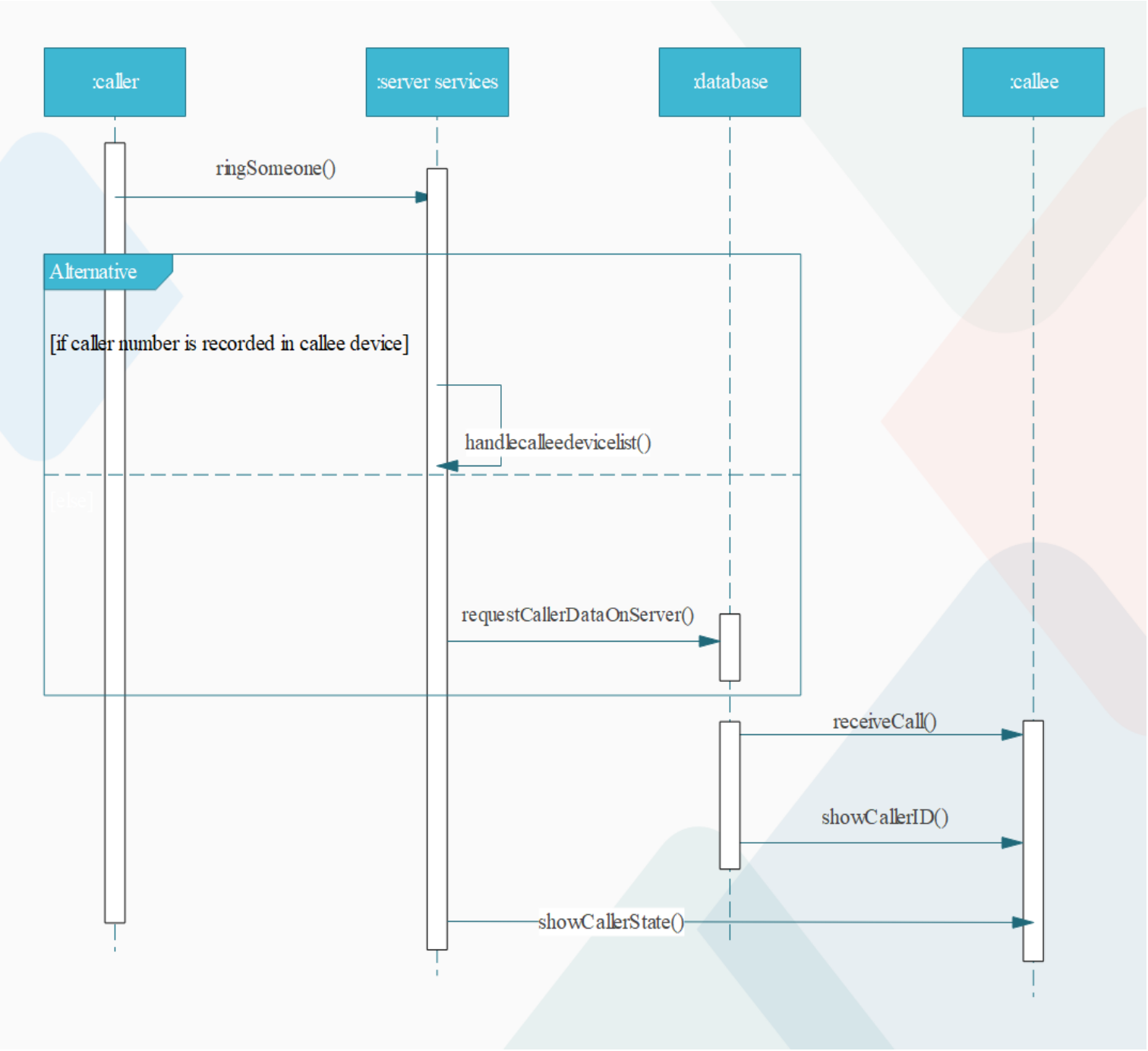


10) Sequence diagram

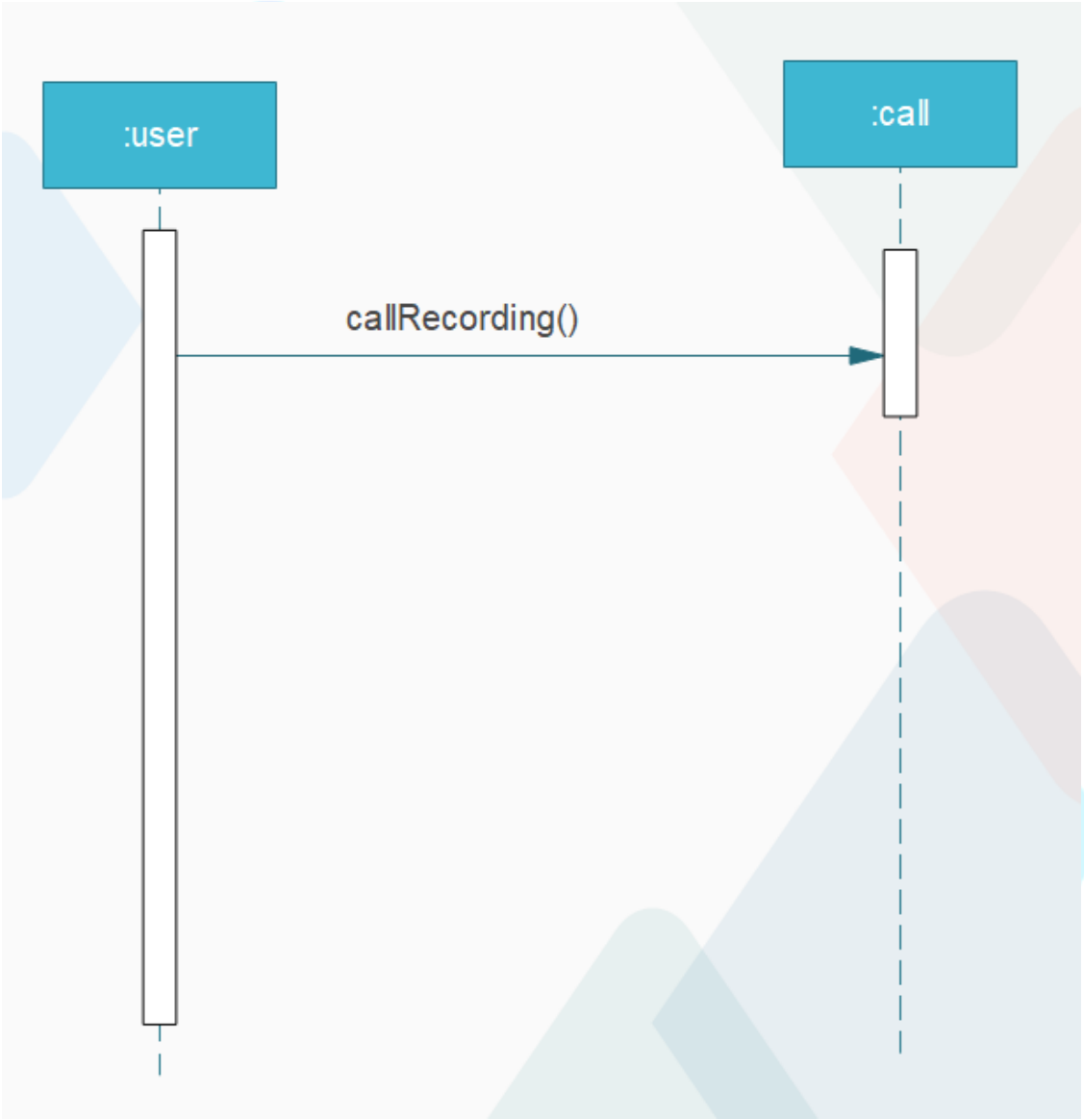
10.1) sign up



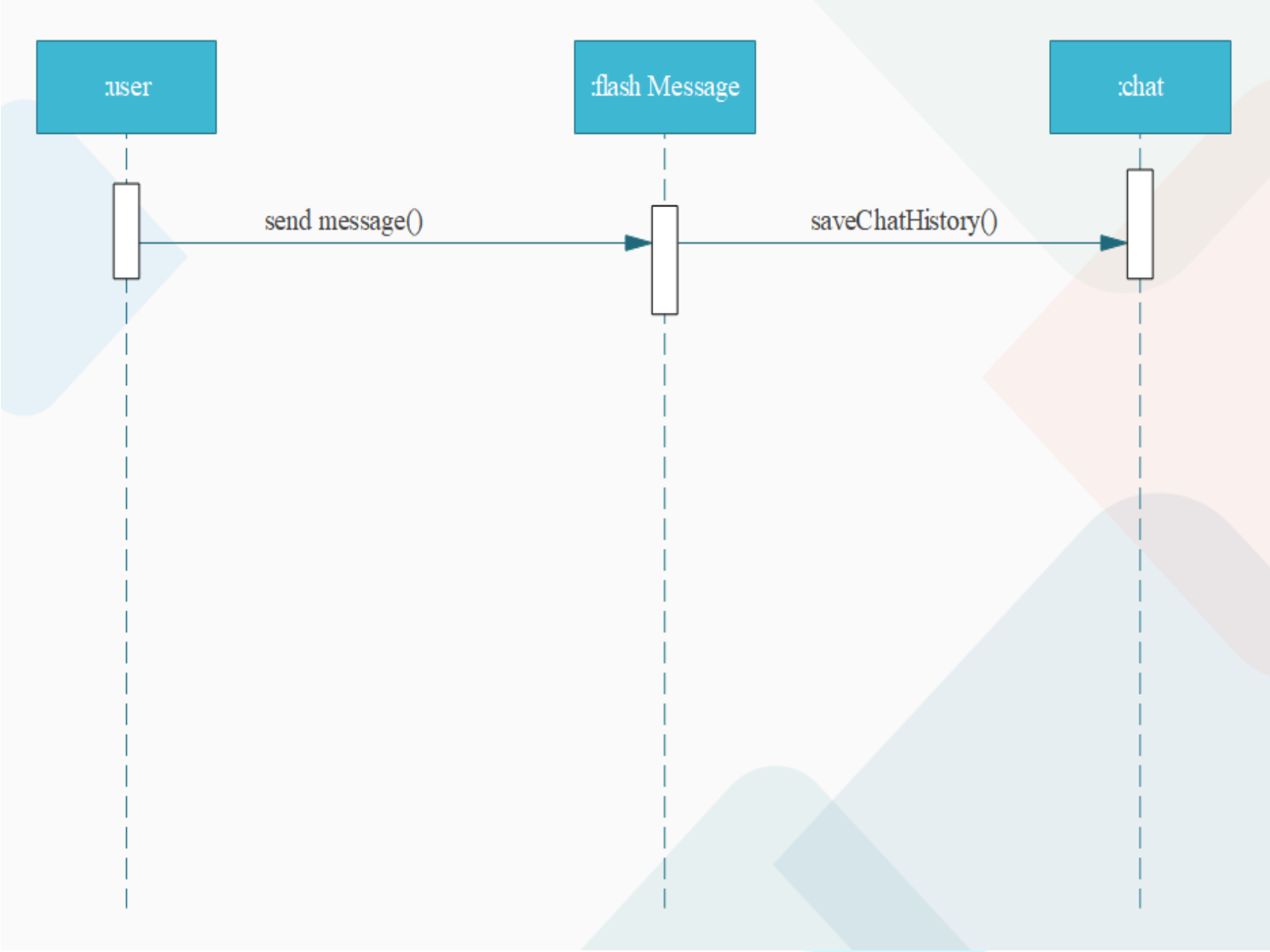
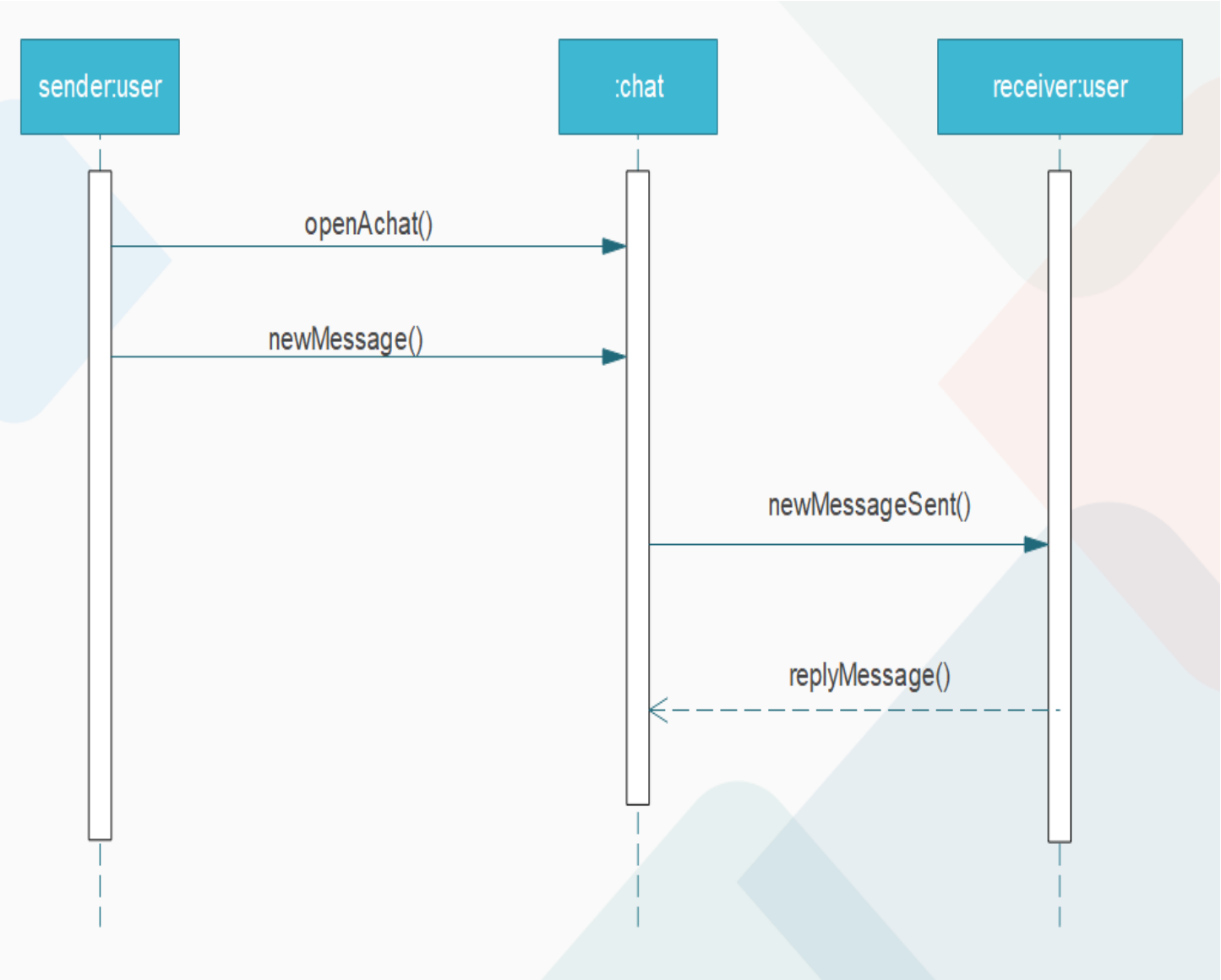
10.2) Caller identification



10.3) Call recording



10.4) Call recording



10.5) Call recording