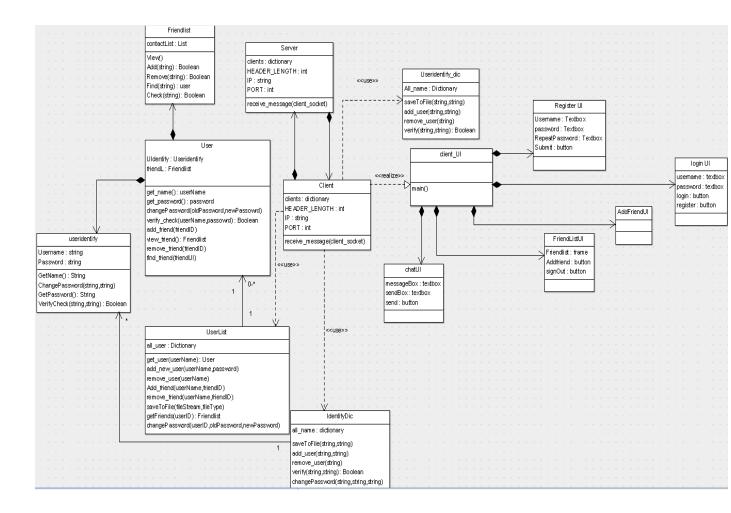
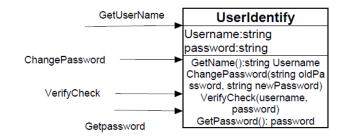
1. Classes diagram:



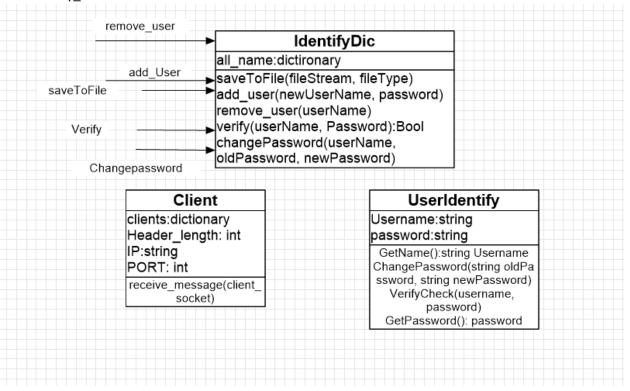
2. UserIdentify:



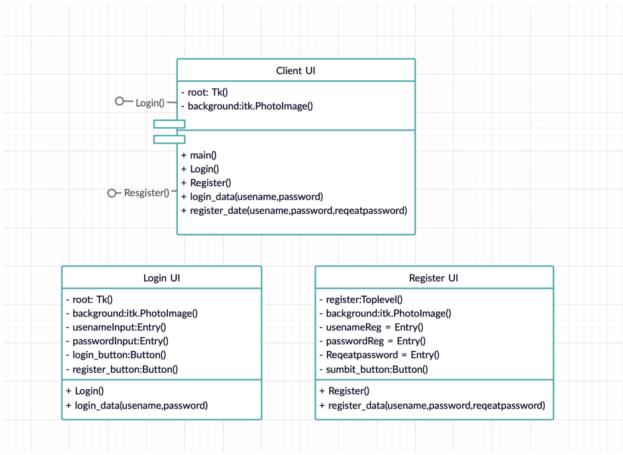
User Uldentify: Useridentify friendL: FirendList Get_Name():userName get_password():Password changePassword(oldPassword, newPassowrd) verify_check(userName, Password):Bool add_friend(userName) remove_friend(userName) view_friend():friendList find_friend(userName)

IdentifyDic all_name:dictironary saveToFile(fileStream, fileType) add_user(newUserName, password) remove_user(userName) verify(userName, Password):Bool changePassword(userName, oldPassword, newPassword)

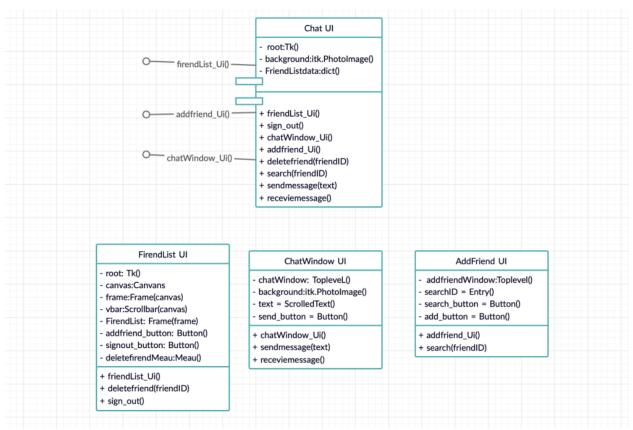
UserIdentify Dic:



Login UI:



ChatUI:



User:

User

get_name()	User
get_password()	- username : null
change_password()	- password : null
vertify check()	
	+ get_name() + get_password()
add_friend(name)	+ change_password() + vertify_check()
view_friend()	+ add_friend(name)
remove_friend(name)	+ view_friend() + remove_friend(name)
find_friend(name)	+ find_friend(name)

	UserIdentify
	- username ; null
	- password : null
	+ Getname()
+ Ch	angePassword(oldpassword, newpassword)
	+ GetPassword()
	+ VertifyCheck(username, password)

Friendlist	
- ContactList = []	
+ View() + Add(name) + Remove(name) + Find(name)	

Userlist	
- all_user = {}	
+ get_user(username)	
+ add_new_user(username,password)	
+ remove_user(username)	
+ Add_friend(username,friendname)	
+ remove_friend(username,friendname)	
+ saveToFile(fileStream,filetype)	
+ getFriend(username)	
+ get_single_friend(username,friendname)	
+ changePassword(username,oldpassword,newpassword)	

UserList:

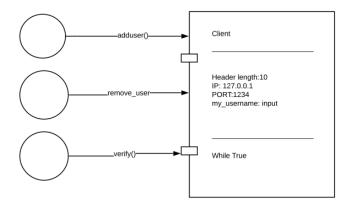
Userlist

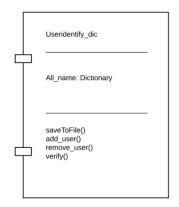
■ get_user()	Userlist
add_new_user() remove_user()	- all_user = {}
■ saveToFile()	+ get_user(username) + add_new_user(username,password) + remove_user(username)
◀ getFriend()	+ Add_friend(username,friendname) + remove_friend(username,friendname)
■ get_single_friend()	+ saveToFile(fileStream,filetype) + getFriend(username)
changePassword()	+ get_single_friend(username,friendname) + changePassword(username,oldpassword,newpassword)

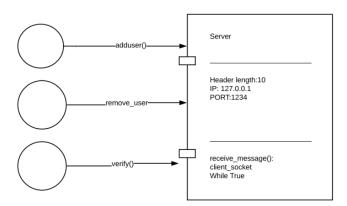
- username : null - password : null + get_name() + get_password() + change_password() + vertify_check() + add_friend(name) + view_friend() + remove_friend(name) + find_friend(name)



Server & Client:







Friendlist:

