

**BLM 2541**

**Programming Languages**

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**SEMESTER PROJECT**

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## Nature of My Program

I wanted to create a program which is user friendly, easy to understand and easy to chat. My program checks messages every moment by itself. User can add/delete contacts , send/receive messages. All of the steps can be seen on the server screen. (I made a spy server screen, I can see everyone's passwords, ID's, phone numbers, names, messages etc. I've created a user named "Admin" but there is nothing special for admin. Maybe I'll add some features to it.)

To put it in a nutshell you can add and chat with other people, you can delete contacts, you can see messages in time order. Also chatting screen looks like whatsapp. You can send and receive messages at the same time. If another person sends you a message program makes a sound to notice you.

## Functions Used In My Program

```
setlocale(LC_ALL,"Turkish");
```

*Sets programs language to Turkish.*

```
SetConsoleTitle("c-Posta v1.0 (Hazirlayan Bilal Guvenc)");
```

*Sets console name with string.*

```
KonsolBoyutu( int width , length 50 );
```

*Sets console width and length with parameters.*

```
GolgeCiz( int x , int y , int width , int length );
```

*Draws shadow under my boxes. (Actually it prints space ( ) nothing special.)*

```
KutuCiz( int x , int y , int width , int length );
```

*Draws box to the screen. Color must be set before function.*

```
strcmp( s1 , s2 );
```

*Compares two strings.*

```
strcpy( s1 , s2 );
```

*Copys string to another.*

```
FD_ZERO( &readfds );
```

*Sets socket fd set's to zero.*

```
FD_SET( socket , &readfds );
```

*Adds socket's to fd set.*

```
FD_ISSET( socket , &readfds); returns TRUE or FALSE
```

*If socket's FD is set it returns TRUE. With this I can get to other step if there aren't any messages.*

```
send( socket , "MESSAGE" , sizeof("MESSAGE") , 0 );
```

*Sends "MESSAGE" to socket.*

recv( socket , STRING , sizeof(STRING) , 0 );

*Receives STRING form socket.*

TarihBul(); **returns TARIH**

*Finds current date and time and returns as a struct that I've created.*

TarihKarsilastir(TARIH t1, TARIH t2); returns char '<' or '>' or '='

*Compares two different date structures that I've created and returns '<', '>' or '='.*

\_kbhit(); **returns TRUE or FALSE**

*If there is keyboard hit it returns TRUE, if not returns FALSE. With this function I can type/send messages and receive messages from server at the same time.*

\_getch();

*This function helps me to get 2 byte length of keys. For example arrow keys are two byte length.*

TusOku( char \*ch ); **returns int**

*I've created this function to detect two byte keys and gave them numbers to find which one is it.*

WSAGetLastError(); **returns int (ERROR CODE)**

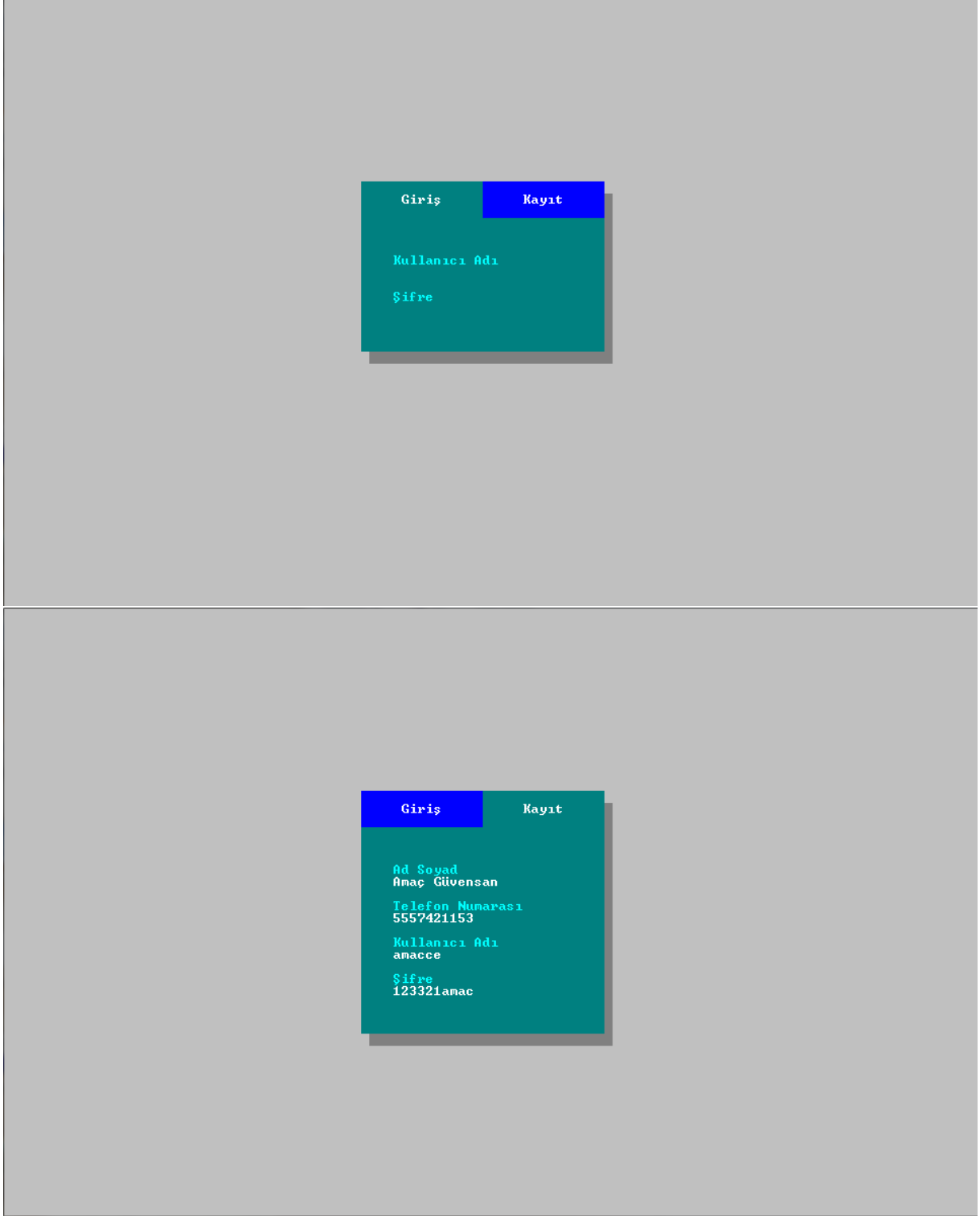
*This function returns WSA's last error.*

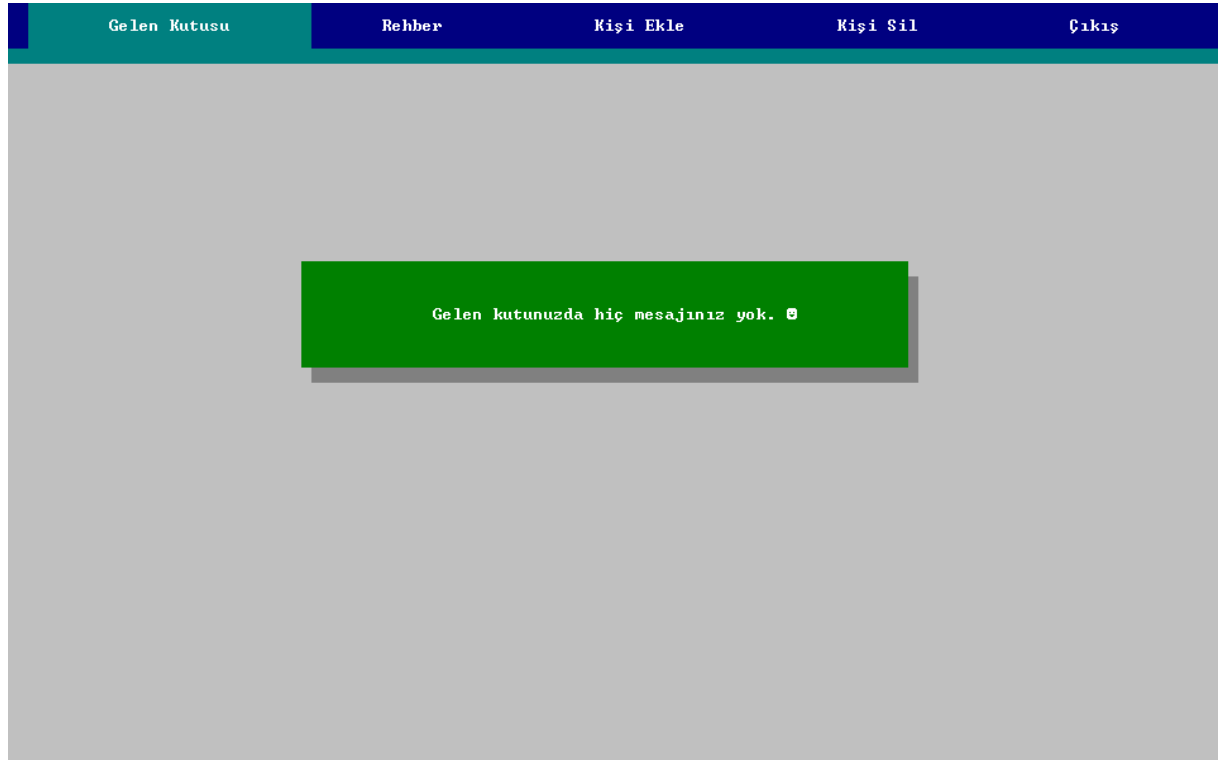
*And other basic functions such as printf(), scanf(), getch(), for(), if(), while() etc.*

## **Strengths and Limitations of My Program**

There are too many bugs. If a client doesn't sends a message that it should send, my server waits it to send it. If someone wants to crash my program he can do it easily. I didn't make too many prevention to unexpected situations. My server has a limited user space. I could've created it as a reallocable but there were some other problems took my time so it's now stable. To set received messages in time order I've used pointer array which are set to every user and then I've used nested arrays to set them new to old. I've created structures for messages(stores source, date and message), contacts(stores contact name, phone number, total messages, new messages, all of the messages), users(stores ID, password, phone number, name), tarih(stores year, month, day, hour, minute, second) and similar structures like those.

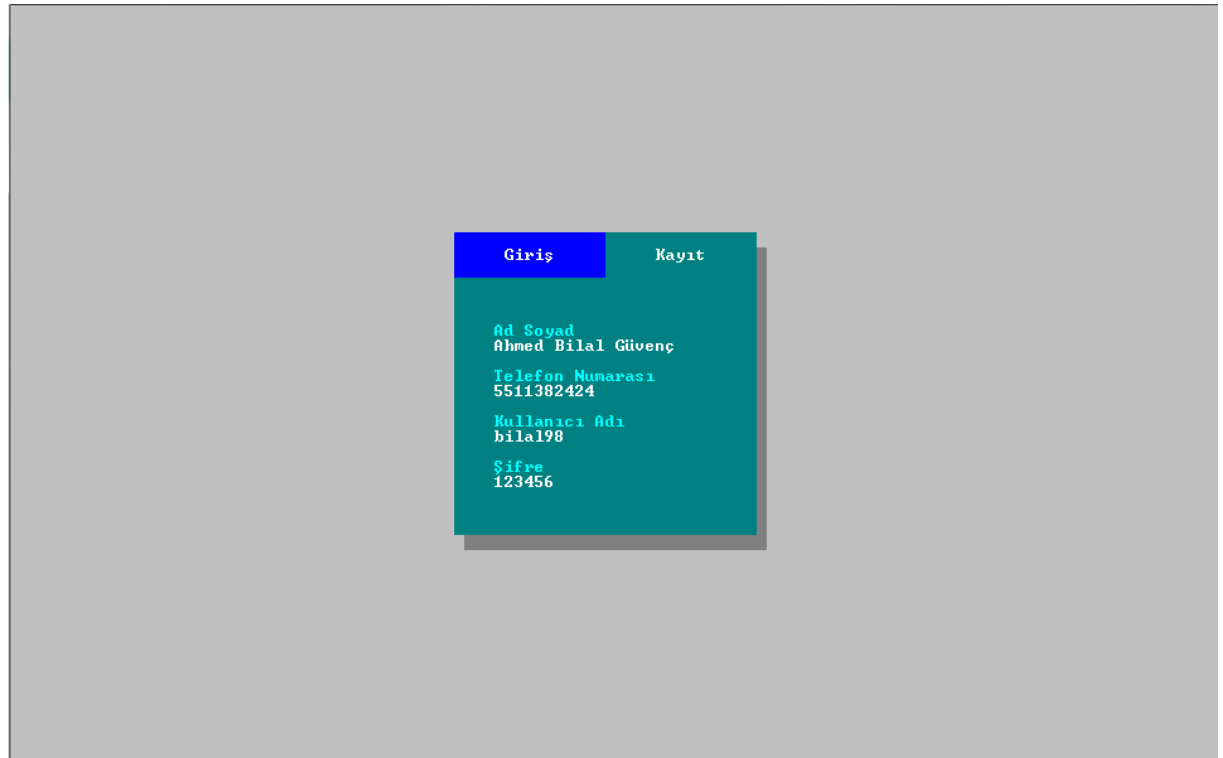
## Screen Shots





Winsock yüklendi. Socket oluşturuldu. Bağlantı kuruldu.  
Eşler bekleniyor...

**Bağla** 127.0.0.1:49344 136 <kanal 0>  
**Kayıt** Amaç Güvensan <5557421153> - KA: amacce Şf: 123321amac  
**Giriş** 127.0.0.1:49344 136 - Amaç Güvensan <5557421153> giriş yaptı.



Gelen Kutusu	Rehber	Kiři Ekle	Kiři Sil	Çıkış
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Telefon Numarası  
5557421153

Gelen Kutusu	Rehber	Kiři Ekle	Kiři Sil	Çıkış
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Kiři Adı  
Amaç Hoca

Gelen Kutusu	Rehber	Kişi Ekle	Kişi Sil	Çıkış
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Kişi Başarıyla Eklendi  
Tamam

Giriş

Kayıt

Girdiğiniz kullanıcı adı kullanılmaktadır.  
Geri

Şifre

123123

Gelen Kutusu	Rehber	Kişi Ekle	Kişi Sil	Çıkış
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Kişi İsmi	Telefon No
Amaç Hoca	<5557421153>
Ömer Birisi	<5554443322>

Amaç Hoca <5557421153>

ESC ←

Merhaba hocam ödev teslimi ne zamandı?  
10.42

Gönder



Gelen Kutusu	Rehber	Kişi Ekle	Kişi Sil	Çıkış
<div>Ahmed Bilal Güvenç &lt;5511382424&gt; 10.42 1</div>				
Ahmed Bilal Güvenç <5511382424>				ESC ←
<div>Merhaba hocam ödev teslimi ne zamandı? 10.42</div> <div>Ödev teslimi 8 ocak günü 10.43</div>				
				Gönder

```
Winsock yüklendi. Soket oluşturuldu. Bağlantı kuruldu.
Eşler bekleniyor...

Bağla 127.0.0.1:49344 136 (kanal 0)
Kayıt Amaç Güvensan (5557421153) - KA: amacce $f: 123321amac
Giriş 127.0.0.1:49344 136 - Amaç Güvensan (5557421153) giriş yaptı.
Bağla 127.0.0.1:49345 144 (kanal 1)
Kayıt Ahmed Bilal Güvenç (5511382424) - KA: bilal98 $f: 123456
Giriş 127.0.0.1:49345 144 - Ahmed Bilal Güvenç (5511382424) giriş yaptı.
Kişi Ekle Ahmed Bilal Güvenç (5511382424), Amaç Güvensan (5557421153) kişisini e
kledi.
Bağla 127.0.0.1:49346 148 (kanal 2)
Hatalı Kayıt 127.0.0.1:49346 148 - K. Adı (bilal98) zaten kayıtlı.
Kayıt Ömer Birisi (5554443322) - KA: omeromer $f: 123123
Giriş 127.0.0.1:49346 148 - Ömer Birisi (5554443322) giriş yaptı.
Kişi Ekle Ahmed Bilal Güvenç (5511382424), Ömer Birisi (5554443322) kişisini ekl
edi.
Mesaj Ahmed Bilal Güvenç (5511382424) -> Amaç Hoca (5557421153)
Merhaba hocam ödev teslimi ne zamandı?
Mesaj İletildi Ahmed Bilal Güvenç (5511382424) -> Amaç Güvensan (5557421153)
Mesaj Amaç Güvensan (5557421153) -> Ahmed Bilal Güvenç (5511382424)
Ödev teslimi 8 ocak günü
Mesaj İletildi Amaç Güvensan (5557421153) -> Ahmed Bilal Güvenç (5511382424)
Çıkış 127.0.0.1:49344 136 - Amaç Güvensan (5557421153) ayrıldı.
Çıkış 127.0.0.1:49346 148 - Ömer Birisi (5554443322) ayrıldı.
Çıkış 127.0.0.1:49345 144 - Ahmed Bilal Güvenç (5511382424) ayrıldı.
```

## Sources

<https://stackoverflow.com/questions/9203362/c-color-text-in-terminal-applications-in-windows>

<https://www.udemy.com/learn-socket-programming-in-c-from-scratch/>

<http://www.binarytides.com/code-tcp-socket-server-winsock/>

<https://gist.github.com/DnaBoss/68c0f663132792c2176d>

These are which I found links. There were other sources.

And I have asked a few things to my friend Fatih.