

CENG3004: Software Engineering

## ONLINE CONSULTING PLATFORM

Software Requirements Specification Document

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## 1 Overview

Everyone's psychology has been affected by the bad developments in the world and in our country (especially the corona virus) Every person may need psychological support from time to time..However it is not easy for everyone to have sessions.For example people may be too busy to go clinics.Or in some regions they may not have any clinics.

In our program people will take appointments from verified consultants and have their sessions in their home with a computer or phone. Instead of going to the counselors to meet face-to-face, they will be able to talk to them online via video or audio only.

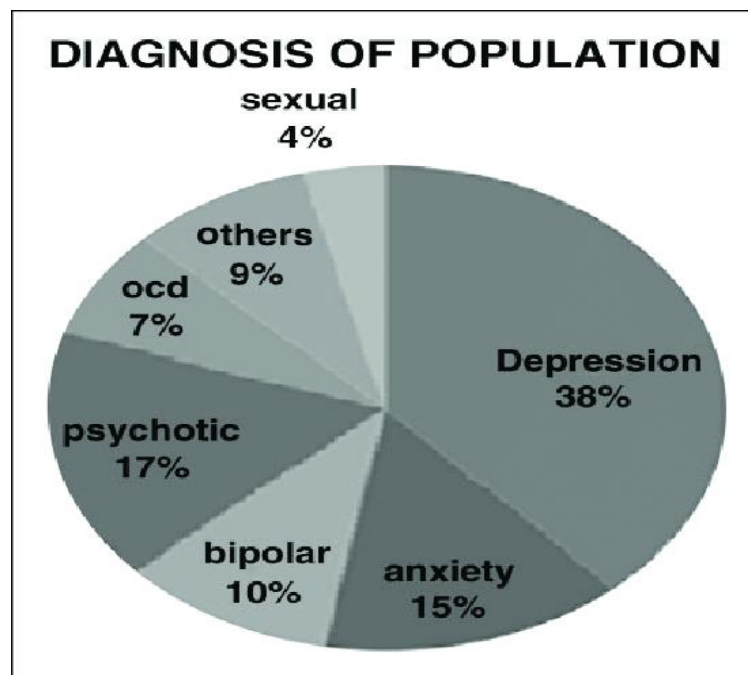


Figure 1- Pie chart showing psychiatric diagnoses of chronic patients visiting the psychiatric outpatient clinic.

In addition, some people may hesitate to go to the clinic due to environmental pressure. In Figure 1, we see the diagnoses of people who applied to the clinic. Besides, people who cannot apply due to their own hesitation have such problems.

## 2 Requirements

### 2.1 Functional Requirements

<b>Requirement Identifier</b>	<b>Source (e.g. Interview with XX on DD/MM/YYYY)</b>	<b>Priority (High/Medium/Low)</b>	<b>Description</b>
FR-1 <sup>1</sup>		HIGH	When users register to the system, they have to make e-mail and phone verification.
FR-2		HIGH	The user has to authenticate every time he/she enters the application.
FR-3		HIGH	The user and the consultant must mutually approve each other.
FR-4		MEDIUM	The user must load a minimum balance of one session into her/his account before starting the session.
FR-5		MEDIUM	The user can request additional sessions if necessary.
FR-6		MEDIUM	After the session, the user can rate the client.
FR-7		MEDIUM	In case of a possible change of consultants, the consultants have to fill in a report for the user every week.

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<sup>1</sup> Use prefix “FR-“ for functional requirement identifiers

## 2.2 Nonfunctional Requirements

Requirement Identifier	Source (e.g. Interview with XX on DD/MM/YYYY)	Priority (High/Medium/Low)	Description
NR-1		HIGH	A minimum internet speed of 10 mbps is required for a session to be made.
NR-2		MEDIUM	User can log in to the system with a Google account.
NR-3		MEDIUM	An SMS message is sent 24 hours in advance to remind the user of the appointment.
NR-4		MEDIUM	The user can cancel her/his appointment 72 hours in advance.
NR-5		HIGH	The System will be able to serve for 1000 user initially at the same time.
NR-6		HIGH	Sessions are private to the user and counselor and cannot be accessed by other people.

### 3 Actors and Roles

List of actors to be mentioned in use cases. Who interacts with the system?

Clients are users can take appointments from consultants.

Consultants are users who have studied psychology and look after patients make an appointment with the system.

Supervisors are people in charge of adding or removing consultants from the system. They control consultants according to comments of clients.

## 4 Use Cases

Example (use as many as you want). If needed you can provide a use scenario for use cases in the appendix.

<b>Use Case Identifier</b>	UC-1
<b>Use Case Name</b>	Login
<b>Participating Actors</b>	Client/Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"><li>• Actors open the web-site.</li><li>• Actors enter the email and password.</li><li>• Actors log into the web-site.</li></ul>
<b>Entry condition</b>	Actors must be connected to internet.
<b>Exit conditions</b>	Access to the system is provided.
<b>Related non-functional requirements</b>	NR2-User can log in to the system with a Google account.

<b>Use Case Identifier</b>	UC-2
<b>Use Case Name</b>	Consultant Filtering
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"><li>• Clients lists the consultants according to own needs.</li></ul>
<b>Entry condition</b>	Client must be logged in web-site.
<b>Exit conditions</b>	Clients see consultants that they filter according to their needs.
<b>Related non-functional requirements</b>	

<b>Use Case Identifier</b>	UC-3
<b>Use Case Name</b>	View Consultant
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• The user comes to the home screen.</li> <li>• Displays all consultants.</li> </ul>
<b>Entry condition</b>	Client must be logged in web-site.
<b>Exit conditions</b>	Client sees all consultants.
<b>Related non-functional requirements</b>	

<b>Use Case Identifier</b>	UC-4
<b>Use Case Name</b>	Select a Consultant
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• The client goes to the web page.</li> <li>• Displays all consultants on the main web-page.</li> <li>• Selects the appropriate consultant from the home page.</li> </ul>
<b>Entry condition</b>	Client must be logged in web-site.
<b>Exit conditions</b>	Client selects the appropriate consultant from the page it displays.
<b>Related non-functional requirements</b>	



<b>Use Case Identifier</b>	UC-5
<b>Use Case Name</b>	Log out
<b>Participating Actors</b>	Client/Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Clients or consultants press the log-out button to exit the site.</li> </ul>
<b>Entry condition</b>	Client or consultant must be logged in web-site.
<b>Exit conditions</b>	Client or consultant must be log out web-site.
<b>Related non-functional requirements</b>	

<b>Use Case Identifier</b>	UC-6
<b>Use Case Name</b>	Book An Appointment
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• The client displays the consultant's information.</li> <li>• Client chooses the appointment days and hours that are suitable for him.</li> </ul>
<b>Entry condition</b>	Displays the appropriate appointment date and time of the selected consultant.
<b>Exit conditions</b>	Time and date are determined for the appointment.
<b>Related non-functional requirements</b>	NR-4 The user can cancel her/his appointment 72 hours in advance.

<b>Use Case Identifier</b>	UC-7
<b>Use Case Name</b>	Post Reviews
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Completes the client meeting with the consultant.</li> <li>• The client gives feedback on the consultant.</li> </ul>
<b>Entry condition</b>	Client made an appointment and attended the session.
<b>Exit conditions</b>	At the end of the session, the consultant is received points by client.
<b>Related non-functional requirements</b>	NR-1 A minimum internet speed of 10 mbps is required for a session to be made. NR-6 Sessions are private to the user and counselor and cannot be accessed by other people.

<b>Use Case Identifier</b>	UC-8
<b>Use Case Name</b>	Manage Appointments
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Client displays own appointments.</li> <li>• The client updates (time and date) or cancels the inappropriate appointment.</li> </ul>
<b>Entry condition</b>	The client has made an appointment in advance.
<b>Exit conditions</b>	Managed client appointments.
<b>Related non-functional requirements</b>	NR-4 The user can cancel her/his appointment 72 hours in advance.

<b>Use Case Identifier</b>	UC-9
<b>Use Case Name</b>	View Bill
<b>Participating Actors</b>	Client
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Client pays for the session.</li> <li>• Client displays the bill in the own account.</li> </ul>
<b>Entry condition</b>	The client book an appointment.
<b>Exit conditions</b>	Client displays the bill.
<b>Related non-functional requirements</b>	

<b>Use Case Identifier</b>	UC-10
<b>Use Case Name</b>	Edit Profile
<b>Participating Actors</b>	Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Consultant logged in the site.</li> <li>• Consultant goes to her/his profile.</li> <li>• Consultant edits his specialities and languages he/she knows.</li> </ul>
<b>Entry condition</b>	Consultant must be a member of the web-site.
<b>Exit conditions</b>	Consultant edits own profile.
<b>Related non-functional requirements</b>	NR-5 The System will be able to serve for 1000 user initially at the same time. NR-2 User can log in to the system with a Google account.

<b>Use Case Identifier</b>	UC-11
<b>Use Case Name</b>	Get Payment
<b>Participating Actors</b>	Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• The consultant ends the session.</li> <li>• Consultant get payment.</li> </ul>
<b>Entry condition</b>	The consultant completes session with the client.
<b>Exit conditions</b>	The consultant displays the session fee in her account.
<b>Related non-functional requirements</b>	NR-1 A minimum internet speed of 10 mbps is required for a session to be made.

<b>Use Case Identifier</b>	UC-12
<b>Use Case Name</b>	Create Prescription
<b>Participating Actors</b>	Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• The consultant decides that the client needs medication.</li> <li>• Consultant writes a prescription to the client when consultant sees fit.</li> </ul>
<b>Entry condition</b>	Consultant makes an meeting with the client.
<b>Exit conditions</b>	Consultant writes a prescription.
<b>Related non-functional requirements</b>	NR-1 A minimum internet speed of 10 mbps is required for a session to be made. NR-6 Sessions are private to the user and counselor and cannot be accessed by other people.

<b>Use Case Identifier</b>	UC-13
<b>Use Case Name</b>	Write Consultation Report
<b>Participating Actors</b>	Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• The consultant make a session with the client.</li> <li>• The consultant prepares the consultation report.</li> </ul>
<b>Entry condition</b>	Consultant makes an meeting with the client.
<b>Exit conditions</b>	Consultant writes a consultation report.
<b>Related non-functional requirements</b>	NR-1 A minimum internet speed of 10 mbps is required for a session to be made. NR-6 Sessions are private to the user and counselor and cannot be accessed by other people.

<b>Use Case Identifier</b>	UC-14
<b>Use Case Name</b>	Join Session
<b>Participating Actors</b>	Client,Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Actors join the session in Zoom.</li> </ul>
<b>Entry condition</b>	Actor must be logged in.
<b>Exit conditions</b>	Session start with two participants.
<b>Related non-functional requirements</b>	NR-1 A minimum internet speed of 10 mbps is required for a session to be made. NR-2 User can log in to the system with a Google account. NR-6 Sessions are private to the user and counselor and cannot be accessed by other people.

<b>Use Case Identifier</b>	UC-15
<b>Use Case Name</b>	Join Session
<b>Participating Actors</b>	Client,Consultant
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>Actors join the session in Zoom.</li> </ul>
<b>Entry condition</b>	Actor must be logged in.
<b>Exit conditions</b>	Session start with two participants.
<b>Related non-functional requirements</b>	NR-1 A minimum internet speed of 10 mbps is required for a session to be made. NR-2 User can log in to the system with a Google account. NR-6 Sessions are private to the user and counselor and cannot be accessed by other people.

<b>Use Case Identifier</b>	UC-16
<b>Use Case Name</b>	Hire Consultant
<b>Participating Actors</b>	Supervisor
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>Supervisor hires people who are suitable for the consultant job.</li> </ul>
<b>Entry condition</b>	Job application must be made.
<b>Exit conditions</b>	Supervisor approves the hire and authorizes the person as a consultant.
<b>Related non-functional requirements</b>	NR-5 The System will be able to serve for 1000 user initially at the same time.

<b>Use Case Identifier</b>	UC-17
<b>Use Case Name</b>	Fire Consultant
<b>Participating Actors</b>	Supervisor
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Supervisor fires consultant if it is necessary.</li> </ul>
<b>Entry condition</b>	There must be valid reason for firing.
<b>Exit conditions</b>	Supervisor deauthorizes the consultant.
<b>Related non-functional requirements</b>	

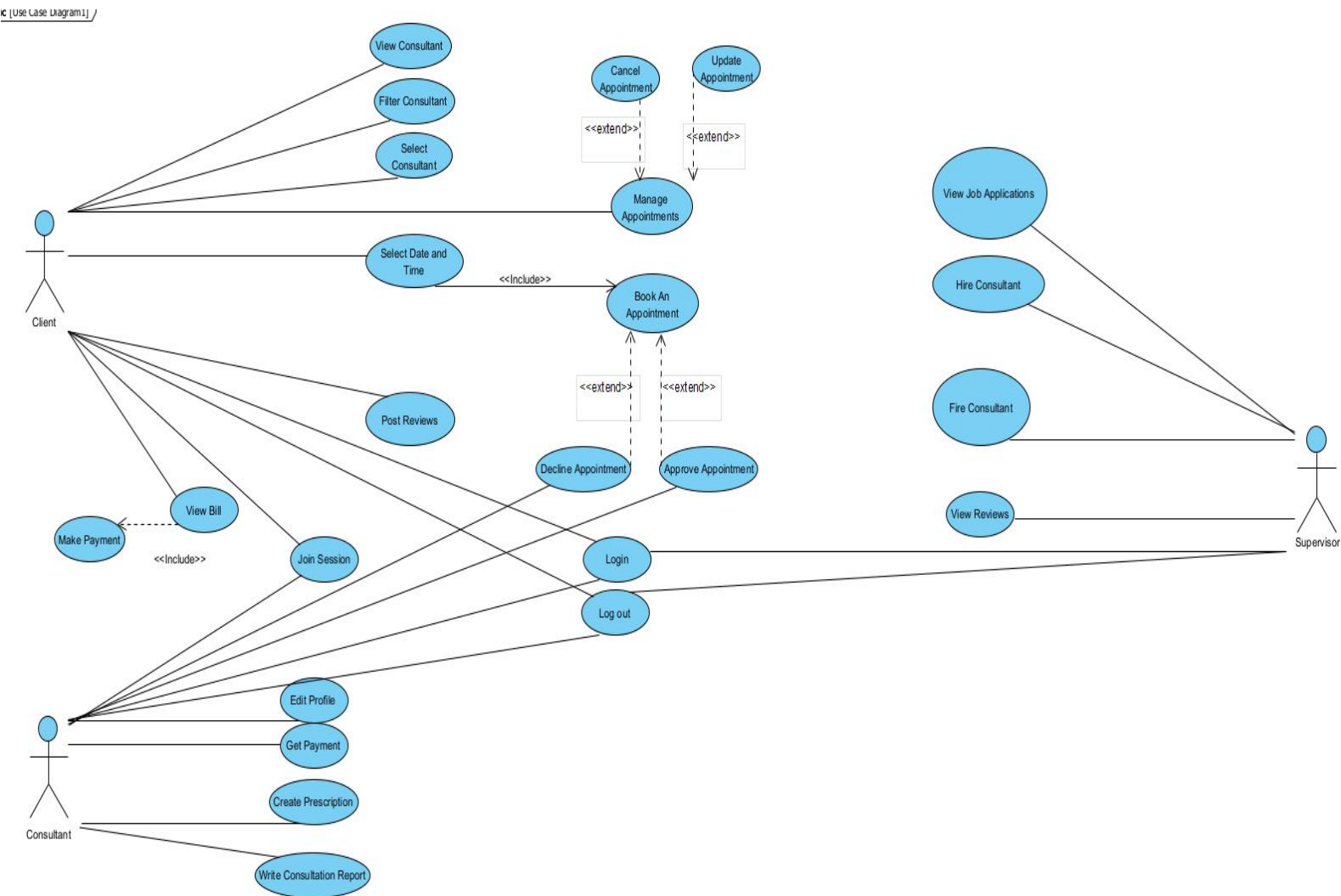
<b>Use Case Identifier</b>	UC-18
<b>Use Case Name</b>	View Job Applications
<b>Participating Actors</b>	Supervisor
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Supervisor displays job applications from people who have applied for jobs.</li> </ul>
<b>Entry condition</b>	A job application is made.
<b>Exit conditions</b>	Supervisor displays people who have applied for jobs.
<b>Related non-functional requirements</b>	

<b>Use Case Identifier</b>	UC-19
<b>Use Case Name</b>	View Reviews
<b>Participating Actors</b>	Supervisor
<b>Flow of events</b>	<ul style="list-style-type: none"> <li>• Supervisor displays all feedback about consultants.</li> </ul>
<b>Entry condition</b>	Clients give feedback about the consultants at the end of the session.
<b>Exit conditions</b>	All feedback is displayed.
<b>Related non-functional requirements</b>	

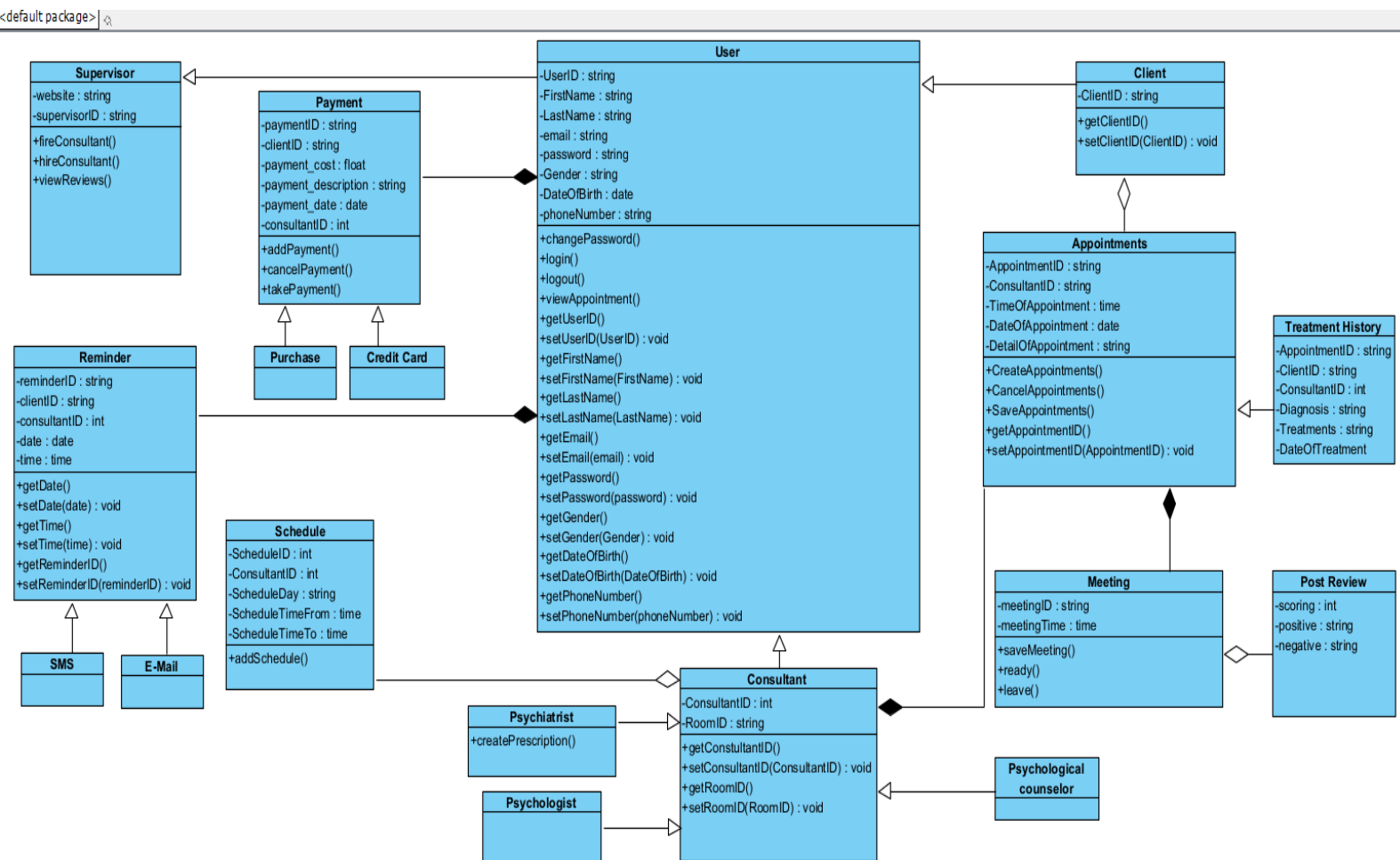


## 5 System models

### 5.1 Use Case Diagrams (at least three use cases per team member)



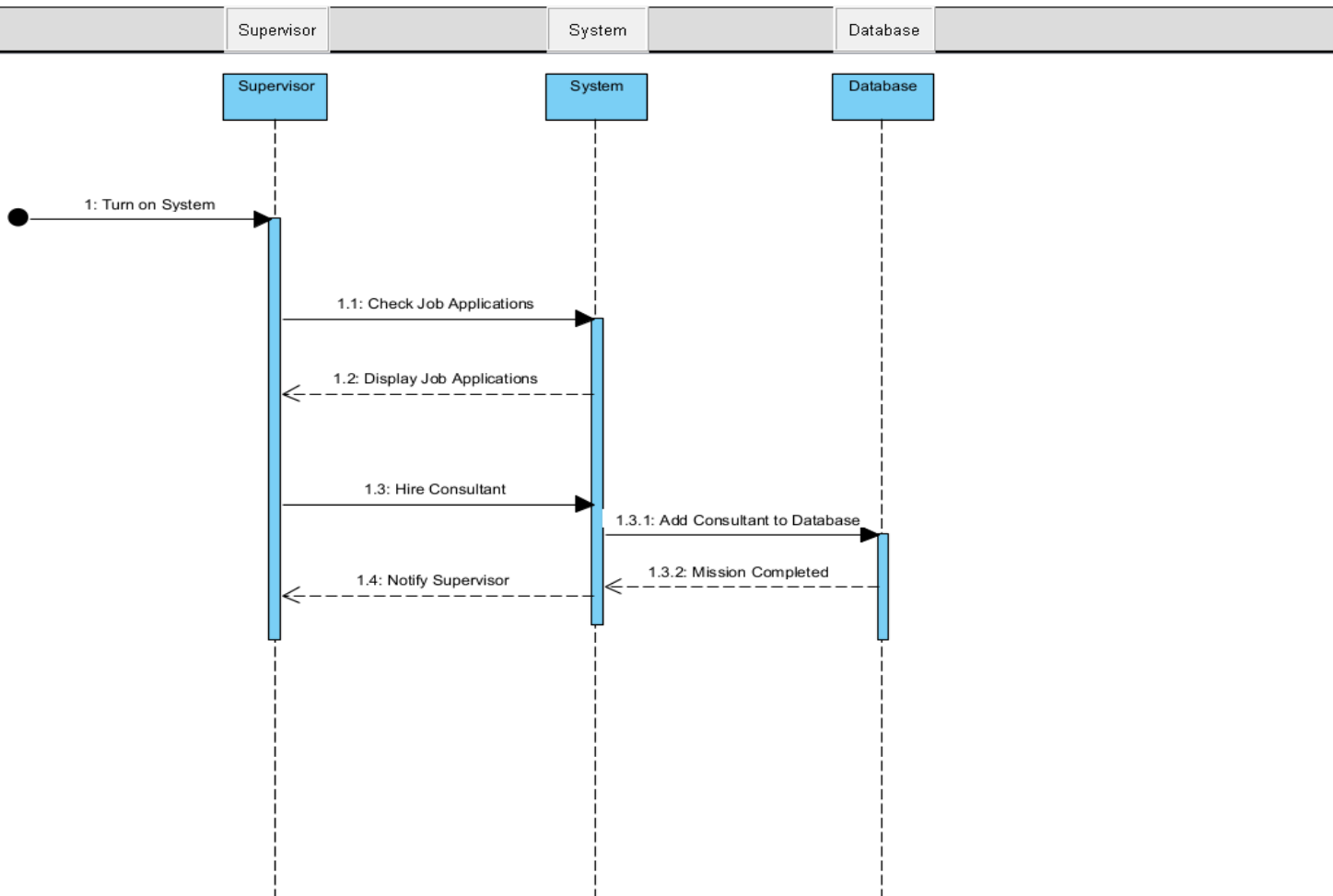
## 5.2 Class Diagrams (at least four classes per team member)



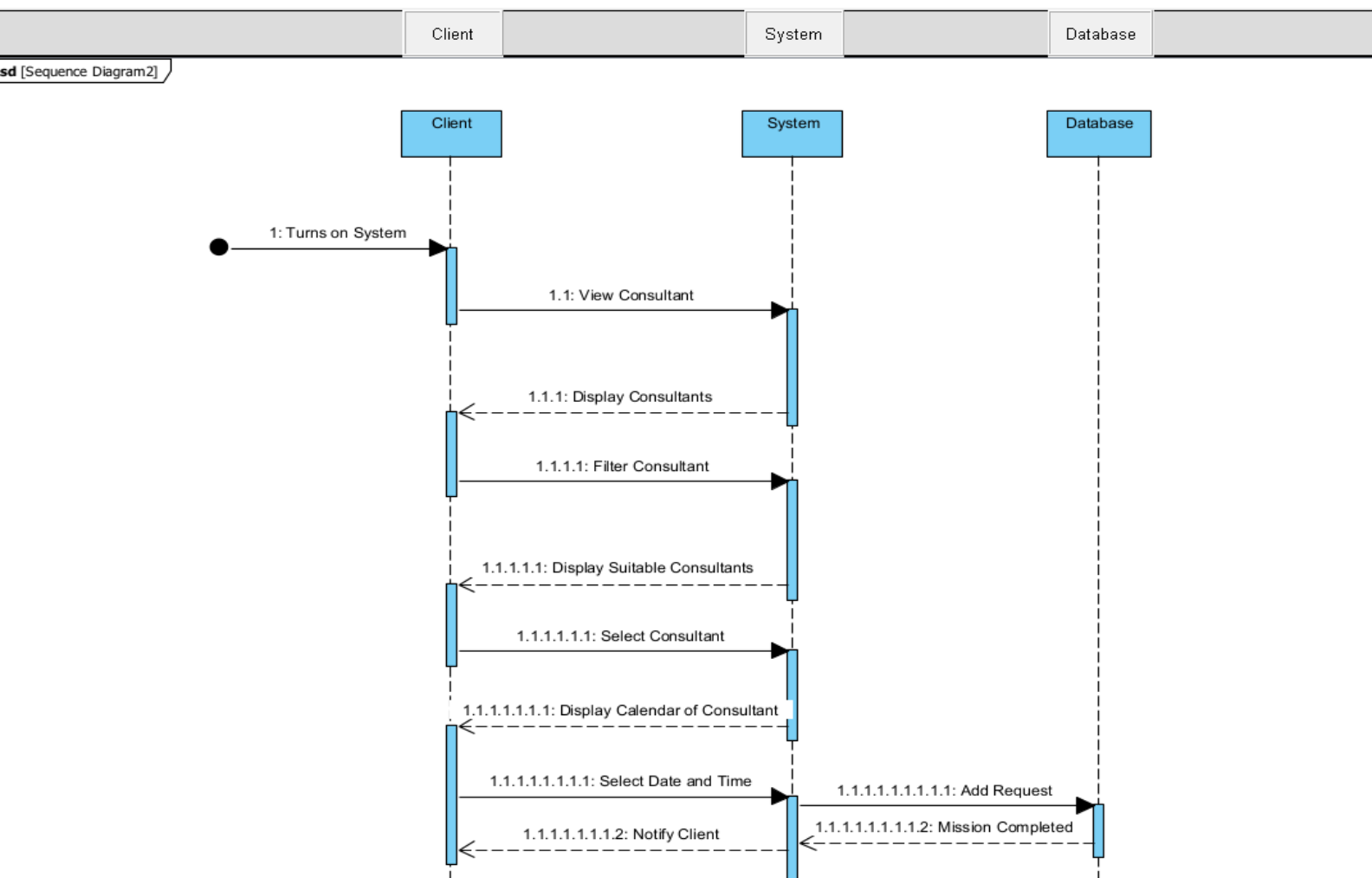
## 5.3 Sequence Diagrams (at least one per team member)

Use actors in section 3 and classes from 5.2.

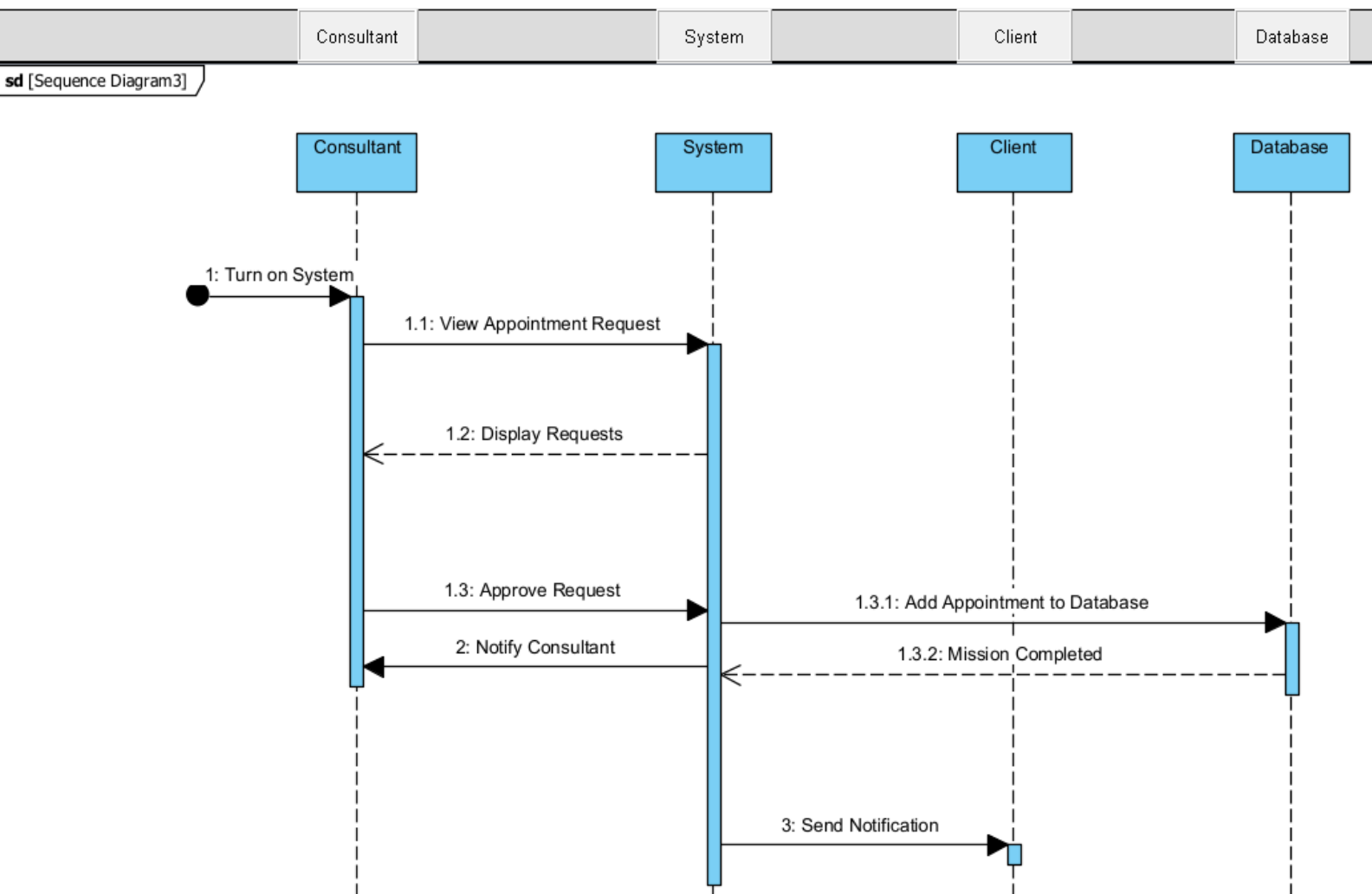
### 5.3.1 Hire Consultant Sequence Diagram



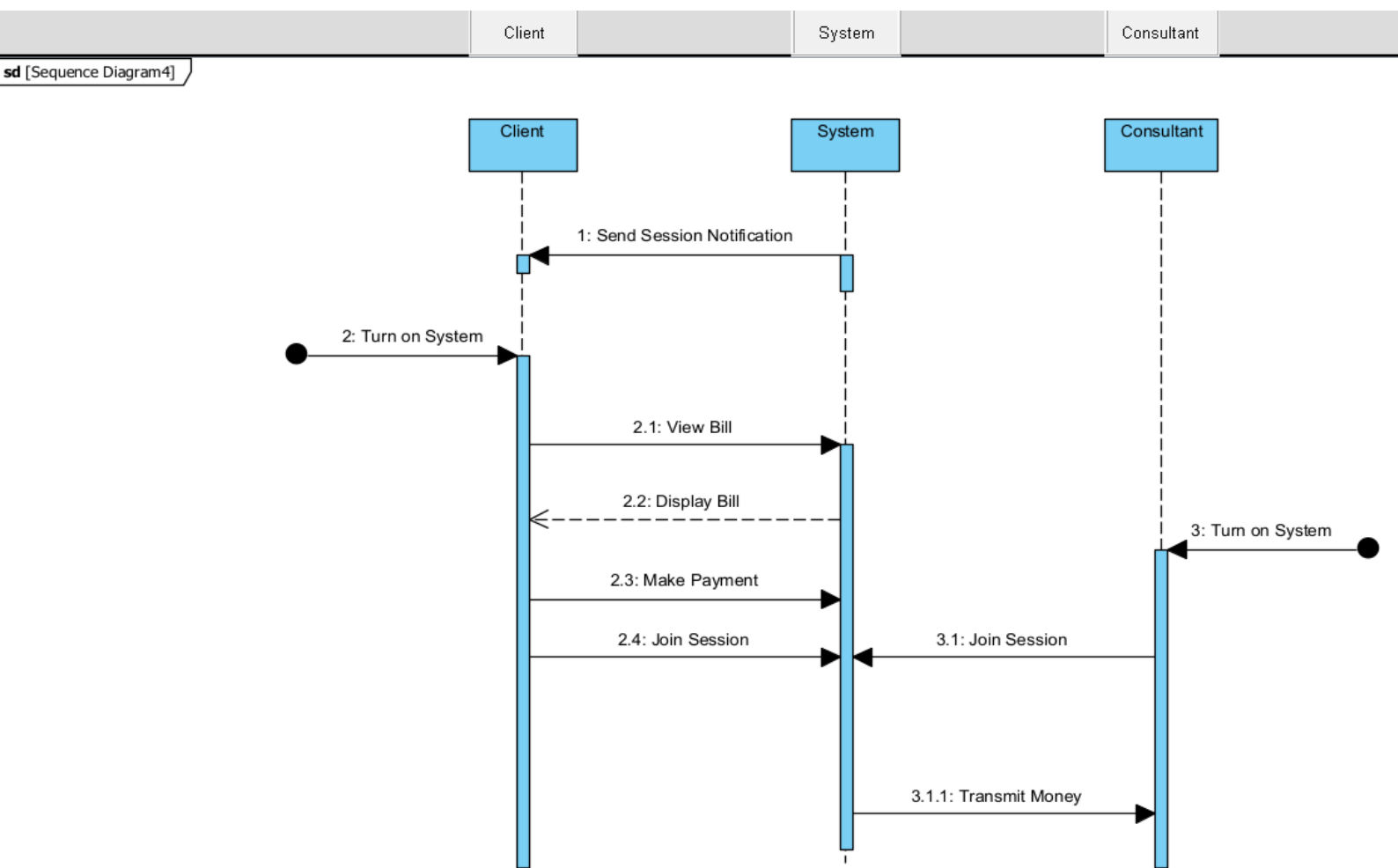
### 5.3.2 Select Consultant Sequence Diagram



### 5.3.3 Approve Appointment Sequence Diagram

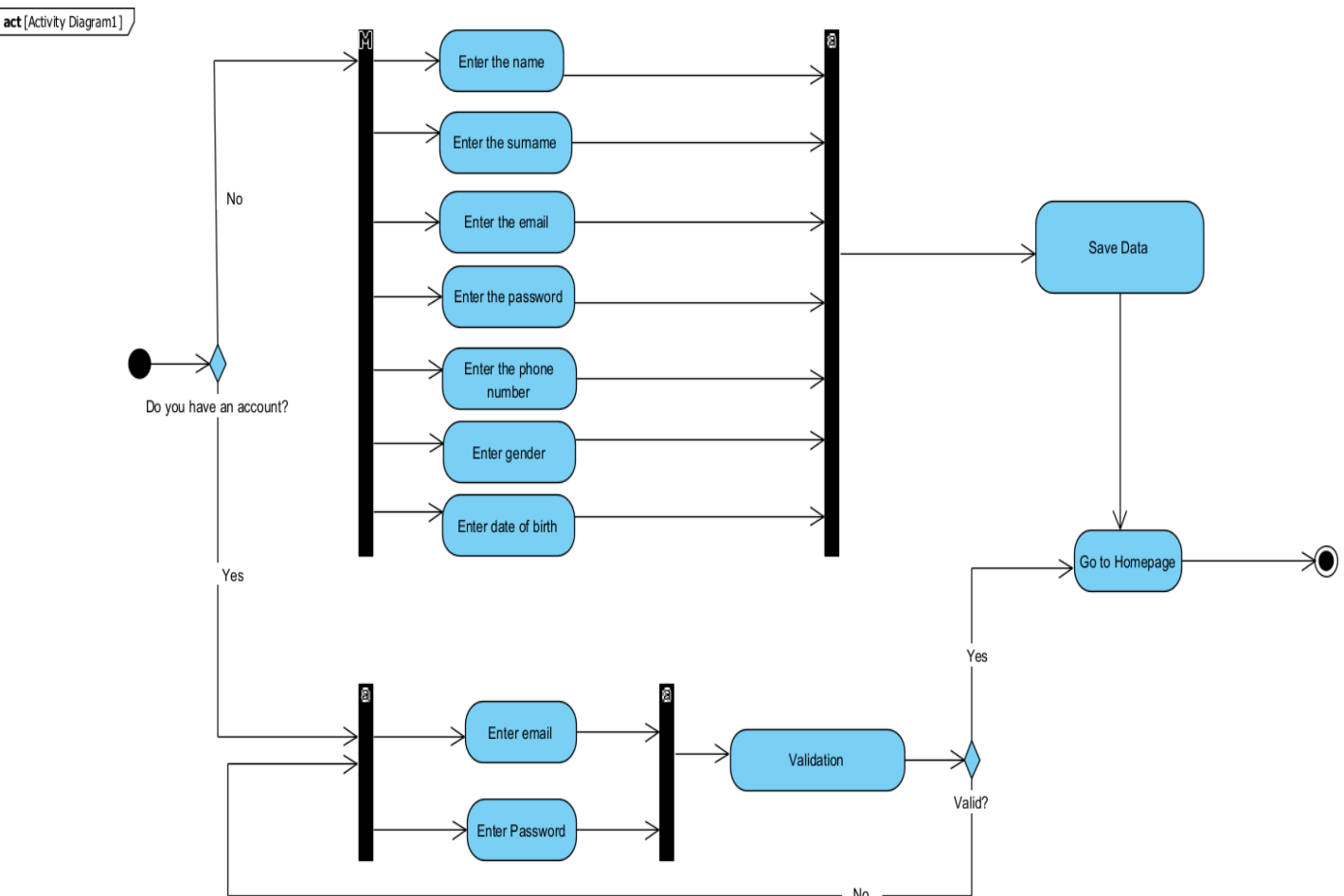


### 5.3.4 Join Session Sequence Diagram



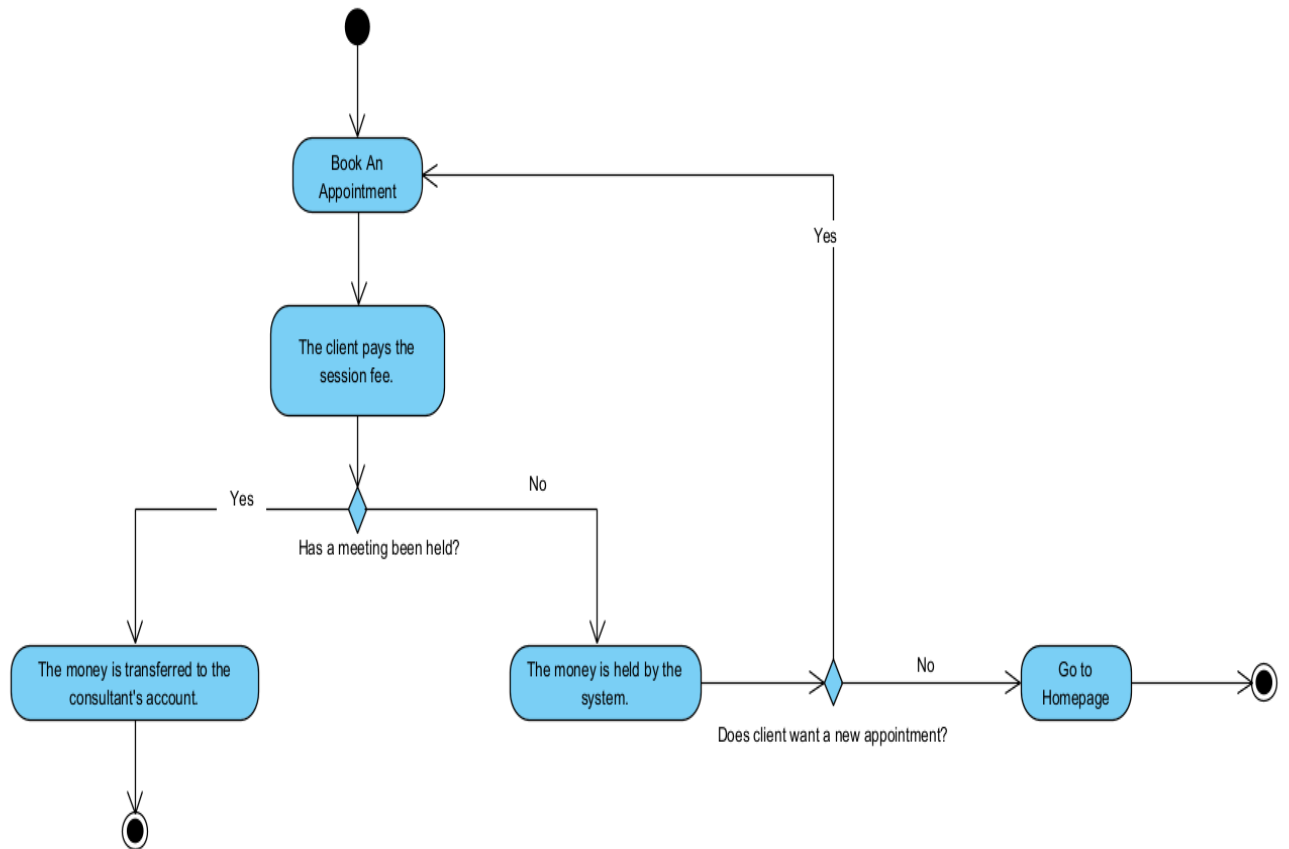
## 5.4 Activity Diagrams (at least one per team member)

### 5.4.1 Login Activity Diagram



## 5.4.2 Payment Activity Diagram

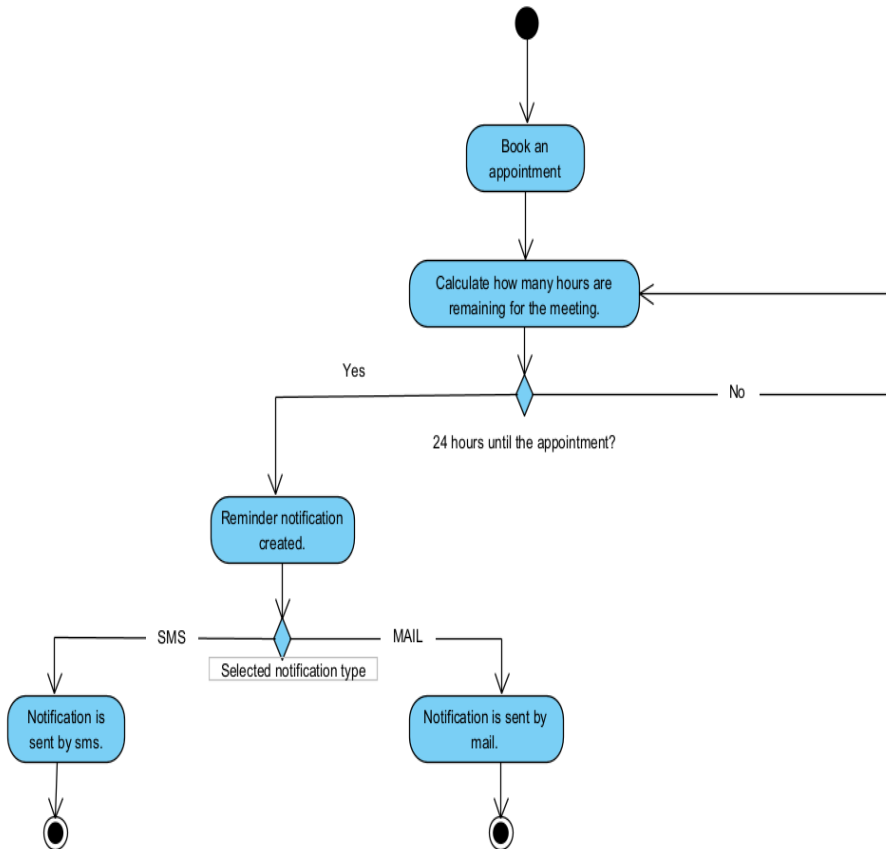
act [Activity Diagram3]



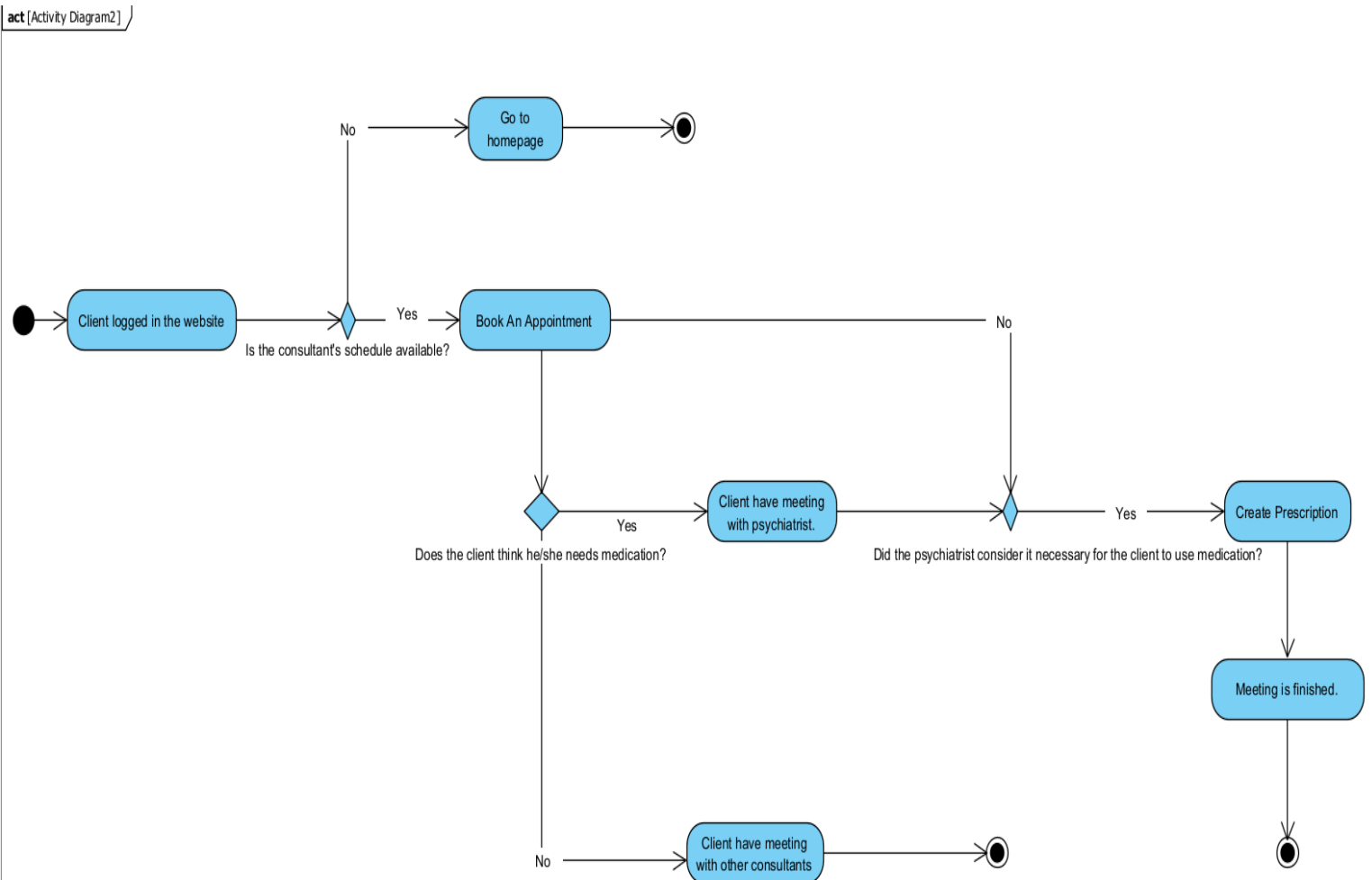


### 5.4.3 Reminder Activity Diagram

act [Activity Diagram3]



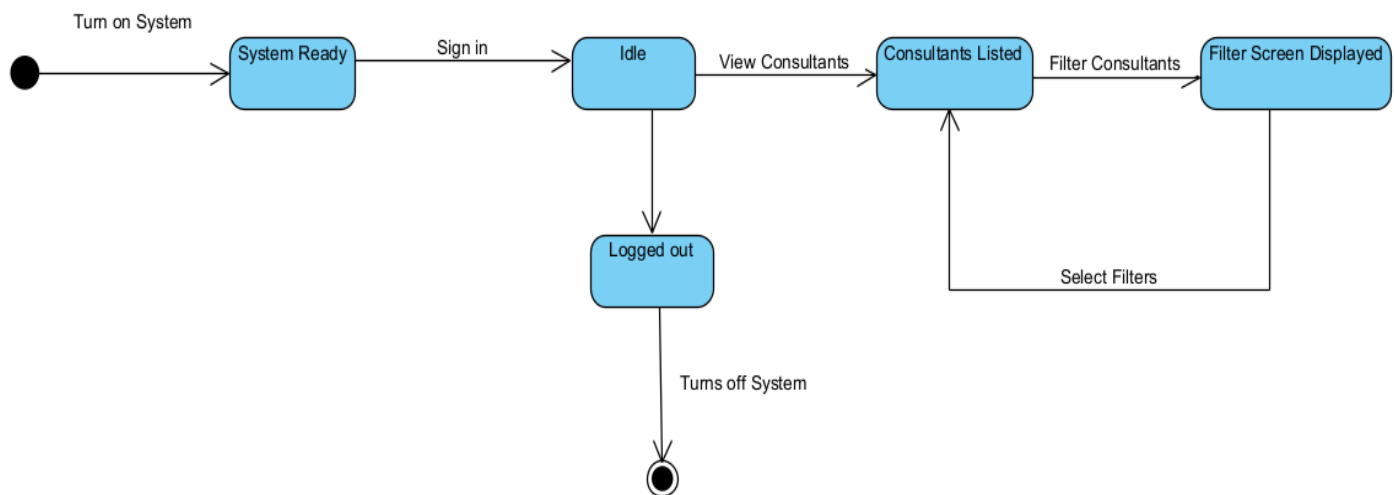
#### 5.4.4 Create Prescription Activity Diagram



## 5.5 Statechart Diagrams (at least one)

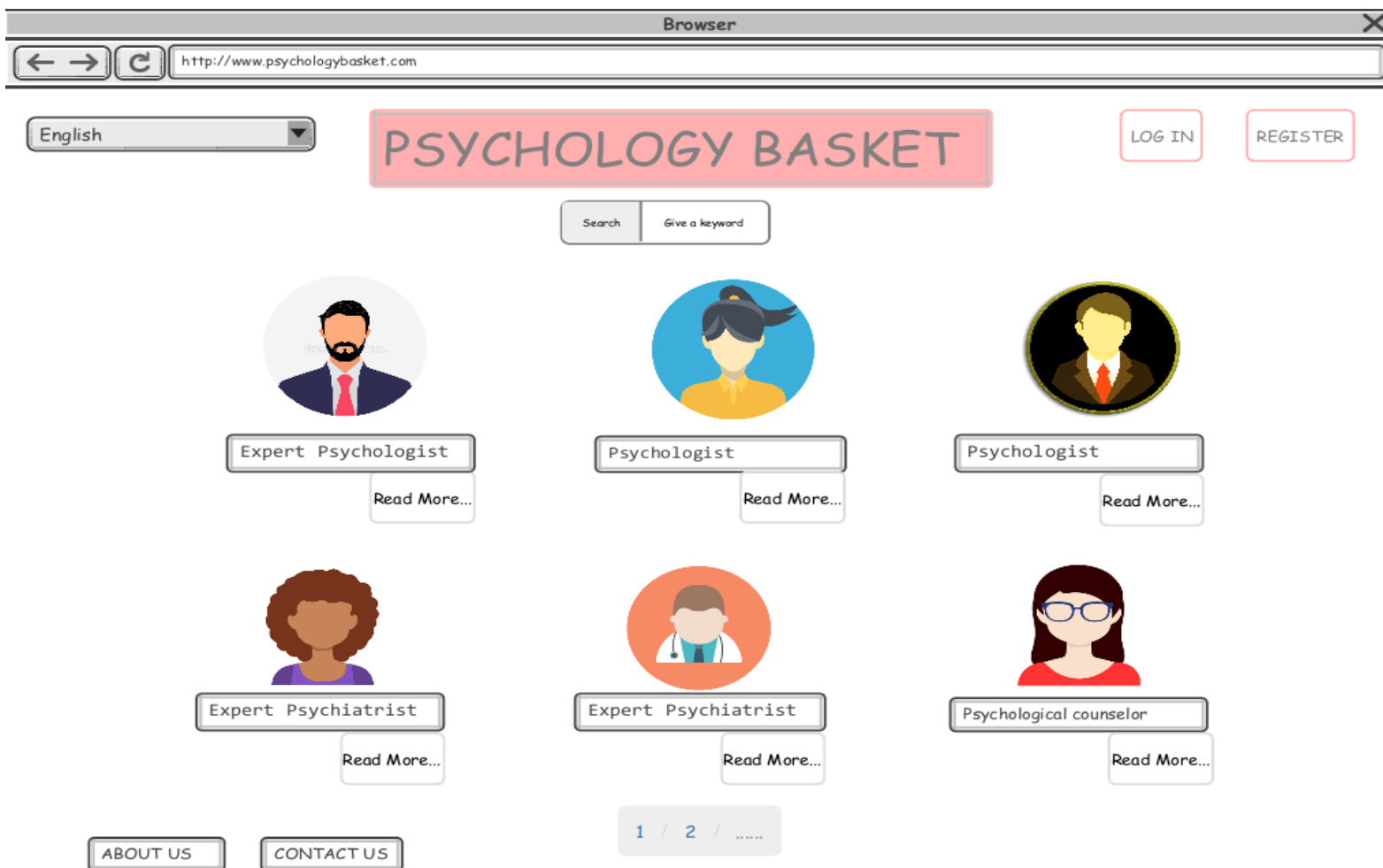
Refer back to classes from section 5.2.

stm [State Machine Diagram1]



View Consultant  
State Chart Diagram

## 6 User Interface Diagrams (at least one)



## 7 Glossary

**Consultant:** A consultant is an person who provides professional or expert advice in a particular field of science or business to either an organisation or individual.

**Client:** A customer.

**Supervisor:** A supervisor is a person who supervises activities or people, especially consultants.

**Post Review:** After meeting , clients can use the review to analyze the consultant process to make suggestions for future appointments.

**Prescription:** A prescription is a written instruction for medicine from a physician or a registered medical practitioner.

**Validation:** To validate a person, state, or system means to prove or confirm that they are valuable or worthwhile.

## 8 References

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- <https://bmjopen.bmj.com/content/10/6/e034773>
- [https://www.researchgate.net/figure/Pie-chart-showing-psychiatric-diagnoses-of-chronic-patients-visiting-the-psychiatric\\_fig1\\_274633998](https://www.researchgate.net/figure/Pie-chart-showing-psychiatric-diagnoses-of-chronic-patients-visiting-the-psychiatric_fig1_274633998)
- Zanaboni P, Fagerlund AJ. Patients' use and experiences with e-consultation and other digital health services with their general practitioner in Norway: results from an online survey. Available at:  
<https://www.optisolbusiness.com/insight/top-5-advantages-of-using-an-online-doctor-consultation-app>

## 9 Appendix

There was a higher proportion of women, younger adults and digitally active citizens with high education.

- Electronic booking of appointments was the most used service (66.4%), followed by electronic prescription renewal (54.3%).
- Most users (80%) could more easily and efficiently book an appointment electronically than by phone.
- Over 90% of the respondents thought that it was easier to renew a prescription electronically, 76% obtained a better overview of their medications and 46% reported higher compliance.
- For non-clinical inquiries, most respondents (60%) thought that it was easier to write electronic messages than communicate by phone. For clinical enquiries, many patients agreed that e-consultation could lead to a better followup (72%) and improved quality of treatment (58%).

Users were highly satisfied with the services and recommended their use to others. Time saving was the most evident benefit for patients. This was confirmed by the differences in time spent using the digital health services compared with conventional approaches, all found to be statistically significant.

Citizens using e-consultation and other digital health services with their GP in Norway are satisfied and consider them as useful and efficient alternatives to conventional approaches.

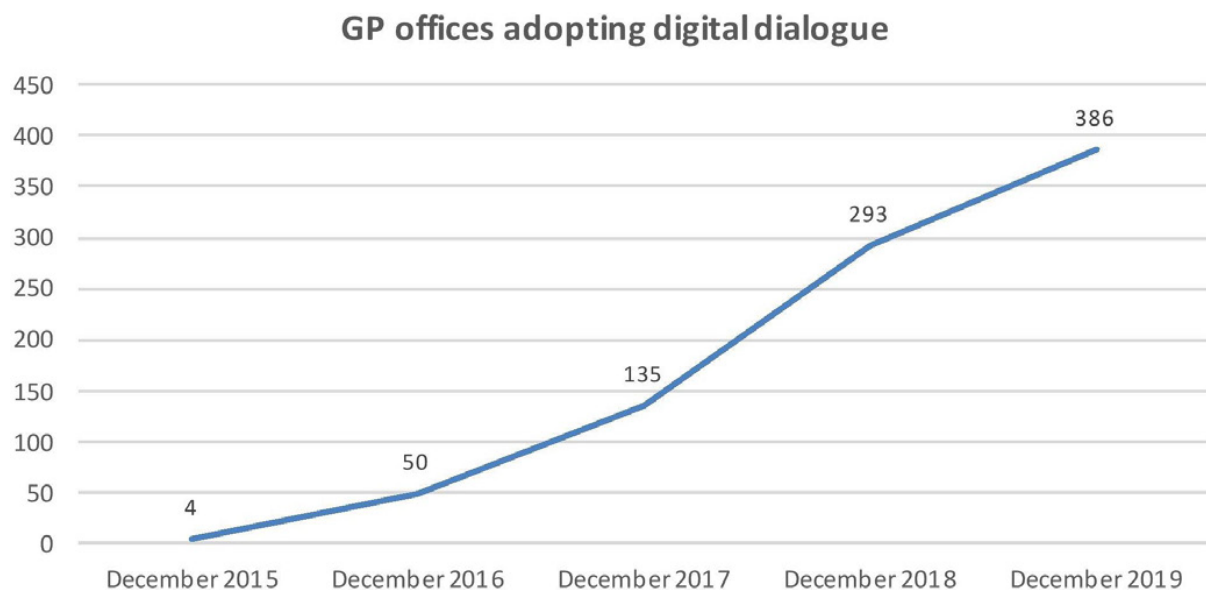


Figure 2 GP offices adopting the Digital dialogue with the general practitioner. GP, general practitioner.