

ECE 321 Lab - Software Requirements Engineering  
Department of Electrical and Computer Engineering  
University of Alberta

Lab 2: Insert title

Student Name	Student
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## 1 Actual questions to ask:

1. How busy is the intersection
2. How is the intersection currently being controlled?
3. what time of day is there the most traffic?
4. which direction is the dominant flow of traffic?
5. what's the ideal length of time to have a green/red light in each direction
6. should the system be able to detect if a car is waiting for the light to change?
7. photos catching people running red light
8. should pedestrians be able to request a light change
9. what length should the yellow light be
10. how many accidents/ how frequent are accidents?  
what part of the intersection do they usually happen in?
11. how many lanes on each side?
12. are any of the roads connecting to this intersection one way?
13. are left turns required?  
should there be a dedicated light for left turns?  
dedicated turning lane?  
dual turning lane?
14. right turns  
dedicated turning lane? – if so, do we need a system for pedestrians is it free flow?
15. how often to pedestrians need to cross?  
where are pedestrians allowed to cross?  
can the pedestrians cross diagonally? (if there are a lot of pedestrians)
16. bike lanes? how many bikes frequent the intersection?
17. should we be able to update timings as time goes on?
18. how do we make sure that the lights here will sync with traffic flow coming from other nearby intersections?
19. if an emergency vehicle comes by, should they have the power to change the lights?
20. any laws we need to be aware of that we must comply with?
21. what are the 5 most important features that should be implemented as soon as possible?
22. how might change in weather affect the implementation?
23. what are your nice-to-haves?

## **2 Stakeholders to consider**

1. Customers
2. End users
3. Requirement analysts
4. Developers
5. Testers
6. Documentation writers
7. Project managers
8. Legal staff
9. Manufacturers

## **3 Things we need:**

1. description of functionality
2. agreement on problem definition
3. root causes - why do we need the system?
4. who are the Stakeholders? 2
5. system boundary
6. constraints
7. keep in mind: needs vs features

## **4 Types of questions to ask:**

1. why is this
2. what else could
3. what happens when
4. why do you
5. why don't you
6. does anyone ever
7. context-free questions

## 5 structure of the interview:

1. Establish the customer or user profile
2. assess the problem
3. understand the user environment
4. recap at the end
5. assess your solution
6. assess the opportunity
7. assess the reliability, performance, and support needs
8. other Requirements
9. wrap-up
10. recap

## 6 general list of questions:

1. establishing the user profile:  
what are your key responsibilities  
what outputs do you produce or whom?  
when is the solution successful for you?  
what problems interfere with your success?  
what makes your job easier or more difficult?  
who are the users and what are their backgrounds?  
what platforms are in use now, and in the future?  
are there additional relevant applications?  
what are your expectations for training time?  
what kind of user help do you need? (manual, user support)
2. Here's what we think the problem definition is: \_\_\_\_\_ - it  
will affect: \_\_\_\_\_ which will result in \_\_\_\_\_ - so the  
solution should have these features: \_\_\_\_\_ which has these benefits: \_\_\_\_\_  
Do you have anything to add?
3. What's the highest priority issue/root cause?  
for each problem:  
why does this problem exist?  
how do you solve it now?  
how would you rather solve it in the future?  
— rank the other root causes —
4. — stakeholders —

5. Who are the users?  
Who is the customer/buyer of the system?  
Who will evaluate and who will maintain the system  
Anyone else?
6. –system boundary –  
Who will operate it?  
who will supply, use, or remove information from the system  
where will the system be used?  
what other external systems will interact with this one?
7. – constraints – technical constraints  
economical  
political - any laws we should be aware of?  
system-imposed constraints – compatible with existing systems? operating systems  
environmental constraints  
security
8. what resources are available?

## **7 Info:**

Client: Alberta Traffic Supply Ltd.

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Western Canada largest traffic sign manufacture and traffic control company