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

Lab 2: Insert title

Student Name	Student
Arun Woosaree	XXXXXX
Max	XXXXXX
Liyao	XXXXXX

1 Actual questions to ask:

1. How is the intersection currently being controlled?

2. Why do we need a new system?

3. what are the 5 most important features that should be implemented as soon as possible?

4. if an emergency vehicle comes by, should they have the power to change the lights?

5. any laws we need to be aware of that we must comply with?

6. how might change in weather affect the implementation?

7. how do we make sure that the lights here will sync with traffic flow coming from other nearby intersections?

8. which direction is the dominant flow of traffic?

9. how many accidents/ how frequent are accidents?
   what part of the intersection do they usually happen in?

10. should we be able to update timings as time goes on?

11. what type of hardware (lights, etc) will we be writing for what type of hardware will/should control the lights

12. should we account for the possibilty of new hardware being installed at the intersection?

13. how much downtime is acceptable

14. is any downtime allowed for maintainance

15. do we need a backup system for downtimes (e.g. flashing red in all directions.)

16. How busy is the intersection

17. what time of day is there the most traffic?

18. what's the ideal length of time to have a green/red light in each direction

19. should the system be able to detect if a car is waiting for the light to change?

20. photos/ catching people running red light

21. should pedestrians be able to request a light change

22. what length should the yellow light be

23. how many lanes on each side?

24. are any of the roads connecting to this intersection one way?

25. are left turns required?
    should there be a dedicated light for left turns?
    dedicated turning lane?
    dual turning lane?
    ideal time for turns

26. right turns
    dedicated turning lane? – if so, do we need a system for pedestrians is it free flow?
    should right turns be controlled by lights?

27. 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)

28. bike lanes? how many bikes frequent the intersection?

29. how would you verify/ how would you suggest verifying that the system works?

30. what are your nice-to-haves?

2 Stakeholders to consider

1. Customers

2. End users

3. Requirement alalysts

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 enviroment

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 constrains
   economical
   political - any laws we should be aware of?
   system-imposed constraints – compatible with existing systems? operating systems
   enviromental constraints
   security

8. what resources are available?

7   Info:

Client: Alberta Traffic Supply Ltd.
7798 16 th Street
Edmonton, Alberta, T6P 1L9
Western Canada largest traffic sign manufacture and traffic control company