Oppgave 1

a. The advantage is the amount of software to be developed is reduced; it reduces cost and risk, faster delivery of the software.

The disadvantage is the system would be a system that doesn't really meet the users' requirement; the system structure tends to degreed as new functions are added to the system and some control over the system evolution is lost.

b. The differences are markasykler can only be used for 1 July to 1 October. The payment method for markaasykler is based on Ruter payment method.

The advantage is the software can be developed with low time, risk and cost. Plus it can be delivered quickly.

the disadvantage is it wouldn't meet all the requirement of the user since it is initially developed for bysykler and it could degrade the system of bysykler as new functions are added to it.

Oppgave 2

a. Stakeholders are individuals or companies that have interest on the system and can be affected by the systems. Stakeholders are those that can directly or indirectly affect the system. While actors are all those uses the system and have no effect on the system during the system development.

b. 1.Oslo kommuna: who will decide when the system should be used (july-october), how much should be paid, which payment method should be used.

2.Ruter: which is concerned with the payment method and how the new function is going to be integrated in the older system.

3. firmet som tar utkjøring av syklene: which will decide how they should be informed where the cycles are and how many cycles they should transport and about empty places in the cycle station.

4. Maintenance company (vedlikehold selskapene): which are responsible for repairing all cycles that are damaged so there should be a way for them to be informed if any of the cycles are damaged. They should also be a way in the system that would tell them when a cycle is overdue or if it is stolen.

5. Cycle station (sykkelstastsjon): how many bicycles should be in a certain station and in which station it should be.

6. Customers: who wouldn't be asked to advice on what should be expected from the system. For example, payment methods, the limit on registration information that is asked etc.

C. Cycle station, firmet som tar utkjøring, maintanance Company.

Oppgave 3

A.in plan driven all the process activates are planned in advance and progress is measured against this plan. the specification, implementation, validation, evolution stages are followed.

b. in agile, the planning is incremental and each new function is added as an increment. It is deployed or delivered only having the basic or the needed function and each increment add a function to the software. the specification, implementation, validation stages are interleaved.

c. the developer should seriously consider change and should develop the software in a way that it would accommodate change. For example, possibility of new payment method, addition of cycle station where they are delivered and taken, change in user requirement and additional companies that would be employed to perform a certain task. the task can be something that is overseen during the first development of the sytem.

d. I would choice agile because customer requirement might drastically change and new method of payment might be available in the future so the system should accommodate change without the need to start from scratch. Rapid development also can be an issue, with plan driven all this requirement can be very costly and takes time.

Oppgave 4.

condition of cycle= is it available to be borrowed, is it damaged, is it stolen, is it not returned back or in which station the cycle is.

Condition of station= is it full or not, is a specific cycle there or where it is located.

a. 1.As a bicycle station administrator I should be able to know how many cycles are borrowed out and which cycle should be returned to which station.

2. As a customer I should be able to see when and where i can borrow a cycle.

3. As a customer I should be given the opportunity of choosing payment method that suits me well.

4. As " Firmet so tar utkjøring av sykler" I should be able to know the location and condition of each cycle station.

5. As «maintenance Company" i should be able to know about the condition of each cycle.

6.As "customer" I should not be asked to give more information that needed to borrow a cycle

7. As a customer I should be made aware of all liabilities in case of theft, lost or damaged.

8.As a customer I should be able to know the different prices for the different type of cycles.

9. As " firmet som tar utkjøring av sykler" i should be informed in the development of new cycle station.

10. As a customer I should be able to find all the cycling paths that are available.

customer, maintanace compony, firmet som tar utkjøring av sykler

b.

1. the system should give the choice of different payment method.

2. the system should suggest better condition for the user according the user history.

3. the system should give the choice of choosing between cycle station and cycle type.

4. the system should ask user autantication.

5. the system should accept both numerical and alphabetical input from users.

6. the system should have a search engine that search through the system in order to find a data for the user.

7. the system should send a message to the user and the administrators when a cycle is not returned in time.

8. the system should be able to reserve order for cycles even though it is not between June and October

9. the system should inform the maintenance company about bicycles that are damaged.

10.the system should inform when a duplicated payment is made (when one pays twice for the same thing).

c.

organizational.

1.the system should run on all platform.

2.the system should be able to accommodate a lot of user at the same time.

3.the system should have documentation in either English or Norsk.

4. the system should accommodate extensibility (ability to have new functionality in the future).

product.

5.the system should be user friendly and should be easier for people with minimal skill to use.

6.the system should not be slow and should display a webpage in not more than five second (response time).

7. the system should recover after system failure or system crush due to different factors (recoverability).

8. the system should have short response time, short data transmission time etc (performance).

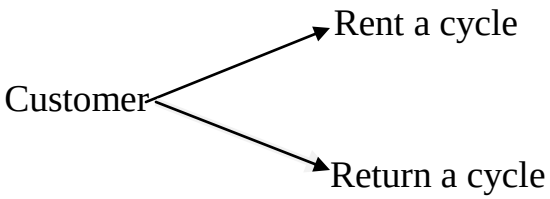
9. the system should be fault tolerance, that is it should be able to operate if the system failure is minimal.

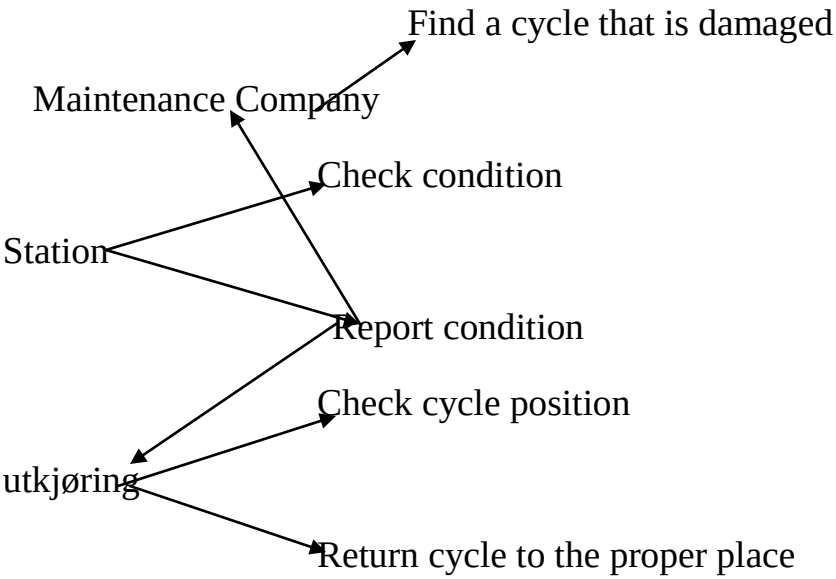
external.

10. the system should be secure and should protect user information from malicious user.

d. by its performance, security, availability, maintainability, recoverability etc.

5 .a





b. prebetingelser: station checks the condition of cycle.

Postbetingelser: report the status of the cycle if it is returned.

Report the status of the cycle if it is damaged or stolen.