Teaching Team Work in Systems Oriented Design

Working Paper

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Introduction

This working paper presents experiences arising from teaching team work from a systemic perspective in a Systems Oriented Design (SOD) bachelor’s course (6th semester) at the Oslo School of Architecture and Design (AHO).

The interest in this specific question and to put systemic teamwork on the research agenda comes from a focus on the social system that emerges in the classroom. We have earlier addressed this in assigning special tasks to students so that they engage consciously with their social system, the classroom. We called these tasks the ‘Social Systems Challenge’; they are largely self-organised activities for the students to improve the atmosphere in the classroom and to share and exchange information and expertise.

While this approach works quite well, we felt it was important to focus more narrowly on how the students work together, examining this social system in its own right. This recognition was inspired by Lurås’ three levels of systems; she suggests that, as designers we need to pay attention to the system we design within, the system we design for and the system we design (Lurås, 2016). This view also echoes the insights of second-order cybernetics as described by Glanville (Glanville, 2014). Therefore, the research team put systemic teamwork into the design programme, with the first author being particularly engaged in the topic.

Theoretical backdrop

SOD is rooted in systems thinking (Sevaldson, 2009) and is considered to be an approach situated within the broader field of Systemic Design (Jones & Sevaldson, n.d.). Systems thinking also represents a way of to approach therapy: instead of searching for an incident in a person’s childhood, systems-oriented therapy looks at any given family as a system. When looking at a family as a system, therapists will focus on the relations. Minuchin (2014 s. 65) writes: ‘That families are complex social systems and that they contain subsystems that may have different agendas from each other. That people function in different ways in different social contexts.’ Many of the approaches in management have emerged from the knowledge developed in and around therapy. The systems-
oriented approach offered by Minuchin (and others) to family therapy is applicable for team development as well – looking at a team as a system and focusing on the relations between its members. It is essential for any team to understand how the members and thereby the team function in different ways in different social contexts. To develop a team we need to look at the individuals, the relationships between them and also how they form their social context.

Some of the methods used in this project have their origin in deShazer’s ‘solution-focused therapy’. Based upon social constructionist thinking and Wittgensteinian philosophy, Solution-focused therapy focuses on addressing how clients can achieve their goals, without exploring the history and provenance of the problem(s) (De Shazer, 1985).

We wanted our students to use a systems-oriented perspective both when looking at their design AND when looking at themselves as a team.

The case
In a 7-week bachelor-level studio course at the AHO, SOD was the main approach and topic. The students worked in teams on a complex task, with a company as a partner. The company was developing and marketing solutions for charging electric vehicles (www.salto.no). The assigned brief was to develop new charging solutions. Such design teams constitute systems in their own right. In our work with the AHO programme, we wanted to create a deeper understanding by combining SOD and systems thinking applied to relationships between teams and individuals as a meta-design process. The teams were constructed to ensure that each one included individuals representing product, interaction and service design.

The student teams began by mapping out the universe of transportation and automobile-based systems, the landscape of electric cars and the environment surrounding the partner company. The central methodology was SOD with Gigamapping, building expert networks, ZIP analyses, etc.

As the students developed an ability to map the systems surrounding the charging of electric cars, we wanted them to use the same approach to understand the team dynamics and how each individual is affected by the team, as well as how individual behaviour affected the team’s ability to reach its goal of capitalising on diversity. The theory of coordinated management of meaning (CMM) (Cronen, Pearce, & Changsheng, 1989; Pearce, Cronen, Johnson, Jones, & Raymond, 1980) describes how any communication takes place in a system of contexts, and teams create common social worlds as their members communicate. The co-creation of a common understanding of the context is essential to grasp the surrounding complexity and create a breakthrough design.

We began the course by letting each team define its purpose. Creating a common and deeper understanding of the team’s purpose has been proven by Bang and Midelfart (2012) to be essential to a management team’s performance. We have lots of experience, from business consultancy, using SOD and Gigamapping to create a common understanding within the team of the complexity within it, to help the team fulfil its purpose. A team of designers aiming to create a design capitalising on the diversity within the team faces most of the challenges a management team will face. Agreeing on the team’s purpose, communicating within the same context, knowing when a topic is raised how
the team and individuals can add value, stopping each other when they move the discussion off-topic, being curious about the perspectives of others and not fighting to defend their own perspectives, etc.

In teams, structured dialogue is often central. This is normally conducted in the form of a meeting with a predefined agenda, to ensure an efficient and focused process. However, this has its drawbacks, when it comes to developmental and creative teamwork. The agenda, along with time allocation, strongly frames the conversation. The agenda is normally written by one person and responds to the imagination already articulated and perspectives on issues already identified. This format is not well suited to the work of creative teams, who need to arrive at new solutions or blaze new paths.

Conversations organised around Gigamapping, rather than structured agendas, allow meetings to be open-ended and generative. Gigamapping works well, facilitating an unstructured discussion that moves from one context to another and back again. Jumping between issues is possible because the shared and co-designed visualisation, combined with gestures like pointing at places on the map when addressing new issues, allows participants to effortlessly understand the new context in any thematic jump. These jumps are crucial when discussing systems or applying systems perspectives. Since a systems approach seeks to integrate and to identify relationships, discerning how things interact and influence each other, jumping is unavoidable. These unstructured discussions help all participants to grasp the complexity of the situation holistically.

Such unstructured discussion is also crucial when design teams or other management teams work on complex (wicked) problems. Predefined briefs are typically unsuitable for use in such work. These projects tend to have an open-ended nature where issues are explored during the projects and learning is integrated into the process.

As a tool to improve communication around reality, common purpose and how to use task conflicts to create better solutions, we examined Chris Argyris’ concept, the Ladder of Inference (Argyris & Schon, 1974; Senge, 2006). This approach helped us understand how our assumptions are formed and recognise that being part of a system will influence how we filter information and the assumptions we form; meanwhile, being curious about the assumptions of others will open us to new insight.

To deepen the understanding of the communication within the team, participants were challenged to understand how to look at one person as a system, where changes in the internal system (behaviour) affect changes in the external system (possibly the team) and vice versa. We used ‘Social constructionism’, notably Kenneth Gergen’s perspective wherein reality is constructed in social relations and nothing is considered real before we agree that it is (Gergen, 2009). Using this perspective helped the team to be more open and willing to understand what others mean, maintaining an attitude of curiosity. Encouraging the students to realise that words and reality were both socially constructed within a social context helped them to reflect on their own ideas and assumptions.
There are many similarities in the use of mapping techniques to understand systems in SOD and to understand our own assumptions and behaviours and those of our fellow team members. Developing the skill required to use the right question at the right time is essential in both cases. To dig more into this question, we emphasised dialogue drawing attention to four main elements: (a) believing that you can learn from your fellow team members, (b) showing respect even when disagreeing, (c) exploring different views and d) building on each other. The basic idea is to use task conflict in a constructive way: exploring different views will generate better solutions. To create the right atmosphere we used Karl Tomm’s categorisation of questions, starting with fact-oriented questions before moving into relational questions and hypothetical questions, ending up with the more strategic, leading questions (Tomm, 1988).

To understand group dynamics and organisational behaviour even better, we used Stacey’s theories about the organisational complexity (Stacey, 1996) and how the old dominant logic failed in trying to plan up front without considering emergent relational knowledge (Solsø & Thorup, 2015). We wanted students to learn from the emerging design project and adapt the processes they learned to help the team make the right decisions and develop innovative design, taking advantage of its emerging competence and diversity.

The aim of a team should be to utilise its diversity in a constructive way and reach deeper understanding and make better collective decisions or designs. The way to achieve this is to communicate in such a way that latent diversity surfaces and the team examines these different perspectives and insights together, to develop even deeper insights and broader perspectives. The team members should be curious, trying to understand not only the assumptions of others, but also how they have developed these assumptions. In this process if the communications and atmosphere among team members is good, team members will understand their own assumptions better and have the potential to develop better solutions in collaboration.

Pentland describes the ideal team player as a charismatic connector (Pentland, 2012). He defines the charismatic connector as someone who circulates actively, engages people in short, high-energy conversations, communicates with everyone equally, makes sure all get a chance to contribute, listens as much as they talk, engages with whomever they are listening to, connects teammates with one another, spreads ideas and seeks ideas from the outside (but not at the expense of group engagement).

This ideal team player is a person who looks at the team as a system, a person that realises that people influence each other and by not only allows everybody to influence the system, but more facilitates the process actively so everybody is contributing to the system.

To allow the system to work, it was essential to create enough time per topic examined. This points back to the need to map out the team’s main purpose and to develop a collective understanding of which cases will need the time of the broader group and which might be better solved by one or only a few of the team members. At this point, the students created sub-teams.

One subsidiary -goal of the project is to help designers to grasp that the team is a system in itself and to understand that individuals and team dynamics will help in the creation of new designs, where harmony is not necessarily an aim and where conflict might be productive. A high-performing team can capitalise on task conflicts to create better designs without creating relational conflicts. We
wanted the students to use many of the same methods as they use in their design activities and direct these approaches to team development. We hoped that their ability to understand team dynamics and their own role in the team as a system would increase as they applied many of the same methods they use in understanding various possible solutions in design.

Using design to help team members understand each member’s strengths and expected contributions is an area we would like to develop. We believe it should be possible to use SOD to create a tool for a design team to understand themselves as a system and see how individuals might affect one another, so they could perform even better. Traditional team development has used personality profiles, such as the Myers-Briggs Type Indicator® (MBTI®) (Myers, 1962) which describes each person as a set of preferences. While this is often useful, too often such characterisations are not utilised in the process of dialogue, as it is too difficult to remember and understand all the relevant analyses. Perhaps design could be used to make more accessible, less complex tools, in a team context.

As explained above, task conflicts are often productive as a means to develop deeper understanding and to develop good ideas into great ones. However, concerning task conflicts we have seen that using Gigamapping to un-cover and develop differing perspectives can be fruitful. This approach helps us externalise conflicts and look at the issues with fresh eyes and be more open to other perspectives.

Furthermore, using Gigamapping as a tool to understand the complex issues the team needs to address is a very useful way to ensure a common understanding, as an important basis for developing constructive communication.

One very important topic in team development is to look outside the team. Bang and Midelfart use the term ‘Team boundary spanning’. This approach is all about situating the team as part of a bigger system and understanding its role in a wider context. As a team develops a very strong identity and strong bonds between its members, it risks missing out on relevant input and recognising changes happening outside the team. Very strong teams may look at all those outside the team as potential enemies or as not being knowledgeable enough. It is essential to understand the social system around the team and to be open to how this may affect, improve or limit the team. We believe that SOD will help any team to develop this understanding.

We also strongly believe that the teamwork perspectives presented here are relevant for building functioning democratic cultures on a larger scale.

**Feedback from students**

The teams were asked to write a feedback reflection as part of their project reports. The project reports were the central deliverable for the course. The feedback regarding the introduction of proper team work training into SOD team projects was very positive. Below are some of the students’ reflections, presented as bullet points. The feedback received, in its complete form, is found in the addendum at the end of this document.
• This was very different from group work; everybody is not having the same role.
• We managed to utilise diversity.
• We actively sought good collaboration.
• We used the methods for dealing with disagreement and kept the atmosphere positive.
• I learned to hold back on my own opinions.
• Thinking about formulating the right questions helped.
• It was easy to fall back into former roles.
• We managed to use the communication techniques.
• I have learned how to deal with poor communication.
• We created a better understanding of each other’s skills (service, interaction and product design).
• We moved in the same direction.
• We had many task conflicts and used them to enhance the design. We avoided the possibility that task conflicts could develop into relational conflicts.
• It is incredible how much a team can achieve.

Conclusion

Our overall experience is that teamwork training in SOD team projects is successful and, in fact, essential. We also speculate that the systemic approach to teamwork introduced by the main author was well-suited to the integration of teamwork into systems practice. Although we do not have experience with a comparable situation, the approach taken seems to have been very useful for the students, who realised that systemic approaches are not limited to a particular task, but also made up a social system as an integrated part of the SOD project.

We will continue to teach this systemic teamwork component in future bachelor’s and master’s level semesters.

Bibliography


Addendum

Three of four teams delivered the asked for feedback.

Refleksjoner team 1

Student 1:

Student 2:
Å jobbe sammen som et team har for meg vært en veldig god opplevelse. De to første ukene var det jeg som var utnevnt til teamleder, og selv om jeg ikke har noen tidligere erfaring i en lederrollen virket det som om det gikk forholdsvis bra. Vi har hele tiden prøvd å bruke de verktøy og metoder som ble anbefalt og jeg føler at det har hjulpet oss mye når vi har møtt vanskeligheter eller uoverensstemmelser i gruppen. Det har virket på meg som om alle i gruppen har hatt en relativt lik oppfattelse av hvordan produktet, tjenesten og interaksjonen skulle bli, noe som forteller meg at vi har hatt god kommunikasjon, og latt alle fremme sin stemme når det trengtes. De andre teamlederne, gjorde en kjempejobb. Vi fikk gjort mye, og det var lite friksjon mellom medlemmene i teamet. Vi har hatt mange sakskonflikter, og mange av dem har endt opp som veldig nyttige i utviklingen av konseptet, og ytterst få relasjonskonflikter. Alt i alt har teamcoachingen gitt meg mye, det var lærerikt og interessant, og jeg tror det har bidratt til å gjøre at teamet jobbet så godt sammen som jeg opplevde at det gjorde. 

Student 3:
Dette prosjektet har gitt meg en riktig så god læringskurve når det kommer til teamarbeid. Det er alltid litt mer utfordrene å jobbe i team enn alene, men det er utrolig hvor mye man får gjort når et team får det til å fungere. Jeg har opplevd mindre bra kommunikasjon men har også lærte meg å tåke det. Jeg har lærte å ikke legge hele sjelen min i prosjektet for når diskusjoner og uenigheter først kommer blir lettere å tåke. Jeg er takkemlig for at vi har fått benytte oss av en team coach, jeg er glad jeg kan sette mer enn bare samarbeidsorientert på CVén min.

Student 4:
Det å jobbe i team med teamteori parallelt har vært en rik erfaring. Vi har tatt i bruk metodene som ble presentert i undervisningen uavhengig av om det har virket unaturlig i noen tilfeller. Dette har vært interessant og hjulpet oss igjennom prosessen.
Refleksjoner team 2

Reflections on team work:

Student 1:
Teamwork is an art. Communication is key, and my experience is that a good team leader could create that bridge. Since this project has run parallel with a course in teamwork and team leadership, we have been aware of the dynamics and tools to use, but we have also changed team leaders every second week. The total overview of the situation has been lost and the communication could have been better.

Student 2:
To work in a team have felt more structured then how we normally worked in groups. We started each day with a meeting. We did this to make sure everyone was heard, to show what we had done and what we planned to do during the day. I got to try being a leader for two weeks, which was a good experience that I’m glad I got to try out. It was challenging to control a project so complex, because it felt like we at times worked on different projects, rather than one. We all wished to maintain the system we had worked out for the second milestone, but we would probably have made it a lot easier for ourselves if we had limited ourselves sooner.

Student 3:
Working in a team has been an important experience. Being a part of an effective team creates the experience of being able to master the challenges ahead. Working among others have made me see things differently and explore new opportunities. I have also learned to compromise, communicate and collaborate better. Most importantly, you become inspired by each other.

Student 4:
Through the teamwork education we have had during this course I have learned that team work is not just several people working on the same project, it’s about the dynamic between these people. And the key point in my opinion is the conversations you have with your team members, and to ask the right questions at the right time. I had the opportunity to try out the role as team leader, and what I found most difficult was handling the different amounts of motivation and aspirations. I will definitively use the methods of conversation in team works to come.

Student 5:
The teamwork module of this course has been very rewarding to me. The basic training we received in perceiving and navigating a team environment has been highly applicable to the “SOD” part of the course. I really feel that our group has been good when it comes to critical, constructive feedback. That being said we might have had some problems in implementing all of the learning into the day to day work. Our team has to great extent been self-driven in completing tasks and taking initiative, this allowed for a relaxed style of leadership.

Reflections on SOD:

Student 1:
It has been a valuable lesson to use SOD as a tool for the first time. I have become aware of systems, and learned to just start somewhere in order to begin the mapping. It has been challenging to use the ZIP-analysis. Mainly because some information has been difficult to obtain through “google searches”, and not knowing what to really look for. On the other hand: It has been fun to realize how little I know and think about systems in real life, so it is definitely a mindsetchanging tool. Another
challenge is to know how to limit our own focus area. It has felt contradictory to first expand and creating systems, and then to shrink it all into a small segment. Its making the extreme scenario of the designer’s challenge to limit the project, so it is a good exercise. All in all: SOD is a method I will continue to use, and the course has provided us with a clear hands-on toolkit to use in creative ways.

Student 2:
SOD has been an incredible tool to try out. Personally I found it most useful in the start phase of the project, when it was used to map out the concept. It helped us get an overview of a complex system, and to see relations between the different aspects of our service. It was difficult to concretize the solution, because the concept was built around a whole system, rather then one concrete problem.

Student 3:
System oriented design has given me different techniques for a broader and deeper understanding. These techniques have helped me see all possibilities and experiment with various design solutions. It has also shed a light about the importance of complexity and how we deal with them as designers. The thorough work we’ve done has provided us with great information and knowledge.

Student 4:
As a first time go at system design I would like to quote “To dance with complexity”, if it was quite as elegant I’m not sure, but a dance it was. A dance between a new subject and several new methods. I never understood the term lost in complexity until I was standing in it myself. To embrace complexity was easy, it was emerging from it that proved hard. To get an overview of what it is you are doing, and here not only what you are doing and thinking about the system, but what the team is thinking about it. But SOD has given me a lot, not only new methods, but a new way of thinking about design. Especially in the research faze of all types of projects I believe I will continue using the SOD-toolkit.

Student 5:
System oriented design has for me opened a lot of new doors in thinking and in executing design work. At first I must admit that I found that the approach was quite banal and frankly chaotic. But in realizing that this human centered approach is the entire point of practicing SOD it gave me an opportunity to embrace the complexity and play with it. In diving in to the complexity with the least possible amount of preconception and «goal» (within the frames of reason) it gives the possibility to open a lot of doors and peak in to explore the subject in a much wider sense. Allowing this broad understanding of a subject also, quite contra intuitively, gives a possibility to be more specific in your research. This is simply because you get to know what you don’t know and you have the possibility to choose what entities of a system that are interesting, instead of quite blindly making solutions based on your own, and other peoples preconceptions.

Refleksjoner team 3

Refleksjoner om teamwork

Student 1:
Jeg har opplevd teamarbeid som en ny utfordring. Det å lære seg å ta tak i eventuelle problemer som oppstår på veien, og hvordan håndtere uenigheter underveis. Det å lære seg metoder for hvordan opprettholde et godt samspill innad i gruppen har vært svært nyttig for meg. Jeg har fått utfordret meg selv på hvem jeg er i en design setting og hvilken rolle jeg ønsker eller bør sette meg inn i. Jeg har ofte
tenkt at det å være teamleder er noe som ville passe for meg. Denne rollen fikk jeg prøvd meg på mot slutten av prosjektet. Dette har vært lærerikt på mange plan, blant annet hvordan jeg må sette mine egne meninger til side og prøve å være objektiv. Som gruppe opplevde vi en konflikt undervis i prosessen, dette klarte vi å løse med blant annet metoder vi lærte fra undervisningene og inkludere enn utenforstående part i diskusjon. Etter at vi gikk gjennom denne utfordringen sammen følte jeg at det var letter å ta tak i eventuelle problemer og uenigheter undervis i. Jeg tror nettopp denne konflikten gjorde oss sterkere som team, og mer rustet for å møte på ulike utfordringer senere. Vi har kommet i mål sammen som team, og lært mye om oss selv og hverandre.

Student 2:

Student 3:
I løpet av dette prosjektet har vi lært om hva hva som gjør at et team fungerer. Hver tirsdag har vi hatt teamdag med Andreas fra Rambøll Management Consulting hvor vi har analysert hvordan teamet har fungert sammen den siste uken. Vi har lært mange konkrete metoder for å adressere utfordringer som kan oppstå i et teamsamarbeid og tatt i bruk disse i løpet av prosjektet. Jeg har opplevd gjennomføringen av dette prosjektet som mye mer fokusert og effektiv enn tidligere gruppeprosjekter hvor team samarbeid ikke har vært i fokus. Jeg tror teamet har fungert godt fordi vi har brukt verktøyene vi har lært aktivt gjennom hele prosjektet, men også fordi alle har vært bevisst på at godt samarbeid er en viktig del av teamarbeid. Jeg har opplevd at en aktiv instilling til godt samarbeid er nøkkelen til et vellykket team.

Student 4:
Dette prosjektet har gitt meg et nytt syn på det å samarbeide. Det er ikke en gruppeoppgave, der alle har samme roller, men et team-arbeid, der vi utfyller hverandre. Vi har organisert oss i forhold til hvem som vil jobbe med hva i første omgang, deretter sett på kvalitetene våre og til slutt utfordre hverandre og seg selv. Jeg har lært at det er lett å falle tilbake på gamle vaner, men at det å jobbe målrettet i seg selv er noe man må samarbeide om. Selv om vi får forskjellige roller i prosjektet, har alle det samme ansvaret om å følge opp, ta del i prosjektet og lytte til andre. Det har vært en prøvelse i å se seg selv i flere perspektiver, men har kommet ut som en nøkkel for å få dette prosjektet til å bli så vellykket som det har blitt. Å se seg selv som en del av teamet, der man ikke trenger å vinne hvert slag alene, men vinne hele krigen. Og det gjør man kun sammen.
Refleksjoner om SOD

Dette prosjektet startet med at alle i klassen skulle gigamappe de ulike oppgavene Salto ønsket vi skulle se nærmere på. Her brukte vi en åpen gigamapløsning. Baklengs salto fikk oppgaven om smartgrid system i hjemmet, og hvordan vi kunne integrere lading av elbil hjemme i dette systemet. Deretter skulle alle bytte å fylle ut på de andre gruppende sine gigamaps. Dette var både spennende og utfordrende.

Når man selv lager et gigamap får man som regel god oversikt over det man utforsker. Da kan man se på systemet rundt kaffeproduksjon, pappproduksjon og kultur, for eksempel om ingen drikker kaffe, hva skal du da med kaffekoppen? Da har man den kanskje allikevel til te eller annen drikke, og dette er også andre systemer igjen. Denne metoden kunne vi da ta i bruk i prosessen vår, blant annet på de ulike zoom områdene for å se ting vi lurer på eller vi ønsket og utforsker mer. For å kartlegge konseptene vi skulle vise til første delgjennomgang lagde vi gigamaps. Her brukte vi en strukturert mappingmetode der vi så på før, under og etter. Dette gjorde at vi også kunne se en eventuell tjenestereise tidlig. Disse kartene brukte vi også for å lage en ZIP-analyse. Etter første milepæl gjorde vi en systemisk evaluering av de ulike konseptene for å kunne velge. Vi utelukket hurtigladekonseptet raskt etter tilbakemelding fra sensor og veiledere. Vi syntes det kunne være aktuelt å gå videre med de to andre konseptene. Vi lagde parametre for å se hvor hvilke fordeler og ulemper det var ved de ulike områdene ved de to konseptene. Vi så på teknologi og kultur og så at det ville ta lenger tid for Salto å implementere bybilkonseptet enn smarthusløsningen. Dette var også med på å se på tidsforløpet i forhold til når konseptet kunne bli satt i live. Vi så også på de økonomiske fordelene og ulempe ved de to ulike konseptene. Her så vi at det på ang sikt ville være mer innbringende for Salto i lengden med en smarthusløsning, for brukeren derimot ville det bli dyrere førstegangsbeløp med smarthus, men jevne seg ut på lang sikt med bybil. Vi så også på hvordan effektene innad i de ulike konseptene ville være, og hvilke effekter det ville ha utad. I tillegg så vi på hvilke elementer utenfra som ville ha en effekt på selve konseptene. Vi så også på hvor stor andel vi tenkte det ville bli av de ulike fagområdene som tjeneste, produkt og interaksjon ved de to ulike konseptene. Her så vi at det ikke var store forskjeller og en heller jevn fordeling av hvilket konsept vi kom til å velge. Etter denne systemiske evalueringen diskuterte vi for og imot hvorfor vi ønsket å gå for det konseptet vi gikk for. Begrunnelsen ble at vi så flere løsninger ved smarthus, vi hadde kontakter som gjorde det lett å hente inn informasjon, i tillegg var alle engasjert for å sette i gang med et prosjekt om smarthus. Samtidig så vi fordelene det ville være for Salto om vi valgte å gå for smarthus kontra bybil og så at det ville være en mer lønnsom retning for Salto. Ved å bruke systemisk tenking på et prosjekt kommer man mer i dybdelen og kan se elementer man ellers ikke ville tatt med i beregningen på valg man tar underveis i designprosessen. Samtidig kan man fort rote seg ned i dypet ved å skulle sette opp ting i system. Derfor er det viktig når man benytter seg av systemorientert design at man ser hvor man skal sette ulike begrensnings, i tillegg til å følge en satt design - prosess. Her lærte vi å ta i bruk dobbel diamant-metoden. Det som er viktig ved bruk av en slik metode er å vite hvor man er i denne designprosessen for å vite når man skal benytte seg av mapping eller ikke. Dette er noe vi kunne gjort mer aktivt under et annet prosjektarbeid. At vi kunne benyttet oss mer av dette verktoyet, og fulgt opp mye mer hvor vi var i prosessen. Ut fra systemisk tenking kan vi se på vår smarthusløsning på en ny måte enn før vi valgte dette konseptet. Vi kan bruke kaffe - koppeksempelet for å forklaresystemene
rundt smarthuset. Vi har et eget system for hvordan teknologien i huset fungerer, hvor - dan dette er koblet opp mot ladestasjon hjemme og powerbanken. Det er et eget system for utbyggerne og menneskene som ønsker å kjøpe husene. Det at vi nå klarer å se disse ulike systemene rundt et annet system gjør at vi forstår kompleksiteten rundt system orientert design. Når vi har sett på kompleksiteten rundt vår løsning gjør det at vi kan se på helheten rundt systemet og kortfatte det hele til en kunde.