Welcome to the SS2017 Master Project “Design in Crisis: Coming to our senses”!
Lecturers: Dr. Tomás S. Criado (e-mail contact: tomas.criado@tum.de), Prof. Dr. Ignacio Farías
For more information on the Chair of Participatory Technology Design, check our website
The course will take place weekly: Tuesdays 10-12, 13-15
Venue: Seminarraum Heizkraftwerk 1815

Description of the course
In this project, students will collectively explore what happens to architectural practice when we ‘come to our senses’. During the semester, on a weekly basis students will (a) experiment with a multi-sensorial approach to urban environments that centre-stages bodily experiences beyond the gaze and that is supported by different sensing devices, (b) reflect upon how such an approach puts many of the tools, strategies, aims and goals of architectural design in crisis; and (c) reimagine how a multi-sensorial architectural practice could look like. Accordingly, we will, first, undertake a collective exploration of sensory practices, in order to re-appreciate the city and the built environment in a different light. This exploration will involve site visits, perception experiments, documentation exercises, and collective readings and discussions. Second, using a case-scenario approach, we will learn from these critical experiences to collectively prototype a new architectural toolkit, that is, a set of devices, methods, and skills necessary to re-equip our practice and make us ‘come to our senses.’
Objective
Learning to develop sensory skills and capacities of designers beyond the use of the gaze, as well as learning to become affected by the multi-sensory aspect of the situations in which they design, and the people they design with.

Teaching methods
The course will operate on weekly workshops, including site visits, perception experiments, documentation exercises, collective readings and discussions, building and prototyping exercises. Attendance to all sessions will be compulsory to pass the course.

Throughout the course we will search to work with a particular metaphor in mind (“The blind leading the blind”): In a way, blindness could be a metaphor to address the conditions participatory situations impose on the designer, where the complexity of the demands and the needs of the people we work with might make us difficult to search for a way through, which might need all our inventive and creativity to go beyond the well-known path. That's why we would like to start from a positive reading of the term, since blindness might allow us to pay attention not only to a wider form of the architectural sensorium beyond the visual or the gaze, but also to the particular conditions and situations of the people we work with. Also, we believe that participatory design methods might benefit from this, since they require losing one’s self to be able to find the appropriate way to frame problems, and how to work with people. For that purpose, blindness will be our method, and the particular requirements for each next week will only be revealed a week in advance in this moodle.

* WARNING: No phones or computers will be allowed during Part I of the workshop during the sensory exploration sessions. We want your full attention. Thanks for your understanding.
Obligatory attendance to the following seminar
To be eligible to pass the course students have to attend Dr. Laurie Waller and Dr. Mascha Gugganig’s “Participation and Public Engagement” (3 ECTS, Module “Citizen Participation and Technical Democracy”).

Sessions calendar
25.4. Presentation of the course

PART I
2.5. Sensory exploration 1
9.5. Sensory exploration 2
16.5. Sensory exploration 3
23.5. Sensory exploration 4
30.5 Group discussion: ‘But, how to make sense from all this?’

PART II
6.6. Collective design of an architectural toolkit 1
13.6. Collective design of an architectural toolkit 2
20.6. Collective design of an architectural toolkit 3
27.6. Collective design of an architectural toolkit 4
4.7. Collective design of an architectural toolkit 5
11.7. Collective design of an architectural toolkit 6
18.7. Final presentation and evaluation

Evaluation and deliverables
Weekly deliverables (40%) + Final presentation (60%)
* All sessions will have deliverables (with the exception of the group discussion on 30.5). They should be sent to the lecturers (see e-mail above) the day before of the next session. Then they will be collectively stored for everyone to be able to check them.

References
Readings are not compulsory, but they might be inspirational. If you have any difficulties in locating them, please address the lecturers.

PART I

PART II
SESSIONS

25.4 Course start

2.5 Sensory exploration 1: Gaining sense of who we are and where we come from

10-12: Public presentation on your past work (10 minutes per student)

Bring to the class two projects (the most conventional and the weirdest ones) you have been working on in your studies or in work. You would have to present them in public for the whole group (so please bring a digital or physical copy). Please try to focus on explaining the others, who come from different origins and faculties why you selected them, and why they might be representative of your training and skills.

What's conventional, and what's unconventional for you?

13-15: “PROTOTYPING BODIES: WEARABLE SIMULATIONS AS EMPATHIC TOOLS”

This lecture explores wearable simulations, which are employed by designers to gain first-hand insight into the experiences of different users, including elderly and disabled people. Ranging from gloves and goggles to elaborate whole-body suits, wearable simulations are said to facilitate an inclusive and empathic design process by encouraging practitioners to seek affective and sensory connection with others. The lecture discusses empirical data and audio-visual materials on wearable simulations to investigate how they are developed and deployed by designers around the world. This will offer detailed insight into the workings of a particular method that various practitioners are increasingly using to cultivate sensitivity to bodily difference and diversity. It will also enable an exploration of the potential risks of empathic design and the importance of becoming aware of the specific assumptions and values that shape simulated experiences.

The purpose of this lecture is to enable students to:

- improve understanding of a key area of design: the role of simulation practices in fostering awareness of bodily difference and diversity
- investigate design methods as a form of design in its own right, which express certain assumptions about users and the world
- engage in critical thinking on the eventual limitations and possibilities that their methodological choices entail for practice

Dr. Kim Kullman is a Lecturer in Geography at The Open University. He obtained a PhD from the University of Helsinki, Finland, and worked as an Undergraduate Tutor at the University of Warwick and as a Research Associate at Goldsmiths College, University of London as part of the 'Universalising Design' project. His current research on ‘design geographies’ engages with architecture and design to investigate the knowledges and methods deployed by practitioners to shape urban environments that are responsive to the diverse bodies that inhabit and pass through them. He is specifically interested in the ethics and politics of built form.
Deliverable 1 (deadline 8.5)

1. Summarize in 1-2 pages someone else's conventional and unconventional projects (as agreed in class)
2. Write an email (800-1200 words) to a colleague from your studies, telling him/her what you discovered and learned or your puzzlements after Kullman’s talk. Please also submit your friend’s response (even if after the deadline).

9.5 Sensory exploration 2: Sensing space otherwise

What do you mean by ‘sensing space otherwise’?

In this session will have with us Ester Gisbert Alemany, architect and anthropologist (University of Alicante & University of Aberdeen).

She will help us relate to Königsplatz in different ways, not only to sense it otherwise, but also helping to find ways to translate our sensory experiences when exploring the urban by other means than an axonometric gaze (or even without resourcing to vision).

10-12 Space as kolam

Ester says:

Among the measuring and patterning practices I am studying, kolam appears as a particular one as it uses both a base grid and gestural patterns. This is perfect for reflecting in a brief practice about the abstract geometric space of modern science, and the concrete and active space of patterns and templates. Specifically we will draw kampi kolam, the kind that are closed with a single loop and have been studied by both mathematicians (Yanagisawa and Nagata) and ethnographers (e.g. Mall). The closing of the loop makes the practice a fertile ground to challenge and understand in one case topologies and variation, and, in the other, generative patterns and creativity. In the workshop I invite you to draw kolam collectively and in a bigger scale, as a land art work. I propose to do it following and comparing both interests: one group working from a regular grid, surveying, measuring and counting the land trying to lay-out a kolam design that we can see from up above; the other, working from the
patterned gesture, walking or tracing, trying to choreograph the closing of the line in time.

12-13: Lunch break exercise (remember to bring your own food!)

In the communal lunch break our suggestion is to pause a bit, sitting down in one of the staircases of the buildings in Königsplatz, and search to share with each other what we feel are the rhythms and temporalities that make the square and its uses: temporalities expressed in the durability of materials, in the circulation of people, animals, cars, etc. What kind of space is this, and what are the temporalities of its composition?

13-15 Synaesthesia, or the problem of translation

In the afternoon session we will try out an adaptation of a ‘blindfold game’ through which we will not only search to experience the square otherwise, but also where you will learn how through synaesthetic exercises you might experience the issues and problems of having to translate space in different sensory modes. So, the proposal is the following:

1. Form couples.
2. You have one hour to do the following exercise:
   a. Use your pullover, a handkerchief or whatever might be handy to blindfold one of you. The seeing person should choose a starting point and a point of arrival (not too far away).
   b. The blindfolded person should turn around 3 times. And then, with the help of the seeing partner, both should move to the chosen starting point.
   c. Without bodily contact the seeing member should guide the other to move to the chosen spot.
   d. The blindfolded one also has another task: searching to use his or her senses to understand how he or she could learn the route, finding hints and traces along the way. This should be done in whatever way possible: not walking but crawling, smelling the floor, feeling the different composition of the materials, etc.
   e. Repeat the route as many times as necessary.
3. Repeat the exercise swapping places for another hour.

Deliverable 2 (deadline 15.5)
Playing with the aesthetics of your choosing (treasure maps, fictional or imaginary maps, etc.), draw a how-to guide describing someone who was not there today how the kolam and synaesthetic explorations might help in a collective exploration of space, as the one we did today. This depiction not only should contain instructions on the appropriate way to do it, but the sensory landscape of your explorations (the kolam being an interesting short-cut to understanding the non-cartesian topology of being blind-folded, but also and more importantly an understanding on how space is created in the act of receiving and giving; the synaesthetic explorations also being a potential derivative from kolam). For this reason, the depiction should be accompanied with a textual explanation of no less than 10 pages searching to convey your feelings and sensations in exploring space in this way.

16.5 Sensory exploration 3: Architecture as sensory play

Playing is something very serious...

In her book *Architecture in Play* historian of architecture Tamar Zinguer explores the importance received by architectural games and toolkits such as Meccano or building block games since the beginning of the 20th century for educational purposes, as part of the quintessential education of the modern child (for the Spanish-speaking amongst us, there are also two very interesting books by Juan Bordes on the history of architectural toys 1 | 2). However, these 'playthings' also convey a much more serious history of the role of play and playfulness in architectural practice, as part of many different approaches highlighting the importance to self-learn other ways of doing
things, as well as the crucial derailments that have opened up newer approaches to space, form, construction, method, and so on.

In this session, we will address, hence, the potential of architecture as sensory play. For this we'll teach each other how to play a particular 'serious game': in exploring and understanding the challenges and the promises a particular toolkit we'll learn to develop a sensory approach to how streets are made. Through play we will explore and discover newer practices through which we will try to translate different forms of feeling into others, where the role of our feet and hands will be restored. What if doing so, you might be able to learn how to design a street without the use of your sight?

10-12: Learning a street by heart (with the help of your feet and hands)

Hence, we will do the following:
- We will together go out of the classroom, and will locate a particularly intricate sidewalk-pavement-crossing configuration. We will, then, focus on this configuration: the materials, the forms, the heights and widths…
- After a while, we will start using our feet and hands to memorise it, repeating as many times as necessary.
- Only when we have the impression that we have a feet-and-hand idea of the crossing, we will go back to the classroom and we will submit ourselves to the learning of a particular toolkit: the **Modellbaukasten: Taktiles und visuelles Blindenleitsystem im öffentlichen Verkehrsraum**, designed by an architectural studio from Hauteroda (Germany) this toolkit wishes to make easier not only how professionals could comply to the accessibility regulations of German sidewalk design, but also how they might communicate with blind and partially sighted clients. In a kolam fashion, we will explore the magnet board, the set of pieces, we will try to learn the meaning of the pieces, the textures, the colours, its uses, their scale…

Following what we learned from Kim Kullman's presentation "rather than representing or mimicking, simulations allow the investigation of perceptual variations in order to complicate designers' practice and how they deal with the sense of vision".

12-13 Lunch break

The toolkit will be available for your free exploration

13-15 A street you can feel, and are able to reproduce…

But once we're back to work, this is where fun starts:
- In couples and having no more than 30' each, you will search to reproduce the crossing we explored with the board with the only use of your hands. For this, one member of the couple will have to close his/her eyes whilst the other softly guides the exploration, repeating as many times as necessary to reproduce as accurately as possible the crossing.
- Pay special attention, when doing so, to what you cannot communicate, the feeling of your feet you cannot reproduce, the strangeness of using your hands, your touch, to 'draw' the crossing anew.
- Don't forget that watching others is also a means to learn, whatever it is you learn from this,

**Deliverable 3: Deadline 22.5**
- Write down a detailed instructions manual (2-3 pages) on what you needed to understand in order to use the magnet board.
- Re-design the Modellbaukasten, adding up the at least one piece or gadget you believe would make it more functional for whatever purpose. Send the final render of your idea, and if you have time build a prototype model (you could bring it on the 30.5 for the workshop we will do then). Explain your reasons in detail in no more than 2 pages.

### 23.5 Sensory exploration 4

*Wake Up and Smell Your City*

Norwegian artist and chemist Sissel Tolaas, who also works as a professional smell designer, has been 'on a mission' to capture cities' smells. And, for this, she has been frantically finding out odours and searching for ways to catalogue them in small flasks or creating installations, where she creates maps of smells (smellscapes?). Indeed, she has tried to articulate 'an alphabet for the nose'.
Check out her video, where she talks about 'seeing the world from the perspective of the nose'…

But isn't her work presupposing that we know what we smell, or that we have words and ways to translate smells into something meaningful? Ok, let's try that. In today's session you will have a commission: becoming a nose-chitect, or an architect-becoming-dog (did you know that dogs go crazy if they don't use their noses to search for, say, the stick… that is, if they become 'too visual'; so, you'll learn to think like a dog, one that speaks at least)

1. Each and one of you, in your mother tongue and bearing in mind that this would have to be heard by someone, have to go out in the street, and find a common starting point (ideally a crossroads, where each and one of you walks in one sidewalk each, using all possible directions). Your task? Creating a smellscape of the street you feel with your nose.
2. That is, using your smartphone you will walk really slow recording a tale, a story with your voice on what you smell. You will have to do this for 15 minutes. Please, it's really important that you do this in all detail. For this, use your mother tongue.
3. Right after that, you'll submit that recording to your partner and you'll all return to the classroom.
4. In the class-room, and without talking to each other your task will be to listen to your partner's tale with headphones as many times as necessary and start sketching out the street s/he is talking about. How? Haha! That's the trick. You'll have the whole day in the classroom to address that problem. By no means you will able to ask your partner 'what was that'. Today's task is to be able to translate into a drawing that smellscape.

Deliverable 4: Deadline 29.5
- Write a 1-page essay on the difficulties you had searching to translate smells into a spoken tale.
- Draw the smellscape of your partner, in all detail, and then…
- Create a model of the smelly street your partner depicted, acting as a three-dimensional map of the smells of that personal trip of the street, searching to identify the origins of smells, but remaining faithful to the topology of that smell. And bring it to the classroom on the 30th, since we will try to put them together, searching to recompose the smelly street you walked for 15 minutes.

For this, you might draw inspiration from Iconoclasistas's Manual of Collective Mapping

30.5 Group discussion: ‘But, how to make sense from all this?’

A Cathartic Workshop in Search for Reasons…

Bring physical versions of your deliverables to date: They should be in their best possible quality. Bear in mind you'll have to put them together for a common presentation and debate on what they might be working for as a 'toolkit'

Workshop's timetable
10-11 PARTICIPATION+DESIGN
a) Collective exploration through exercises of the meaning of these words
b) Overview of Participatory Design (PD) with Angela Di Fiore
11-12 MACHINE OF RHYTHMS
a) Please read the 3 pages (pp. 93-95) from Boal, A. (2005). Games for Actors and Non-Actors (2nd ed.). London: Routledge describing the methodology
b) Using the machine of rhythms we will try to reflect on the work we have already done.
12-13 LUNCH BREAK | Free exploration of your deliverables
13-14 DRAWING CONCEPTS
10’ Draw about your experience during the course
50’ In couples: Interviews your colleague explaining the drawing and the deliverable portfolio
14-15 PUBLIC DISCUSSION
30’ Each student will have to report what his/her colleague said to them about their experience
30’ Group discussion: “Are these things we have been working on an architectural toolkit?”

6.6 Collective design of an architectural toolkit 1
– Building a toolkit for a blind architect

MORNING
10-11 A blind architect?!

"As one of the few blind practicing architects in the world, Chris Downey occupies a unique place in design. When he lost his sight in 2008, Downey, who is based in San Francisco, began using his own experiences to transform interior and exterior spaces for those with—and without—visual impairments. Here, he shares his expertise on new and emerging technologies that could improve life for all of us." (Ref.)

"We think of architecture as a visual discipline, but vision is just one of our spatial senses. Close your eyes, after all, and the room around you is still there. When Downey lost his sight, his curiosity about the way environments are constructed didn't go away; it simply shifted to his other senses. When he could see, Downey often sketched as a way of sorting out architectural details he found puzzling. Now he taps his cane to get a sense of the volume of the space he's in, or he'll touch a wall or a transition point in the building to figure out how it's put together. He doesn't use a guide dog, because he would lose that intimate contact with the landscape. "I'm often trying to understand as much of the architectural space and form as I can," he says. The listening skills required practice, but the tactile ones didn't. "As kids we learn through touch, before our visual system is fully developed," he explains. Downey's years of
cycling also gave him a feel for the modulations of the streets, down to the dips and crests of the roads around his Piedmont home. Whenever people ask his wife for directions, Downey invariably answers." (Ref.)

We’ll also watch this video, where Chris Downey talks about building for the blind…

11-12 What is a toolkit?

Before the next class, please read the following texts, which we will comment:

AFTERNOON
We have a commission: **Designing a toolkit for a blind architect**, like Chris Downey

Distributing tasks: Starting to know what's there
1. Find all information of devices, gadgets and toolkits for **blind-non blind interactions in design**
2. Someone will have to **document** the others' endeavours: How?

**Deliverable 5.12.06**
The team has to search through all possible means to **locate existing devices** (maybe having a European scope) to **assist in blind-non blind architectural conversations**.

Here you have a few examples that might be guiding you **goggles**, simulator suits (
1.2, engraved drawing/models, construction models, digital platforms (1.2), responsive furniture, etc.

The important thing would be not only locating the elements, but also trying to understand how they work and what they are used for...

So, you might need to email people, interview them (recording and transcribing them), search in libraries and online archives. In a nutshell, acting like a research team... Documentation is quintessential for this: hence, the person in charge of the documentation for this session will have to put together a platform for exchange, as well as a report (in a format of your choosing) of all the information the team has gathered so far.

This report is what needs to be uploaded here. This document will be discussed at the beginning of the next session.

13.6 Collective design of an architectural toolkit 2

Share your first research impressions, and going beyond "design thinking"

MORNING

The documentator will bring a physical version of the deliverable, and will introduce the session describing in 10-15 minutes what the group has learnt so far. This will lead to a more open-ended discussion on the progresses being made, and the concrete approaches to interview the designers or architects using those gadgets (why, what for,
their issues and problems, etc.) and how to approach the interview and its transcription.

**We will distribute tasks and the necessary outcomes.**

**AFTERNOON**

Bring concrete comments and questions in a printed one page you will have to share with others to start a dialogue.

14-15 How could we incorporate that in our research process?

**Deliverable 19.6**

**DOCUMENTATION OF THE RESEARCH PROCESS SO FAR**

**20.6 Collective design of an architectural toolkit 3**

Having a picture of what others have done so that we can start prototyping

**MORNING**
The **documentator** will bring a physical version of the deliverable, and will introduce the session describing in 10-15 minutes what the group has learnt so far.
We will start a **collective mapping session** (led by the documentator of this week) to be able to identify what the group has learnt from all the different gadgets.

**AFTERNOON**

**Start sketching out your ideas!**

13-14 Brief session in couples sketching out ideas (try to understand to what extent the ideas you all had during the sensory explorations phase could be interesting resources to start prototyping the toolkit)

14-15 Discussion and further **distribution of tasks**.

**Deliverable 26.6**

1. **MAP OF THE RESEARCH PROCESS**
   You might draw inspiration from Iconoclasistas's [Manual of Collective Mapping](#)

2. **DOCUMENT THE SKETCHES**
   Show the state of the sketches from the group so far (pictures of the process, an accurate textual description of it), and try to address this question:
   - What is the common research question?
   - How do these materialisations help address the question? What are their limitations?
   - This week

**27.6 Collective design of an architectural toolkit 4**

We want sketches, but wait… we can't do this alone!

**MORNING**

The **documentator** will bring a physical version of the deliverable (comprising a map of the research process, and the state of the sketches so far), and will introduce the session describing in 10-15 minutes what the group has learnt so far.

This will lead to a more open-ended discussion on the progresses being made, and the concrete approaches to redesign sketches.
We will distribute tasks and the necessary outcomes (remember, they have to change hands).

AFTERNOON

13-14 Please prepare an in-detail reading of this chapter: Eva Brandt, Thomas Binder and Elizabeth B.-N. Sanders (2014) Tools and techniques: ways to engage telling, making and enacting, in Handbook of Participatory Design. Routledge. (pp. 145-181). Bring concrete comments and questions in a printed one page you will have to share with others to start a dialogue.

14-15 How could we incorporate that in our sketching process? We'll start drafting a collective participatory research plan: what techniques you will choose and who would you involve?

Deliverable 3.7

1. SHOW THE STATE OF THE SKETCHES SO FAR
2. BRING A DETAILED PLAN FOR THE PARTICIPATORY DESIGN PROCESS
   - METHODS
   - PEOPLE TO INVOLVE AND HOW (CONCRETE IDEAS, CONCRETE QUESTIONS, SINCE YOU WILL HAVE TO PUT IT IN PLACE NEXT WEEK)

4.7 Collective design of an architectural toolkit 5

11.7 Collective design of an architectural toolkit 6

18.7 Final presentation of the toolkit and evaluation

10:00-13:00 Public presentation of the toolkit and comments
Gastkritiker: Ester Gisbert, University of Alicante & University of Aberdeen

**

**

1. It would be nice if you designed the situation/installation of the room in which you would like to show, demonstrate, and involve all people present—not only Ester and I (as evaluators) but also the public who might be coming to this (potentially TUM's Prof. Regine Keller, and her team of Landscape Architecture), who might want to test it, try it. So, bear in mind that you would also need to summarise in a nice way all we have done for an audience of people who have never heard of what we have done beyond the generic info displayed on our website.

2. It would be nice of you could bring a physical version or even a copy of the remnants of the sensory exploration’s deliverables, but also the research and mapping boards to place them in the room and walk people through them.

3. I think you could have around 120 minutes (counting on the necessary pauses for that to be easily understandable and for everyone to follow) to present in detail, demonstrate, and show around the toolkit and what you have learnt from it.
We're giving you a lot of time so that we could all have a good time. Therefore you don't need to run, and you could express yourselves. Then after you we would have a round of 30 minutes of comments and questions from the evaluators, after which we would be opening the floor for any other interventions.

But I think it should be up to you how to design the space and the temporal dynamics of that presentation. As your last design requirement, maybe the best think you could do is have in mind this as a guiding principle: "Tell us what it is about and how to use it (even putting us in the situation of using it without having a clue of what you will show; maybe you could think of bringing an equipment to blindfold everyone present–e.g. sleep masks)"