

Individual Assignment: The State of Ubicomp

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Due Oct 30 by 8am Points 100 Submitting a file upload

Individual Reading Assignment

Mobile And Ubiquitous Computing (MUC) Georgia Tech: CS4605 & CS7470

This document specifies the individual reading assignments for enrolled students. The reading assignment aims at encouraging students to explore the general field of contemporary mobile and ubiquitous computing research. The assignment will be graded by the TAs and carries up to 10% of the overall course grade.

Task Background

Since Weiser formulated his vision of the third generation of computing [1] the wider research and application field of Mobile and Ubiquitous Computing (MUC) has become a major discipline that is now well within its third decade. For many MUC is an everyday reality and as such it is worthwhile getting an overview of where the field stands and in what direction it is moving

D start

In this assignment you will explore the state-of-the-field. Start with reading Abowd's 2012 position paper on the state-of-the-field [2], in which he –quite provocatively— claims that the vision of Weiser has been fulfilled, whilst at the same time stating that a number of aspects of the original vision have not been solved yet. It is your task to find one sub-area of ubiquitous computing (for example, as discussed in the Abowd paper) that is of interest to you and to explore this area further through looking at recent literature. Based on your research, write an essay that summarizes the state of the field, its main challenges, main application areas, main technological trends. Synthesize the literature and reflect upon what you have read. What future directions do you consider important for this particular field?

What to submit

Write a max. 1,000 words essay (word count does not include references or figures / tables; max of a total of four figures or tables are allowed) that summarizes the sub-field you have chosen as described above. Briefly describe why you have chosen your field and give an overview of papers you find relevant. Synthesize and reflect upon the literature as described above. Don't forget the conclusion.

PW? wya?

Abowd?
how

I sub area

summarize
state of field
which 1 + Y?

Conclusion

How to submit

Submit a PDF file to Canvas – through the assignment "State of the art in Ubicomp -- Essay".

Additional Information

Sources of Information

Good starting points for your explorations are the following academic publication venues:

venue	link	comment
Ubicomp conference series	ubicomp.org	flagship conference in the field
ISWC conference series	iswc.net	careful, this refers to the Int. Symposium on Wearable Computing (not on Semantic Web)
Percom conference series	percom.org	more systems oriented papers
CHI conference series e.g., chi2018.acm.org		giant conference on human computer interaction that also covers aspects of ubiquitous computing
ACM Proc. IMWUT	imwut.acm.org	new journal that covers aspects of mobile, wearable, and ubiquitous computing. Ubicomp papers (presented at the conference) are now published here.
Journal of Pervasive and Mobile Computing (PMC)	www.journals.elsevier.com/pervasive-and-mobile-computing/	relevant journal for this field
Journal of Personal and Ubiquitous Computing (PUC)	http://www.springer.com/computer/hci/journal/779	ditto
Pervasive conference series (now merged with Ubicomp)	http://pervasiveconference.org	see Ubicomp conference

How to explore

Do not try to read every paper word by word!

This is an exploration exercise that shall allow you to quickly get an overview of the research field. As such you will probably browse a few dozens of papers and there is simply not enough time to read all of these. What is more important is that you carefully read Abowd's summary of the state-of-the-field, which should give you hints on where to look for papers that you are interested in. Then you should start focusing your own search and exploration such that you will find the papers you are interested in.

Rubric

This assignment is really a literature exploration exercise. As such graders will be looking for an overview of the field as you have chosen and summarized it. It will certainly not be enough to only summarize the papers Abowd has referenced in [2]. Instead you will have to find other papers yourself and put them into perspective. All TAs are experts in mobile and ubiquitous computing and we want to see how you understand the state-of-the-field, and especially what direction you understand the field is heading. Reflection is the most important aspect here and originality will be rewarded.

and uniqueness

component What to look for points comment

Form	adequate form of the submission including title, name, and proper writing and referencing style	5	Use this assignment as an exercise for scientific writing. Apply the same standards of writing as you see them in your literature research.
Summary of the Sub-Area you Chose	summary of the sub-area of ubiquitous computing that you chose to explore	5	what is the chosen area about and how does it link to the general field of ubiquitous computing
State-of-the-art of the chosen subfield	summary of the where the sub-field is right now and what has been done	15	↑ above
How did you synthesize the explored literature?	did you just list a bunch of papers or did you actually synthesize what you read into an actual narrative?	20	obviously a mere listing of paper titles is not very insightful whereas synthesizing helps the reader actually understand the state-of-the-field <i>insert [1] [2] [3] [4] [5]</i>
Reflections	what are your own thoughts on the state-of-the-field	20	instead of only summarizing you should always reflect upon what you read
depth of literature exploration	own findings!	15	It will not be enough to merely explore the references Abowd has listed in his essay. You need to do your own literature research and as such present papers that you found and that you consider relevant.
conclusion	what have we learned?	10	based on what you explored — what is a take home message?
References	sufficient use of external resources	10	main purpose is to see if students have grounded their project into the real world (literature / existing technologies) such that the project is not completely out of touch. Also: Employ proper citation techniques and use primary, quality sources (not just wikipedia ...)
total		100	

In-Class Discussion (on-campus only)

On March 16 we will have an in-class discussion of the state- of-the-field of Ubiquitous Computing, which will be based on all submissions. The TAs will distill an overview of what the class submissions entailed (which is the reason for the separate submission of the references in source form — it will help us to do the analysis) and the whole class will discuss the field. Active participation in this discussion session is expected and will be graded (as part of the overall assignment).

Bibliography

- Weiser, M., The computer for the 21st century, in Scientific American. 1991.
- Abowd, G.D., What next, Ubicomp? Celebrating an intellectual disappearing act, in Ubicomp. 2012.

Essay Rubric

Criteria	Ratings	Pts
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Form		
Adequate form of the submission including title, name, and proper writing and referencing style (Use this assignment as an exercise for scientific writing. Apply the same standards of writing as you see them in your literature research.)		5 pts

Summary of the Sub-Area you Chose		
A concise but informative summary of the sub-area of ubiquitous computing that you chose to explore (what is the chosen area about and how does it link to the general field of ubiquitous computing)		5 pts

State-of-the-art of the chosen subfield		
A summary of the where the subfield is right now and what has been done		15 pts

How did you synthesize the explored literature?		
Did you just list a bunch of papers or did you actually synthesize what you read into an actual narrative? (obviously a mere listing of paper titles is not very insightful whereas synthesizing helps the reader actually understand the state-of-the-field)		20 pts

Reflections		
What are your own thoughts on the state-of-the-field (instead of only summarizing you should always reflect upon what you read)		20 pts

Depth of literature exploration		
Own findings! (It will not be enough to merely explore the references Abowd has listed in his essay. You need to do your own literature research and as such present papers that you found and that you consider relevant.)		15 pts

Conclusion		
What have we learned? (based on what you explored — what is a take home message?)		10 pts

References		
Sufficient use of external resources (the main purpose is to see if students have grounded their project into the real world (literature / existing technologies) such that the project is not completely out of touch. Also: Employ proper citation techniques and use primary, quality sources (not just wikipedia ...))		10 pts

Total Points: 100

Submission

X Not Submitted!

[Submission Details](#)

You may not see all comments right now because the assignment is currently being graded.

gen 1 gen 2
maintain personal computer
gen 3
with food
food

Cities to attack

Reflection
→ and sufficiently advanced
technological
force will
not be
seen as
magic

Challenges and Opportunities
challenge w/ privacy (HCI)
this is hard to avoid at this time

Generation 4

What he didn't predict
1991 force he didn't
to prevent mid 2000's

Technologies
common by 2010

Cloud
Cloud
Cloud
Cloud

Human-computer Relation
= Many - Many

(I) Intro

Literature Survey
challenges (Unfinished Business)

Reflection

Conclusion

References (see Myers et al.'s
historical account [1])

Intro
w/ advanced in ubi comp.
and its intersection w/ accessibility

Nice words
uniquitous accessibility support

by taking a strong position in my current
work

challenges are profound freedom ops,
safety, ? questionable

Introduction

stuff about recommendations
pdf C, smart wheelchair based on Ubicomp pg 3/Session 2

Finally.....

Leverage "Sensors everywhere"
and Ubicomp House

Literature Survey

Wikipedia entry describes the
impact and highlights
quotations from [1]

Make a every subsec have a section!

mention there is not a 1 size fits all for cerebral palsy.

ATL United Article and Sait Aslam statement

Puru Mahato on ChatGPT x Kipper video link

Around page 7 "what's new, ubicomp". (Ubicomp community bring Hardware, sensing, activity recognition)
 together?

Reflection → ubicomp by definition encourages multi-disciplinary research
should be a part of it

Challenges: Learning curve, Safety!, and everyone is effected
with disability in some way

Did not list safety as a challenge b/c it has
gotten significantly much much better