Unit Outline: KXA452 Advanced Mobile & Ubiquitous Computing

Summer, 2007
Sandy Bay Campus, Hobart
Newnham Campus, Launceston

Prerequisites
None
Corequisites
None
Unit Weight
12.5% of one academic year
Unit Coordinator
Prof. Arthur Sale
Lecturing Staff
Newnham Campus, Launceston: Prof. Arthur Sale
Sandy Bay Campus, Hobart: Prof. Arthur Sale

Scheduled Teaching Sessions
Lectures: 3 hr/day
Seminars: 1 hr/day
The Unit Timetable can be accessed from the Study Resources section of the School website. ([http://www.comp.utas.edu.au/app/studyresources.jsp](http://www.comp.utas.edu.au/app/studyresources.jsp)). All lectures/seminars are video-conferenced between Hobart and Launceston.

Unit Website
The unit website is accessed from [http://www.utas.edu.au/coursesonline/](http://www.utas.edu.au/coursesonline/). You will need to use your university email pop account username and password to log on to the WebCT system. Once authenticated by the system your personalised MyWebCT area will be displayed. It contains links to the websites that you have permission to access - including the website for this unit.

This unit is Web Supplemented. This means that the use of the Web is optional for this unit. The unit website contains unit information and resources.

If you are not able to access the unit website, please contact the University IT help desk:
- Entrance Level, Morris Miller Library, Sandy Bay Campus;
- Entrance Level, Launceston Campus Library, Newnham Campus.
- Telephone: 6226 1818 and 1300 304 903.
- The 1300 number is a local call from within Tas, with the exception of mobiles.
- Email: servicedesk@utas.edu.au

University Website
Information and Resources for 'Current Students' are available on the university website at: [http://www.utas.edu.au/students/](http://www.utas.edu.au/students/)

Provider
School of Computing - Faculty of Science, Engineering, and Technology.

OVERVIEW

**Introduction**
This unit involves an intensive study of computers used in mobile applications, and computers embedded in ubiquitous products. As such, it spans a wide range of topics through the networking of mobile devices, satellite communications, mobile phones and mobile phone systems, WiFi and Bluetooth, laptops and personal data assistants, software for mobile devices, the human interface, speech technology, wearable computers, visualization, power sources, new technologies, safety, and privacy.

**Learning Outcomes**
On successful completion of this unit, you will be able to:
1. understand the technology underlying mobile and ubiquitous computer applications
2. have assessed the state-of-the-art in this field
3. have achieved an initial understanding of speech technology and visualization
4. have studied the role of wireless links and cellular organization
5. have completed an in-depth study in one aspect of the field.

**Unit Content**
For more information see the section titled 'Content' on the unit website.

**Generic**
The university has defined a set of generic graduate attributes expected in its graduates.
**Skills**

http://www.utas.edu.au/policy/subject.html#graduates Your course is designed to enable you to develop generic skills that are valued in, and expected of, graduates. These are skills that you will need to develop over time. Hence you are encouraged to look for opportunities, as you study each unit, to reflect on and improve these skills.

The unit involves a significant amount of self-directed research study, and as such serves as a good introduction to the Honours year with its emphasis on research training. Students undertake brief but intensive research into state-of-the-art issues, and report on their findings in plenary seminar sessions.

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**LEARNING AND TEACHING**

**Approach to Learning**

You are expected to spend about 130 hrs studying in this unit - this includes attendance at scheduled teaching sessions. (For a 13 week semester this is, on average, 10 hr/wk.) This is the amount of study time that the 'typical' student will need to reach the level of competence and understanding required to fulfil the unit objectives.

You are expected to:

- attend all scheduled lectures and seminars, unless otherwise notified by the unit coordinator
- prepare for, and actively participate in lectures and seminars
- complete the assigned learning tasks
- review what has been learnt
- complete assessment items and submit them on time
- access and be familiar with the information and resources available on the unit website
- seek help from teaching staff if you have any questions or difficulties in studying this unit

In this unit you will be working an intensive 8 hrs/day for 2 consecutive weeks, and will put in about another effective week’s work in completing the assignment. The unit will run through all weekdays.

You are expected to arrange for full-time attendance during the unit. If this is not possible you should discuss your problem with the unit coordinator; brief absences can be accommodated.

You are encouraged to read the university’s Code of Conduct for Teaching and Learning. Part A describes the ‘Responsibility of the University to Students’ and part B describes the ‘Responsibilities of Students to the University’. http://www.utas.edu.au/tl/policies/codes.html

**Schedule**

See the 'Schedule' section on the unit website.

The unit is delivered in-person and via video-conference, and runs as an intensive class 09:00 - 17:00 Monday to Friday, 29 January to 9 February 2007. Three lectures (sometimes run as seminars) are given in the morning starting at 09:00 sharp and finishing at 12:30 with appropriate breaks. The first part of the afternoons is devoted to self-study on topics arising from the lectures using School resources, terminating in a plenary discussion seminar on the self-study at 16:00.

The unit coordinator will deliver some days from the Hobart campus and some from the Launceston campus.

**Teaching and Support Staff**

**Teaching Staff**

**Unit Coordinator:**

Prof. Arthur Sale  
E-Mail: Arthur.Sale@utas.edu.au  
Phone: (03) 6226 1792  
Room: 463, Sandy Bay Campus, Hobart

**Lecturing Staff**

Newnham Campus, Launceston: Prof. Arthur Sale  
Sandy Bay Campus, Hobart: Prof. Arthur Sale

**School Help Desk**

Contact the School Help Desk if you have any queries or problems with accessing, using, or printing from the computers in the School of Computing labs.

- **Hobart:** the Help Desk is located near the School's reception desk and is open from 10am - 4pm Monday-Friday. The phone number is 6226 2960.  
- **Launceston:** the Help Desk is located near the entrance to the computing labs and is open in the morning from 10am - 12pm, and in the afternoon from 2pm - 4:30pm, Monday-Thursday. On Fridays it is open from 10am - 12pm in the morning and 2pm - 4pm in the afternoon. The phone number is 6324 3447.
University Services and Support

The University has staff available to assist you, such as the:

- Learning Development Advisor
- Student Counselor
- Careers Advisor
- Disability Officer

For more information and contact details see the Services and Support section on the University 'Current Students' web page. http://www.utas.edu.au/students/

Resources

Unit Website

The unit website contains unit information and resources. The contents include unit organizational information, lecture notes (as PowerPoint presentations) for each session, and work notes for each day's research activity. The last two categories are uploaded daily before presentation.

Prescribed Text

None

Readings

You will be undertaking extensive research using online sources during the unit, many as a result of your own research and laboratory work.

Software

The software that you will need to access the unit website and to study this unit, including general purpose software such as word processors, is provided on the computers in the School's computing labs. If you intend to use software on other computers please check that the versions are compatible.

You are also likely to be using specialized software during the unit, including speech synthesis tools, mobile phone simulators, etc. The unit coordinator will introduce you to these tools at the appropriate time.

Computing Facilities

The School has PC labs (Windows XP), Mac labs (Mac OS-X 10.4), and Networking labs at the Newnham and Sandy Bay campuses. It also maintains 6 Macs (Mac OS-X 10.4) at the NW Centre. Unix accounts can be accessed from all Macs and PCs.

If you have not used these facilities before please contact the School Help Desk to organise your account details. If you would like to access the facilities at the Newnham and Sandy Bay campuses after hours please contact the School Help Desk.

Please contact the School Help Desk if you have difficulty accessing or using these facilities.

You should use the nominated laboratories on each campus for Internet access during the unit, as individual Honours desks will not have been assigned yet. These are:

- Hobart: Mac Lab 2 - 278, PC Lab 2 - 272
- Launceston: Mac Lab - V194, PC Lab 2 - V196

Use of Facilities

Use of computing facilities provided by the School is subject to the School's Ethics Guidelines - http://www.comp.utas.edu.au/app/ethics.jsp. Copies of the guidelines are also available in all School labs. The School's facilities may only be used for study-related purposes, and may not be used for personal gain. The playing of games is strictly prohibited in all labs at all times. Before being granted access to the School's facilities, you will be required to sign a declaration that you have read and understand these guidelines, and that you will abide by them. Disciplinary action may be taken against students who violate the guidelines.

Occupational

The university is committed to providing a safe and secure teaching and learning environment.
## ASSESSMENT

<table>
<thead>
<tr>
<th>Assessment Items</th>
<th>Item 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title:</strong></td>
<td>Project Assignment</td>
</tr>
<tr>
<td><strong>Type:</strong></td>
<td>In-Semester - individual assignment</td>
</tr>
<tr>
<td><strong>Weighting:</strong></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Due:</strong></td>
<td>15:00 Sunday 18 February 2007</td>
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</tbody>
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The deadline for the project assignment is set to prevent the unit running into Semester 1. You are encouraged to submit as soon as possible.

See the 'Assessment' section in unit website for more detailed information about assessment items.

### In-Semester Assessment

Unless specifically stated in the specification of the assessment item provided on the unit website, it is required that:

- work submitted by a student is the work of that student alone OR
- where the assessment item is to be completed by a group of students, the work submitted by the group of students is the work of that group of students alone.

### Plagiarism

Plagiarism is a form of cheating. It is taking and using someone else's thoughts, writings or inventions and representing them as your own, for example:

- using an author's words without putting them in quotation marks and citing the source;
- using an author's ideas without proper acknowledgment and citation; or
- copying another student's work.

**If you have any doubts about how to refer to the work of others in your assignments, please consult your lecturer or tutor** for relevant referencing guidelines, and the academic integrity resources on the web at [http://www.utas.edu.au/tl/supporting/academicintegrity/index.html](http://www.utas.edu.au/tl/supporting/academicintegrity/index.html).

The intentional copying of someone else's work as one's own is a serious offence punishable by penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, to exclusion from a unit, a course or the University. Details of penalties that can be imposed are available in the Ordinance of Student Discipline – Part 3 Academic Misconduct, see [http://www.utas.edu.au/policy/subject.html#students](http://www.utas.edu.au/policy/subject.html#students).

The University reserves the right to submit assignments to plagiarism detection software, and might then retain a copy of the assignment on its database for the purpose of future plagiarism checking.

### Referencing

The university document on plagiarism contains information about referencing the work or ideas of others. (See [http://www.utas.edu.au/plagiarism/](http://www.utas.edu.au/plagiarism/).) The preferred text referencing systems for the School is the Harvard system (also referred to as the author-date system).

### Submissions

The details of the submission method (paper, electronic or other) for each assignment will be supplied in a separate assignment specification sheet. All in-semester assignment submissions (including electronic submissions) are to include an Assignment Cover Sheet which includes a statement confirming that the submission is your own work. If this undertaking is not signed, the assignment will not be marked. The Assignment Cover Sheet is available from the School Help Desk in Launceston and Hobart, and on the School's web site [http://www.comp.utas.edu.au/app/studyresources.jsp](http://www.comp.utas.edu.au/app/studyresources.jsp).

### Extensions

Assessment items will not be accepted after the due date except under the conditions stated in the school policy on late assessment. [http://www.comp.utas.edu.au/app/late_assess.jsp](http://www.comp.utas.edu.au/app/late_assess.jsp)

### Final Grade

Passing grades will be awarded based on the AVCC guidelines:
• PP at least 50% of the overall mark but less than 60%
• CR at least 60% of the overall mark but less than 70%
• DN at least 70% of the overall mark but less than 80%
• HD at least 80% of the overall mark

The maximum mark awarded to a student who fails the unit will be 44.

For more information, including other grades such as Supplementary and Terminating grades, see the School of Computing’s guidelines for assessment - available at: http://www.comp.utas.edu.au/app/assess.jsp