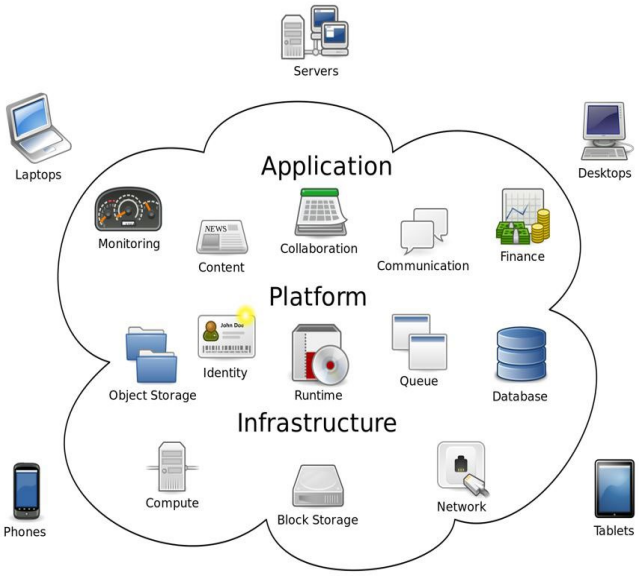
THE UNIVERSITY OF HONG KONG

CAES9542
Technical English for Computer Science
2022-23
Student Course Booklet



INSERTION-SORT(A)	*cost*	*times*
1 **for** $j = 2$ **to** $A.length$	c_1	n
2 $key = A[j]$	c_2	$n-1$
3 // Insert $A[j]$ into the sorted sequence $A[1..j-1]$.	0	$n-1$
4 $i = j-1$	c_4	$n-1$
5 **while** $i > 0$ and $A[i] > key$	c_5	$\sum_{j=2}^{n} t_j$
6 $A[i+1] = A[i]$	c_6	$\sum_{j=2}^{n} (t_j - 1)$
7 $i = i-1$	c_7	$\sum_{j=2}^{n} (t_j - 1)$
8 $A[i+1] = key$	c_8	$n-1$

My name:

Subclass:

CAES
Centre for Applied English Studies

6/F, Run Run Shaw Tower, Centennial Campus
The University of Hong Kong
Pokfulam
Hong Kong
Tel: 3917 2004
http://caes.hku.hk

Letter from the Director

Dear Student,

Welcome to your Academic English course!

You are probably wondering what this programme will offer you and what you will find in this booklet. You are among the **7,500 undergraduate and postgraduate students** who will take one of our courses this year – so you are in very experienced hands.

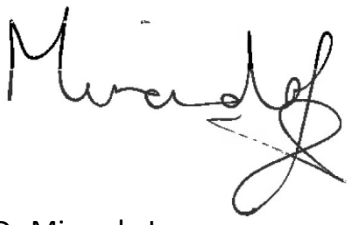
Our goal is to assist you develop the English skills you need for your **professional and academic development** so that you can approach your university studies with more confidence and a greater chance of success.

To achieve this goal you will find yourself in a small group of around twenty students where we **encourage English to be spoken at all times**. Your teacher will do his or her best to provide an **active and supportive learning environment** for you by providing tasks to help you engage with your learning, and by giving you **valuable feedback** on your work.

Your CAES teacher will also **explain the course assignments and assessment criteria** to you clearly in advance and **answer any questions** you may have about the course and about English language learning in general.

To get the most from your course you should **participate actively in the class** by **speaking in English** as much as possible and by taking a full and active part in your classes, for example by **working with others in group work**.

I hope you enjoy your English course and wish you every success in your studies!



Dr Miranda Legg
Acting Director of the Centre for Applied English Studies

CAES Rules

1. Attendance and Participation

CAES expects students to attend 100% of scheduled classes (including the add/drop period) and complete all assigned out-of-class tasks (if applicable). 20% absence is allowed for emergencies or sick leave. Students who are not able to meet the 80% attendance requirement due to various reasons should contact their teacher immediately. **Students may risk failing the course if they miss a substantial proportion of the course without providing any medical certificate or legitimate reason for their absence.**

Students have the responsibility to contact their teacher before the commencement of the course if they know in advance they have problems meeting the 80% attendance requirement. Examples of such cases include students who are pending faculty's approval for their application for leave of absence.

If students know in advance that they have problems with attending the scheduled classes then they should also contact their teacher immediately and provide an explanation. It is very important for the teacher concerned to be informed about this ahead of time so that they can make appropriate arrangements for these students.

CAES classes are highly interactive. We would like our students to get the most out of our courses by actively participating in lessons via responding to their teacher and classmates. If for any reason participation in interactive activities is not possible in some of our courses with a virtual learning element (e.g. due to internet connection problem), students should let their teacher know in advance.

If students have any special needs or circumstances that may affect their attendance or ability to complete course assignments on time, they are strongly encouraged to seek professional advice from HKU-CEDARS (https://www.cedars.hku.hk/).

2. Punctuality

We expect students to be punctual for all the scheduled classes and tutorials of CAES. Students may be marked as partially absent if they are **late for 10 minutes or more** for a class without a valid reason. **Lateness for two times** may count as **one absence.**

IMPORTANT NOTE:

The rules stated above apply to both face-to-face and online classes.

3. Academic Honesty

HKU expects all students to display a high level of integrity when completing course assignments. Any form of academic dishonesty will not be tolerated, and failure to observe the rules and conduct of academic integrity will result in negative consequences. As such, you should complete your course assessments honestly at all times. Examples of basic principles of academic honesty include: (i) completing the entire assessments yourself; (ii) NOT submitting the same assessment more than once unless specified otherwise by the course teachers concerned, and (iii) not colluding (i.e. cooperating with others secretly with an intention to deceive) with anyone when producing your work.

We would like to draw your attention to sections 3.1 and 3.2 for details of two common forms of academic misconduct which result in severe consequences.

3.1 Plagiarism and self-plagiarism

Plagiarism is defined as "the use of another person's work (including but not limited to any materials, creations, ideas and data) as if one's own without due acknowledgement, whether or not such work has been published and regardless of the intent to deceive" in the Policy on Student Plagiarism in Undergraduate and Taught Postgraduate Curricular (116/1080). **Some common types of plagiarism include:**

- **paraphrasing and/or quoting without acknowledgement;**
- **inappropriate paraphrasing and/or quotation of sourced content**

This is not an exhaustive list but it gives you an idea of some common types of plagiarism cases in students' work.

Self-plagiarism is defined as "the reuse of one's own work without acknowledging that such work has been submitted elsewhere" in the Policy on Student Plagiarism in Undergraduate and Taught Postgraduate Curricula (116/1080). Students should not submit the same piece of work for different courses (except for adjunct English-in-the-Discipline courses and with teachers' permission). They should always check with the teacher if they are unsure.

Examples of plagiarism:

You are strongly advised to visit the following links about the University's Policy on Plagiarism:

https://tl.hku.hk/plagiarism/how-to-avoid-plagiarism/

Learning resources to help you avoid plagiarism:

https://tl.hku.hk/plagiarism/learning-resources/

Consequences of Plagiarism

In the University of Hong Kong, plagiarism is a disciplinary offence. If a submission contains plagiarism, only the unplagiarised parts will be marked. This may result in the work being considered as incomplete, unstructured, lacking content and organization.

The link below contains information about consequences and disciplinary procedures concerning students who have committed plagiarism:

https://tl.hku.hk/plagiarism/consequences-of-plagiarism/

3.2 Ghostwriting and its consequences

Ghostwriting, also known as 'contract cheating', is when a student gets someone (paid or unpaid) to complete **part of OR all of** an assignment. It is serious academic misconduct. CAES takes ghostwriting very seriously and when such cases are confirmed, severe penalty will apply. The assignment concerned will be treated as a non-submission (i.e. 0 mark). Such cases will also be reported to students' Home Faculty for disciplinary action. If such cases are further reported to the University Disciplinary Committee, the student who is found guilty is subject to various forms of punishment, details of which can be found in section 4 of Statute XXXI of the University's Statutes and the Disciplinary Committee Regulation: https://calendar.hku.hk/disciplinary-committee-regulations/

4. Submission of Assignments

If students are **sick** and unable to hand in an assignment, they must **contact their teacher** to let them know immediately. The following are general guidelines on penalties/policies for late submission of assignments for all CAES courses.

- Assignments which are handed in **up to four days** late without any medical/legitimate reason will **have one full letter grade deducted <u>each day</u>** (e.g. a B- becomes a C- after one day late).
- If the assignment is submitted **four days after the deadline without a medical certificate/a legitimate reason,** it will be treated as non-submission (N – 0 mark). It is up to the programme coordinator to decide whether such students should be given feedback on this assignment.
- Students who do not submit an assignment at all or miss an assessment without a medical certificate should be given an N (0 mark).

Bad Weather

In the case of bad weather such as **Black / Red Rain** or **Typhoon Signal 8**, please follow the university guidelines (updated 2021 by The Registry):

(a) Tropical Cyclone Warning Signal No. 8 (or above) is hoisted; or (b) Tropical Cyclone Warning Signal No. 8 will be issued within two hours as announced by the Hong Kong Observatory; or (c) "Extreme conditions" after super typhoons are in force (announced by the Government before the Hong Kong Observatory replaces Tropical Cyclone Warning Signal No. 8 with Tropical Cyclone Warning Signal No. 3); or (d) Black Rainstorm Signal is in force, the following arrangements will apply:

<u>For classes and examinations not yet started:</u>

If any of the warnings or announcements is hoisted or in force at or after **6:00 am**	All classes and examinations commencing *before 2:00 pm will be cancelled automatically.*
If any of the warnings or announcements is hoisted or in force at or after **11:00 am**	All classes and examinations commencing at any time *from 2:00 pm and before 6:00 pm will be cancelled automatically.*

If any of the warnings or announcements is hoisted or in force at or after **3:00 pm**	All classes and examinations commencing *from 6:00 pm onward will be cancelled automatically*

For classes and examinations already started:

When Tropical Cyclone Warning Signal No. 8 or above is hoisted or the No. 8 Signal will be issued within two hours as announced by the Hong Kong Observatory, or "extreme conditions" are in force	- All classes and outdoor examinations will be suspended immediately. - All examinations, except those held outdoors, will continue until the end of that examination session. - All examinations, except those held outdoors, will continue until the end of that examination session.
When Black Rainstorm Signal is hoisted	All classes and examinations, except those held outdoors, will continue. For outdoor classes and examinations, the responsible staff members on the spot should suspend the activities immediately, ensure that all students are taken to a safe place, and remain there until it is safe for them to return home.

When Tropical Cyclone Warning Signal No. 3 or below or Red or Amber Rainstorm Signal is in force, it should be assumed that all classes and examinations will be held as scheduled unless an announcement to the contrary has been made by the University.

GET HELP ON LANGUAGE LEARNING & ANY COMMUNICATION-INTENSIVE PROJECT!

CSS comprises the CAES Writing Centre and CAES Speaking Studio. These CSS units provide academic, professional, and social English-development opportunities for students of all ability levels through one-to-one consultations, workshops, and discussion groups.

We offer:

- **1:1 consultations** with trained peer consultants from a wide range of disciplines on written and spoken assessments.
- Support at any stage of the assessment process.
- **Workshops and discussion** groups on writing and speaking skills and international language tests

Students are welcome to upload assignment instructions, notes, outlines and drafts before consultation.

For more information, and to book go to: https://caescss.hku.hk

Support services provided by HKU-CEDARS

It is important to CAES that every student has a successful learning experience in our courses.

If students feel that they have any special needs which might impair their ability to participate in activities or complete course assignments, they are encouraged to contact CEDARS and/or their course teacher and the course coordinator as soon as possible.

Teachers will make an effort to accommodate special needs students when arranging or conducting learning activities.

If students have any special needs that might impact their ability to complete any assessed task they should present documentation to CEDARS and ask that the course coordinator is informed so that special arrangements can be made if deemed appropriate.

The CEDARS webpage on accessibility support for students with disabilities is linked below:

https://www.cedars.hku.hk/

Additional information can be found at the HKU Equal Opportunities web-site:
http://www.eounit.hku.hk/eng/index.htm

CEDARS –Main Building/Meng Wah Complex

CEDARS-Counselling and Person Enrichment Section (CEDARS-CoPE) promotes attitudes and skills that are necessary for their success in the university environment and in their pursuit of productive, satisfying and psychologically healthy lives.

Please visit this link for contact information of CEDARS: https://www.cedars.hku.hk/contact-us

Counselling and Psychological Services

- https://www.cedars.hku.hk/cope/cps

Special Educational Needs (SEN) Support

- https://wp2.cedars.hku.hk/cope1920a/learn-more-about-special-educational-needs-sen-support/

Careers and Placement advice

- https://www.cedars.hku.hk/careers/home

Communication-intensive Course Syllabus Statement

CAES9542 Technical English for Computer Science

This is a certified Communication-intensive (CI) Course which meets all of the requirements endorsed by HKU's Senate, including:

- the teaching and assessment of oral, and written communication 'literacies'; and
- at least 40% of the course grade assigned to communication-rich assessment tasks.

What communication knowledge and skills will students learn in this course?

This course aims to help students develop their writing and presentation skills in a technical context. Students will learn various rhetorical skills such as identifying a problem/solution, justifying engineering choices, integrating text and technical diagrams, and employing analogies for concept simplification. Students will also learn to organize their reports and presentations (spoken and written genre knowledge for the engineering discipline) with grammar, lexical choices, and tones which are appropriate, comprehensible, and professional.

How will students learn these?

The above communication knowledge and language skills are acquired through in-class activities such as analyzing and critiquing sample writing and presentations from the relevant fields of engineering. Students practice and develop these skills through self-critique and teacher feedback on a progress report, a diagnostic presentation and a presentation rehearsal. After practice, students deliver another progress report (on a yearly continuing project) and an oral presentation.

What does a good communicator look like in this course?

At the end of the course, students are expected to show the following communication-related attributes:

- Following the conventions of the genre (technical report and presentation) in order to engage with a cross-disciplinary engineering audience
- Simplifying, justifying and presenting technical content and arguments for a cross-disciplinary engineering audience
- Using accurate, appropriate and professional language
- Showing professionalism in delivering engineering-related content in both oral and written forms
- Reflecting on areas of self-improvement on oral presentation and report writing

Unit 1
Course introduction and overview of academic writing and presentation

Overview

This one-semester, 6-credit communication course is for final-year students majoring in Computer Science / Computing and Data Analytics / Financial Technology [BASc(FinTech)]. The focus of this course is on helping students to report on the progress of their Final Year or Capstone Project in an effective, professional manner in both written and oral communication. Topics include accessing, abstracting, analyzing, organizing and summarizing information; making effective grammatical and lexical choices; technical report writing; and technical presentations. Assessment is wholly by coursework.

Learning outcomes

By the end of this unit, you will be able to

- understand the overall course structure and requirements
- highlight the audience, purpose, and features of various technical texts
- decide what elements to include in your project plan

1.1 Course Introduction

There are two emphases in this course: technical report writing and oral presentation. To be successful in this course, you will need to participate in a range of learning activities and complete the assignments on time. Assessment is by coursework only.

The learning objectives of this course are as follows:

- to sharpen your technical report writing skills
- to acquire verbal and non-verbal delivery skills for professional demonstration and presentation

1.2 Specific Course Learning Outcomes

At the end of the course, you will be able to:

- write a report that explains technical information to specialist and non-specialist audiences in a succinct, organized manner
- produce a summary that captures the essence of a report for non-specialist audience
- present technical information through selecting appropriate graphics and integrating them well in the text
- make convincing justifications and claims based on real-life disciplinary sources
- deliver technical information in an oral presentation to a non-specialist audience which demonstrates accurate use of language and a grasp of appropriate presentation techniques

1.3 Learning Activities

In this course, you are expected to participate in the following activities in order to achieve the learning outcomes:

- in-class group discussions and practices
- drafting and revision of technical reports
- critiquing presentation and report samples, including your own work
- oral presentation, rehearsal and reflection
- online and out-of-class learning activities

1.4 Course Schedule

This course is administered on a three-contact-hour per week/unit basis with a combination of seminars and tutorials with out-of-class learning activities to be assigned. Individual consultation can be negotiated with the course lecturer. **Refer to Course Moodle for any update of the course schedule.**

Week	Unit	Content	Homework for Students
4 Sep Mon/Thu **1 Sep Tue/Fri**	1	**Course introduction** **Oral Presentation** • Instruction and Preparation for Diagnostic Presentation (DP) **Report Writing** • Overview of purposes structures, and audience awareness of various technical reports	Preparation of diagnostic presentation
7-11 Sep Mon/Thu **5-8 Sep Tue/Fri**	1	**Oral Presentation** • Diagnostic Presentation (DP)	**Complete reflection after your diagnostic presentation (Deadline = 11 Sept (Mon/Thu classes, 8 Sept (Tue/Fri classes)**
11-15 Sep	2	**Oral Presentation** • Introduction to Self-Access and Reflection (SAR) Record • Overview of purposes, features, and audience awareness of academic presentation **Report Writing** • Paraphrasing, using citation and references	Remember to back-up work (word doc) on SAR in case of IT system problem
18-22 Sep	3	**Report Writing** • Writing introduction **Oral Presentation** • Designing effective visual aids • Designing and presenting figures and tables	Preparation of Self-access Record (SAR) Practice Draft introduction of PR1 (some objective, scope)
25-29 Sep	4	**Report Writing – Main Body (1)** • Explaining methodologies • Using technical illustrations: graphics and figures **Oral Presentation** • Applying the Assertion Evidence Approach to an oral presentation of your FYP	Draft the methodology section of PR1 (Try to draw some process flow or architecture diagram, etc.)
2-6 Oct **Mon 2 Oct is public holiday.**	5	**Report Writing – Main Body (2)** • Justifying engineering choices • Improving clarity and cohesion **Oral Presentation** • Delivery and paralinguistic features	Completion of one SAR task

		• Signposting and Transition	
9-13 Oct	6	**Report Writing – Main Body (3)** • Reporting and discussing findings and results • Improving cohesion in writing through New vs Given structures **Oral Presentation** • Anticipating and handling various situations in a Q&A session • Improving your oral delivery by focusing on word stress, chunking, and thought groups	Write limitations or potential problems and plan for overcoming them
16-20 Oct		**Reading Week** **There will be a make-up class on Monday 16th October for Mon/Thu classes.**	Preparation for Progress Report 1 and SAR
12/16 Oct Mon/Thu **13/24 Oct Tue/Fri** **26 Oct Mon/Thu** **27 Oct Tue/Fri**	7 8	**Report Writing – Conclusion & Abstract/Summary** • Writing conclusion and summary/abstract • Reflecting on difficulties encountered **Report Writing** • Language practice and identifying common writing mistakes • Front and Back matter	**Submission of Progress Report 1** **25 Oct Noon**
30 Oct – 3 Nov	9	**Consultation Workshop on Progress Report 1**	**Submission of ALL SAR tasks** **1 Nov Noon**
6-7 Nov **9-10 Nov**	9	**Consultation Workshop on Progress Report 1 (Continuation)** **Oral Presentation rehearsal and feedback**	Preparation of Rehearsal
13-17 Nov		**Oral Presentation rehearsal and feedback (Continuation)**	Preparation of Progress Report 2
20-24 Nov		**Course Wrap-up and Student Feedback** **Final Presentation**	Preparation of Progress Report 2
27-30 Nov		**Final Presentation (Continuation)**	**Submission of Progress Report 2** **30 Nov Noon**

1.5 Assessments

Please check the updated descriptions and due dates for assignments on Moodle.

In this course, your work will be assessed by staff members from the Centre for Applied English Studies (CAES). Please refer to the course grade descriptors at the end of this booklet for further information.

1.6 Technical writing – Knowing your audience

Before you start reporting technical information, you should decide your audience and purpose. Your decision will determine the type and format of the text you are going to write. You need to pay special attention to the ordering of the sections as the presentation of information should flow logically so that the reader can follow the development of your work or project. This section will begin by introducing different types of texts, focusing on the logical flow of the elements in the table of contents.

TASK 1.1 Identify the audience and purpose of various technical texts

Read the following tables of contents for various technical texts. Discuss with a partner sitting next to you and determine the primary audience for each table of content (e.g., specialist vs managerial audience). Justify your answer by the presence and the order of the sections listed.

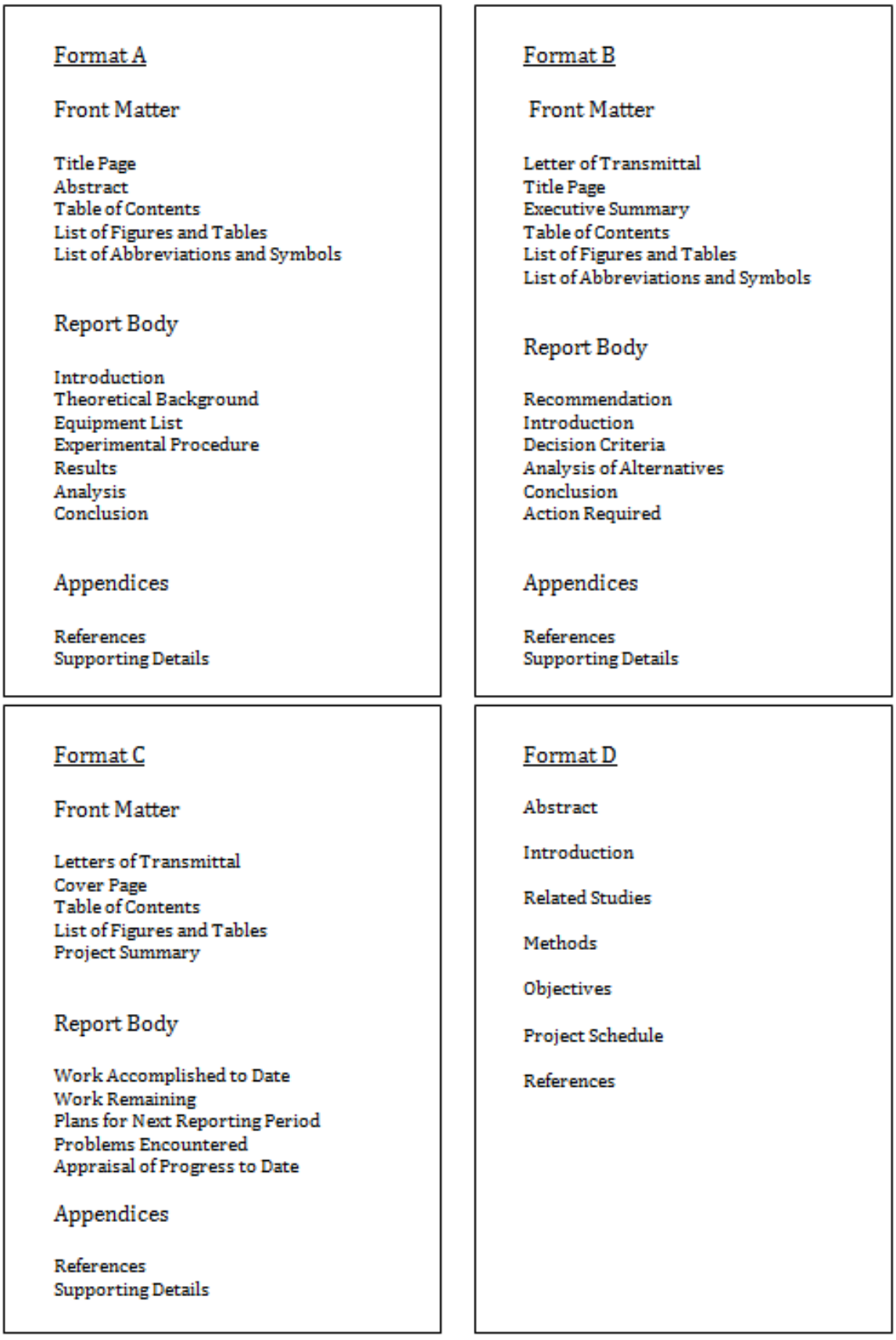


Figure 1. Various tables of contents in technical texts [1]

TASK 1.2 Identify various technical texts

Suggest a name of the document under each format and consider which format(s) may be adaptable for your use in your final year project.

Format A:
Format B:
Format C:
Format D:

TASK 1.3 Propose an outline for your project plan and interim report (Homework)

List the element(s) you will add to or remove from the corresponding formats to fulfill the requirements of the project plan and interim report to be submitted in your final year project. Work with your project group members and write a draft of the outline of your project plan and interim report. Prepare to explain your outlines to your classmates.

Hint: Think of the requirements stated by your project supervisor.

TASK 1.4 Identify the structure of an interim/progress report

Work as a group of three to four. Read the following sections of an interim report of which the section headings have been removed and jumbled in order. Put them in the correct order and suggest appropriate headings.

Hint: Think about the purpose of an interim/progress report.

Text 1 [2]

A

Phase 2 will include the following tasks:

August 23: Testing begins. Shannon Smith will oversee with the following team members: Elliot Cane, Lou Towery, Elizabeth James, Pat Rhoades.

August 27: Testing concludes. Status report meeting, led by Shannon Smith, scheduled for 4:00 p.m. in the second-floor conference room.

August 30: Move of site to server begins.

B

Phase 2 will take the server live and will conclude with the Web site being moved to the new server. Before the site can be moved, the server must be fully tested to ensure that all components are viable and that the bandwidth is sufficient. Shannon Smith and her team will conduct the testing starting on August 23 and concluding on August 27. Because none of the current company systems are on this server, work in the rest of the office can continue as usual without interruption. Once testing is complete and all parties are satisfied with the server's performance, the actual site will be removed from the current Web host and moved to our server. The actual move will take 24 hours to be fully complete.

C

Phase 1 has now been completed and included the following tasks:

June 7: Current Web host contacted and notified of our intent to move our site from their server. Began search for an expert technician to head up transition.

July 1: Shannon Smith hired to head up technical team.

July 19: Research completed on options for servers. Hardware and software needs were identified and a comprehensive list of materials was created along with pricing information.

July 22: Material orders placed with all vendors.

August 10: All materials delivered and setup of server room began.

August 20: Server room setup complete. Phase 2 can now begin.

D

The process of creating an internal server and moving the company Web site over is progressing on schedule as discussed previously. The change request from Sales and Marketing could potentially delay the project a week, but I recommend that we proceed without the change and complete the project on schedule. If you have comments or questions, please don't hesitate to contact me directly at 916.555.1212.

E

The original agreed-upon deadline for this project was chosen specifically to correspond with the launch of the new wedge product line because there was a significant concern that the current Web host would be unable to accommodate the increased site traffic the new product line is estimated to create. After reviewing the requested changes to the speaker content, the recommendation is to proceed as previously agreed upon and delay the format and style changes until after the initial launch of the site on the new server. The new request will take top priority after the September 1 launch.

F

The Web host for the original Green Audio Corp. Web site is no longer able to meet the needs of our rapidly growing online product sales division. As a result, on June 6, we began the process of establishing an in-house server to host the company Web site. The agreed-upon deadline for the move to the new server is September 1, which coincides with the launch of our new wedge division. The project is being completed in two phases:

Phase 1: Research and development

Phase 2: Take the server live and move the site to the new server.

Phase 1 has been completed and Phase 2 is about to get under way. However, a request from the Marketing Department was received today which, if honored, might negatively impact the final delivery date.

G

To date, the project has proceeded on target with no problems encountered. However, the Sales and Marketing Department is now asking for changes to the Web site content, which were not included in the previous scope of the project. Specifically, they have changed the format and graphics for the new wedge content, and they are requesting an update to the speaker portion of the site to bring it into compliance with the new style. This change will add an additional week to the timeline to allow for content creation, editing and proofreading, and implementation.

In addition to proposing outlines of your own, you can also understand the expectations of your project plan better by acting as an audience and offering a critique of project plans written by your fellow students previously.

TASK 1.5 Preparing a project plan

Brainstorm a list of elements your supervisor would like to see in the project plan you will submit to him/her.

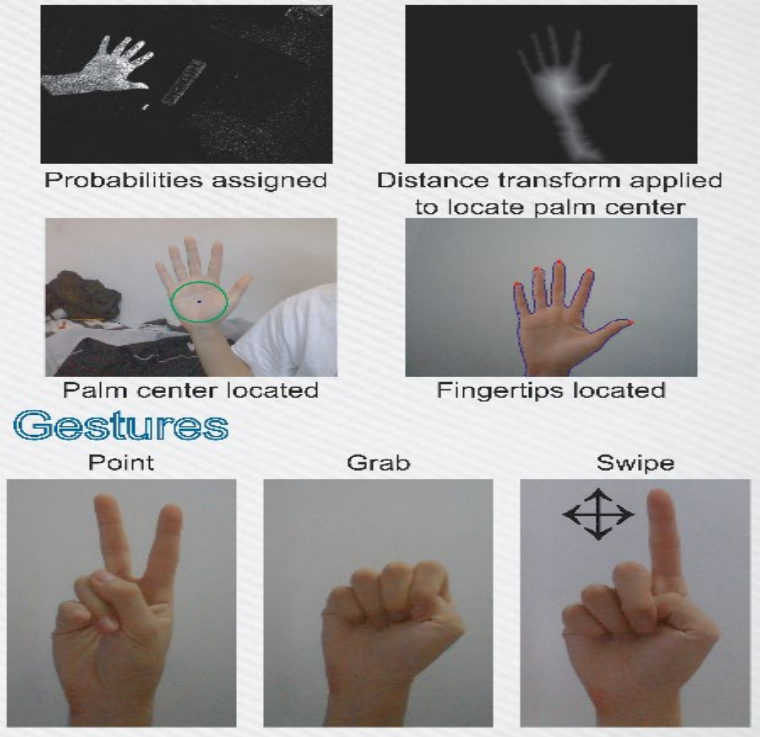
Note: The project plan you may need to submit to your department will not be marked by your CAES teacher and is not within the scope of this CAES course. However, this exercise should help you think more about what to include in the plan. Check with your supervisor on the exact details he/she needs.

‘Suggested’ Project Plan Checklist (on Moodle) Note: Check with your supervisor on details needed.		
Content	**Checked?**	**Remarks**
• Objectives (tangible & significant?) • **Problem statement/Benefits** • Basic background • Theoretical background • Literature review (or Related Works) • **Scope** (what are/not included) • Prerequisites (hardware, software, techniques, etc.) • **Deliverables** (tangible enough?) • Approach & Methodology (detailed enough?) • **Feasibility assessment** • Project management info (e.g. division of work, distinct work packages?) • Risks, challenges & Mitigation • **Schedule** (detailed enough) • **Mini-conclusion** • Appendices/References		
Language		
• Grammatical accuracy • Sentence structure (sentences too long?) • Appropriate use of tense • Appropriate use of third person/passive voice • Appropriate vocabulary • Formality		
Format		
• Organization (TOC, page nos., table/figure captions) • Easy-to-follow, neat, professional presentation style		

Text 2 [3] **Example of Project Plan from a student**

Check with your FYP supervisor for the format they require for the project plan.

Project title: Gesture Recognition on Smart Phones



Introduction

In the early 00s, mobile devices are mostly controlled by physical buttons. Then Apple announced the first iPhone equipped with a capacitive touch screen and later released it in June 2007. With its touch-based user interface, it revolutionised the human-computer interface and made this way of interaction the standard in the mobile device industry. Many manufacturers followed this design pattern and adopted touch screens into their smart phones. Shortly after, with Android from Google, users can input text with voice without using the onscreen keyboard. They can perform certain predefined actions just by speaking to their phones. For example, one can do search, dial, and navigation. Apple also released a similar but more powerful tool Siri to compete with Google's offering in October 2011. As the computing power of mobile devices increases, a new way of controlling these devices starts to emerge, namely computer vision. By using the on-device camera, it is possible to achieve a touch-less experience for users and would be suitable for scenarios where touch is not preferred.

Approach

In the project, we will leverage some existing computer vision libraries to create an hand gestures based interface for users to interact with the mobile operating system. We chose Android as our developing environment for its openness and significant market share. Also the cost of development is much lower compared to iOS. What's more, there are much

support on the Internet that we can learn from online tutorials. In order to facilitate the development of such an interface, we will use some external computer vision libraries, namely OpenCV and FastCV. OpenCV is a open source computer vision library free for both academic and commercial use that is rich in features. FastCV is one from Qualcomm that is optimized for ARM-based processors which fits our requirement of the service running on a mobile device.

Objective

The project aims to develop a hand gestures recognition interface which allows user to control their phones without a single touch.

The intermediate goal for this project is to develop a demo application, in which the user can try to use some predefined hand gesture to control the elements in the demo application. The demo application also explores the possibility of implementing the gesture recognition into different situations on smart phone like gaming and utility.

The ultimate goal is to develop a service/application which will run in the background to detect hand gesture so that user can access and control their phone at any time. For example, they can select their apps by moving their hand in front of the camera, or going out to the main menu of their phone by moving their hand away from the camera.

Tasks and Project schedule

Oct 14	Deliverables of Phase 1 • Project Plan • Project Website
Oct	Gather User Requirement Investigate the use of openCV and fast CV Study of Android development platform Analysis and Design of the system
Nov-Dec	Development of the demo application • preliminary GUI design and construction • Define hand gestures motion • Implement the gesture recognition functions
Jan 27	Deliverables of Phase 2 • Demo application • Interim report
Dec-Feb	Development of the service/interface • Map different gestures to the keys of the device • Implement settings for the interface
Feb-April	Optimization and Testing
April 21	Deliverables of Phase 3 • Finalized implementation • Final report

1.7 Diagnostic presentations for your project plan in the next session

You will be presenting your project plan of your final year project in-class in the next session. You need to organise your presentation so as to maintain the audience's attention throughout the presentation. Each student should speak for about **3 minutes**. **Make sure your presentation contains some technical information.**

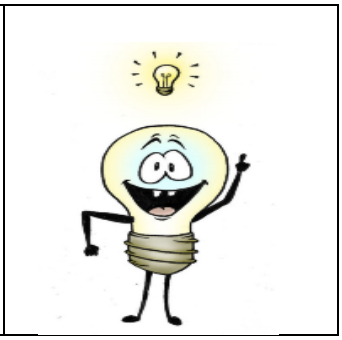
At the end of your presentation, another 1 minute will be allotted for a Q&A session. Please be prepared to answer questions raised by the audience.

Please print a copy of your presentation slides and give it to your teacher on the day of your presentation. You DO NOT need to print the slides in color. [Fit all slides in one sheet].

1.8 Over to you

It is important to understand your audience before even drafting an outline of your thoughts. Various tables of contents in reports signal such importance. This also applies to the outline of a presentation. Follow the ideas of this unit in contrasting different texts, working with authentic examples, and paying attention to language features. These will help you develop a 'feel' for technical writing and speaking rather than follow a set of prescribed rules that you may forget ☺.

TASK 1.6 Reflect on this unit (Refer to the learning outcomes of this unit)



Key points to remember

- Distinguish between a technical and non-technical audience
- Identify the needs of and adapt your writing for your audience
- Adapt your project and proposal outline from the appropriate sources
- Learn by critiquing other authentic proposals/reports with a checklist
- Pay attention to the objectives of the course and ALL the assignment due dates ☺!!

IMPORTANT! Homework and Preparation for the next session

Presentation of your Project Plan

You will conduct an oral presentation of your project plan (check with your own department). The purpose is to help you prepare your project plan, receive feedback from the course lecturer, and establish a baseline for improving your presentation skills. Details of the presentation will be provided by the lecturer.

References

[1] Paradis J, Zimmerman M. *The MIT Guide to Science and Engineering Communication*. Massachusetts: MIT Press; 1997.

[2] Martinez D, Peterson D, Wells C, Hannigan C, Stevenson C. *Technical Writing: A comprehensive resource for technical writers at all levels*. *Revised and Updated Ed*. New York: Kaplan Publishing; 2011.