

Programming Applications

Midterm Project (70% of Midterm Grade)

Topic: **Software Developers Toolbox**

Objectives:

- Demonstrate how various features of software development tools are employed in software development activities
- Develop/Enhance group dynamics
- Develop/Enhance technical documentation skills
- Develop/Enhance presentation skills

Description:

- Group-based (5-6 members per group)
- Group members will choose one or more software development tools
 - e.g., editors (source code editors, graphical user interface editors, resource editors, etc.), integrated development environments, translators (compilers, interpreters, transpilers, decompilers, minifiers, obfuscators, etc.), testing tools/frameworks, debuggers, profilers, design tools, project management tools, etc.
 - only non-commercial (or trial versions of commercial ones) tools are allowed (i.e., no pirated or 'cracked' versions of tools may be used)
- Group members will select, study, and discuss among themselves 5 (in the case of 5-member groups) or 6 (in the case of 6-member groups) different features of the chosen tools, as they pertain to common software development activities
 - the selected features must focus on the following activities (**at least one, at most two, of each**):
 - advanced code editing/generation/formatting
 - code refactoring, code analysis and/or validation, application profiling and/or optimization/tuning
 - testing and/or debugging
 - miscellaneous activities (e.g., design, documentation, devops automation, project management, etc.)
 - Each member has the option of choosing a utility tool for Java (provided that selected choice will not duplicate the demonstrated tool in class) or for the programming language that was assigned to the member during the prelim period.
- For each selected feature, the group members will prepare the following:
 - 5-minute comprehensive demo of the feature
 - concise technical documentation (2 pages max) of the feature, as well as the intended demo of the same
 - **appropriate and original** demo artifacts (e.g., demo source code, sample data, test scripts, configuration scripts, design documents, etc.) to be used in the demo
 - the demo artifacts **must relate to possible applications that may serve the software needs of Baguio residents, businessmen, or the city government**.
 - group members are expected to demonstrate clear understanding of the features to be demoed (i.e., the group members **must not just memorize** how to do the demo; rather, they should be able to provide the appropriate motivation, discuss the pertinent core concepts, use the suitable technical terminologies, cite issues and/or considerations in the feature's use, etc.)

Evaluation Rubric:

- Group Grade (subject to the peer evaluation ratings): 60%
 - 20%: Complexity and Appropriateness of Motivation for the Topics
 - 20%: Complexity and Appropriateness of Demo Artifacts for the Topic Demos
 - 20%: Technical Documentation for the Topics and the Topic Demos
- Individual Grade: 40%
 - 20%: Technical Understanding of the Topic
 - 20%: Proficiency in the Topic Demo

Deliverables:

- **Electronic:** **Due date: To be announced (TBA)**
 - Documentation of the topics prepared by the group
 - PDF format, long (8.5" x 13") bond paper page size, with 1" margin all-around, single-spaced, using size 12 Calibri font for normal text and size 12 Consolas font for sample program codes (if any)
 - Filename: **classcode-Ggroupno-SDT.PDF** (e.g., **9600A-G2-SDT.PDF**)
 - Each topic's documentation must not exceed 2 pages
 - The topics must be numbered (i.e., **TOPIC1**, **TOPIC2**, etc.), in the sequence that the group intends to have them presented, and must be organized in the same sequence in the documentation
 - Must include a cover page, indicating the group's class code and schedule, the group's group number, a list (in sequence) of short titles for the topics to be presented, and an alphabetical list, by family name, of the group members
 - Must include reference page(s) as the last section of the entire documentation, organized by topic number, using the APA style guide for reference citations
 - Demo Artifacts
 - Create a folder named after the class code and group number (e.g., **9600A-G2**)
 - Create subfolders (under the main folder) named after the topic number (i.e., **TOPIC1**, **TOPIC2**, etc.)
 - Store the demo artifacts for each topic under the appropriate subfolder; any additional information/clarification about the demo artifacts may be provided in **README.TXT** files (either stored under the main folder and/or in the appropriate subfolder)
 - Archive the entire folder, using ZIP format, and name the archive after the class code and group number (e.g., **9600A-G2.ZIP**)
 - Upload both the topic documentation PDF and the demo artifacts archive file to the provided Assignment post in Google Classroom
- **Hardcopy:**
 - Consolidated Peer Evaluation Form (duly accomplished and signed by all the group members) – to be submitted on the meeting following the group's presentation
 - Topic Documentation (to be printed on long bond paper and stapled at the upper left hand corner) – to be submitted during the scheduled group's presentation
 - **No submitted hardcopy requirements, no presentation**

Presentation Guidelines:

- Each group will be allotted 30 minutes for the presentation
- Each group member will be allotted 5 minutes to present the topic assigned to the member
- Topics will be randomly assigned to the group members (tools for the Java language)
- Groups are expected to bring their own (one or more) properly configured devices for their presentation
- Groups utilizing online resources are deemed responsible for ensuring the availability of network connectivity during their presentation
- Groups are expected to utilize only the demo artifacts that they have previously submitted for their presentation
- Group members are expected to use English as the primary medium for their presentation
- Group members are expected to be in appropriate presentation attire
- Groups are expected to observe punctuality in their presentation schedules