Lecturer: **Dr. Dmitriy Dunaev**

Final Project Selection Form

1. General Information

Project title: Database for a village (or larger unit e.g province)

Student

Full name: Kormoua Khongmeng

Neptun code: I3MLPQ

2. Honor Code

By filling and submitting this form I certify that all of the following are true:

1) I fully understand the consequences of plagiarism and cheating.
2) I fully understand the meaning of plagiarism and recognize specifically that it includes copying of others' source code, paraphrasing, reusing old final projects, source code, and related materials.
3) I recognize that the minimum penalty for plagiarism and cheating with the final project is a Fail (1) in the course.
4) If I am unsure about whether something constitutes plagiarism, I will consult my instructor before I turn in the project assignment.
5) I will give the correct information on this form.

Please, answer questions completely. If approved this form becomes part of your Final Project Assignment.

All information provided will be kept confidential from other students.

3. General Requirements for Final Project

The Final Project requires the application of system and algorithm design, testing, and documentation skills. The minimal requirement includes the application of object-oriented paradigm, dynamic memory management (new/delete), exception handling (try/catch), and file management. The lab instructor can award extra point for additional C++ techniques, e.g.:

- Inheritance: base and derived classes
- Polymorphism: abstract classes and virtual functions.
- Multiple Inheritance: two or more base classes
- Operator overloading with local and global operations
- Generic data structures: class templates and function templates

You do not have to select the extra techniques now. Later, in project documentation, you are supposed to clearly explain what techniques from this list you might have implemented. This will be checked at personal defense.

4. Questions about the Project

1. Give a general description of the problem domain, provide theoretical and/or empirical backgrounds

Create a program which can create and manage a database for a village, can store a data of each person, e.g full name, age, date of birth, etc. the program should be able to: add a new person into a database, delete a person from a database, search a member and get his/her detail from a database, list all data from the database, tell the overall data of the village, e.g how many people, etc.

2. Describe your solution to the above problem (algorithms, methodology, reasoning):

I will have a class member, and might have class village, class children as well. In each class will have a necessary attribute, method base one their class. To create a database and can be accessable, I am planning to use hash tables or linked list (for example, I have an array of size 26 that store a pointer which point to a linked list of a class. array[0] will have a pointer to a linked list of all people who has a name start with ‘ a ’, and array[1] will have a pointer to a linked list of all people who has a name start with ‘ b ’, etc. Same idea as a binary tree, because I haven't studied yet, is there other way in C++ that can do this.

3. Are you planning to use external solutions, e.g. class libraries, interfaces, engines? Explain below.

not sure yet. I might not use any or I might use <list> or <map>, etc.

4. What IDE running on what OS will you be using for writing code?

I am using MacOS, I cannot use Visual Studio, so I just use Xcode.

5. Notes to the lab instructor

Most of the technique that I mentioned above, I am still not sure all about them yet, since I still haven't studied them and don't know what they are capible of. Therefore, I might have some changes later base on a situation in the future.

Please note that only programs written in C++ with an object-oriented approach that meet the requirements can be accepted.

If you are unsure about your idea for the final project, seek guidance from your lab instructor before submitting this form.

Upload this form only at the Course Website; do not send it by e-mail or in any other way.

The submission deadline can be found on the Course website. No submissions will be accepted after the deadline.