PRINCIPLE OF WINDOWS AND ITS APPLICATION

FULL PROFESSOR: JICHENG HU

COURSE NUMBER: 20201021076 《WINDOWS原理与应用》

COURSE NUMBER: 20201021952 《WINDOWS原理与应用》

Basic Ground Rules

- 不能到课须事先电子邮件告知老师，事后假条无效
- 上课期间禁交谈，不提倡“玩”手机，可使用手机、笔记本、pad等各种设备辅助听课

Instructor Contact Information

Email: jicheng @ yahoo . com

Office phone: +86 - 027- 6877- 6033

Office hours: 8:00 – 17:00, weekday

Course web page

https://gitee.com/wuhanuniversity/win-principle-2020

https://stackoverflow.com/questions/871/why-is-git-better-than-subversion

Course Description

Brief course summary

"Windows Principle and Its Applications" is a course of developing general purpose programming skill on Windows platform, via different programming languages that supports various computer programming models such as object-oriented programming and generic programming. Its main purpose is to make writing good programs easier and more pleasant for the Windows platform programmer.

By learning this course, you will be training with up-to-date technology, including uwp, fluent design, c++/winRt, etc, to create stunning modern windows applications, using a suite of collaborative tools. These learning opportunities can help you get started quickly — from exploration to deep training.

- Lecture Location: Campus 3
  - Wed 11-13: Building One, Room 304, course 20201021076
  - Thurs 1-3: Building One, Room 505, course 20201021952
- Lectures: Week 1 – 8
- Labs: pending, B-Wing room B-303, Building of CS, Week 9 – 12

- Prerequisites:
  - C# / C++
  - Data structure
- Credits: 2.0

个人认为顶级研发者C/C++/Fortran混合编程
BLAS https://icl.utk.edu/svn/lapack-dev/lapack/

教材

https://docs.microsoft.com/en-us/windows/apps/
https://docs.microsoft.com/en-us/learn/
https://docs.microsoft.com/en-us/windows/win32/midl/
https://docs.microsoft.com/en-us/windows/apps/fluent-design-system
https://docs.microsoft.com/en-us/windows/uwp/design/

Course Objectives

It's irresponsible for educators to teach people a new tool without also teaching them when it's appropriate to use each of them
https://www.gamedev.net/blogs/entry/2265481-oop-is-dead-long-live-oop/

Course Objectives	Results/Outcome Expected	Skills Developed
提高Windows编程实战能力	熟练综合使用各种工具、语言	Coding skills
理解Windows程序并发、同步等概念	熟练的多线程编程技巧	线程管理、关键资源管理
掌握Windows平台中不同应用程序类型的基本开发技术	UWP，fluent, ……	C++/WinRT
培养大型软件工程项目的规划、项目管理与开发能力	Project, GitHub, installer, …	DevOps, CI/CD
… how to … when to … ?	全栈开发能力? impossible	前台、中台、后台技术

不是神课……仅入门引路……修行靠coding……成大神靠programming

重点补充的内容

- 编程技术：RAII, zero-copy, ……
- Windows底层事件机制与MIDL
- 回调函数
- 服务程序开发
- Windows应用程序打包与部署

Required Materials

Reading

- Text Books: 大纲要求部分
- Articles
- Web
- Open source codes community

Project

- OpenCV application
- Qt
- Node.js

Technology/Tools

- 思维工具、管理工具、开发工具

Instructional Methods

Coding, coding, n coding, …

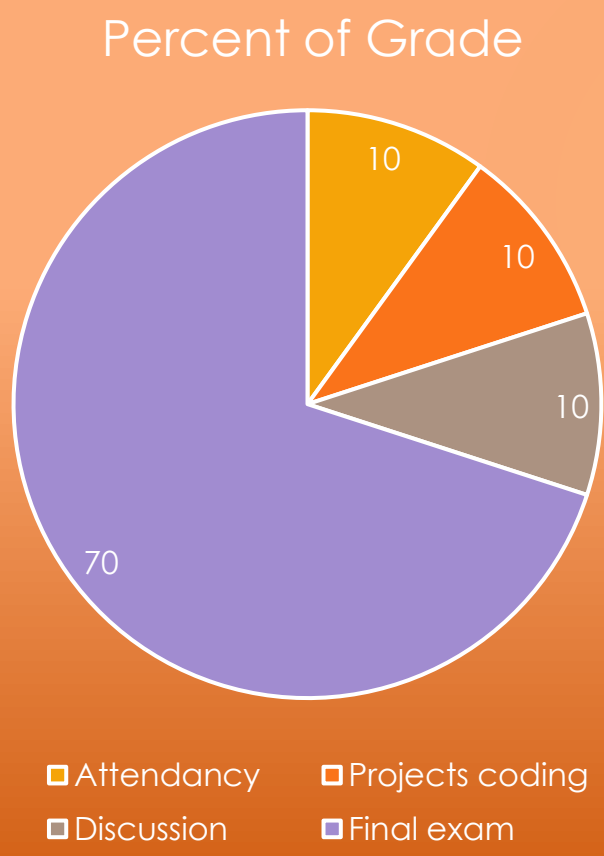
- Lectures
- Online interaction: github n gitee
- Demonstrations
- Class discussion/Virtual discussions
- Individual/group projects, maybe employ github classroom
- Labs

Schedule

Week	Topic	Assignment/Project	Objective
Week 1	Windows操作系统概述	gitee, VS, github, …	windows平台下软件开发基础概念
Week 2	程序进程与进程间通信	进程通信	通信机制、同步
Week 3	线程间通信与同步	线程通信	通信机制、同步，多线程编程
Week 4	文件系统管理		
Week 5	注册表		
Week 6	动态链接库的创建与使用	创建与使用	C#/C++使用C++/C#的dll
Week 7	Windows COM原理与技术	创建与调用	主要Office对象的调用
Week 8	Windows窗体原理与消息处理机制	消息处理机制	消息、事件、回调函数，补充fsm

Assessment Criteria

- Attendance 10%
- Projects coding 10%
- Discussion 10%
- Final Exam 70%



Resources

Web & Software Tools

Class web site:
gitee.com/wuhanuniversity

Collaboration tool: git
Management tool: project

Azure

Social Media

Twitter: …

Facebook: …

QQ group:
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Labs, Study Groups

Labs: VS 2019 + github/gitee

Study groups: big plus!

Questions?

- 选课代表
- 课代表成为 gitee 课程仓库管理员