UHD Learning Management System
Project Report

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CS 3321 Software Engineering
Professor Kulwant Singh

Abstract: This software is a Learning Management System design to assist students and admin. Students are able to view current info, such as student name and ID. Students are also able to view current courses info, such as assignment and grades. Admin has the ability to update, delete, insert, and monitor student records. The application has a login functionality and data is stored locally. The application is written in Microsoft Visual Basic and create in Visual Studio 2019

Software Project Management Plan (SPMP)

Introduction:

Objectives: Create a learning management system app for assisting admin and student. The application will store student information such as name, courses, and grades. The admin will be able to modify student records. The student will be able to view the records.

Major Functions:

- Student: QUERY student records and grades
- Admin: INSERT, DELETE, UPDATE, MONITOR students
- Admin: INSERT, DELETE, UPDATE, MONITOR grades
- Admin: INSERT, DELETE, UPDATE, MONITOR student's courses

Management and Technical Constraints: This application will only run on Windows because it is written in Visual Basic. The data is store locally in a text file.

Project Estimates:

Effort, Resource, Cost, and Project Duration Estimates:

- Project Duration: 1 month
- Cost: $0
- Effort: 2 team members (Anh Dang, Gilchrist Souabedet)

Schedule:

- Work Breakdown Structure:
  - Week 1 (Research), Week 2 (Alpha Release), Week 3 (Beta Release), Week 4 (Application and Project Integration)
- Task Network Representation: GitHub integration
- Gantt Chart Representation: Draft during week 1.
- Create Gantt chart: Finish after week 1.

Project Resources:

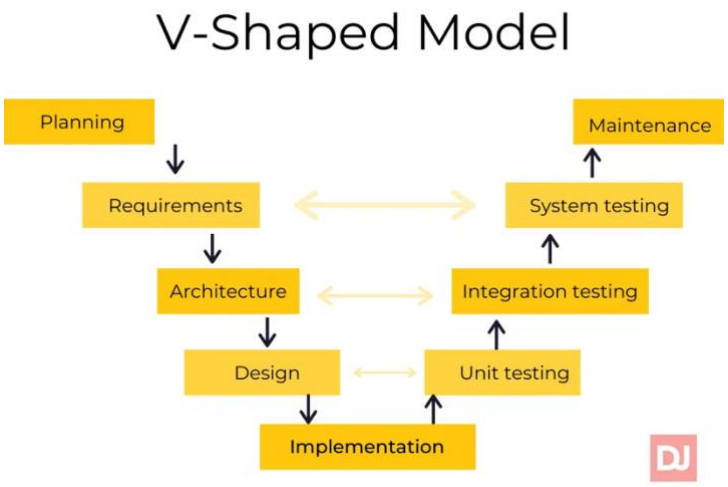
- People - Two team members: Anh Dang, Gilchrist Souabedet
- Hardware and Software: Visual Studio 2019 IDE, Visual Basic language

Staff Organization:

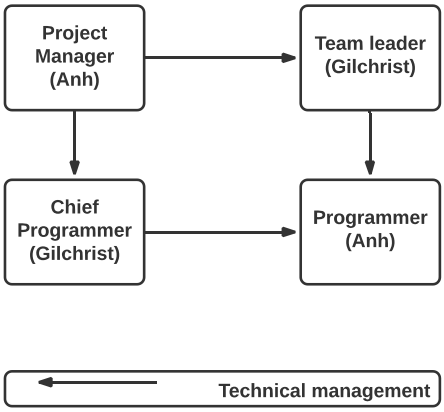
- Team Structure: Project Manager (Anh), Chief Programmer (Gilchrist), Team Leader (Gilchrist), Programmer (Anh).

Project Tracking and Control Plan: GitHub (Alpha, Beta, V1.0 Releases)

Life Cycle Model



Team Model



Software Design Document

Anh Dang, Gilchrist Souabedet

Authors

- Gilchrist Souabedet
- Anh Dang

Reviewers

- Professor Kulwant Singh

Functional description

- This software is a Learning Management System for UHD students and admin.
- Assist in helping students manage their courses and grades.
- Assist in helping admin managing student's data.
- User limitation: data is store locally, application only runs on Windows (VB language).
- Student only has access to student info (QUERY).
- Admin can UPDATE, INSERT, DELETE, MONITOR all student's info.
- Once application window is opened, user must login to continue.
- Error handling: login info must match data; student, courses, grades, assignment must match data
- Changes are only update locally.

User interface

- Login frame: Username, password user input text field.
- Login frame: Title, UHD logo, Student/Admin login button.
- Student frame: displayed student info (id, name, courses, assignments, GPA).
- Admin frame: Add/Delete student buttons. Add/Delete course buttons.
- Admin frame: Add/Delete assignments. Update student grades.

Prioritization

- Admin able to UPDATE data.
- Admin able to DELETE data.
- Admin able to INSERT data.
- Admin able to QUERY data.
- Student able to QUERY data.
- Login functionality.
- Record integrity.

Goals and milestones

- Finish research into different application environment (IDE, languages).
- Create alpha version of application.
- Test alpha version.
- Create beta version.
- Test beta version.
- Release final application.
- Integrate GitHub.
- Upload all artifacts to Blackboard and GitHub.

- Research into different UML diagrams.
- Create rough draft of UML diagrams.
- Finish rough drafot of UML diagrams.
- Create first draft of UML diagrams.
- Finish frist draft of UML diagrams.
- Upload diagrams to GitHub.
- Integrate UML diagrams and application.
- Upload all diagram artifacts to Blackboard.

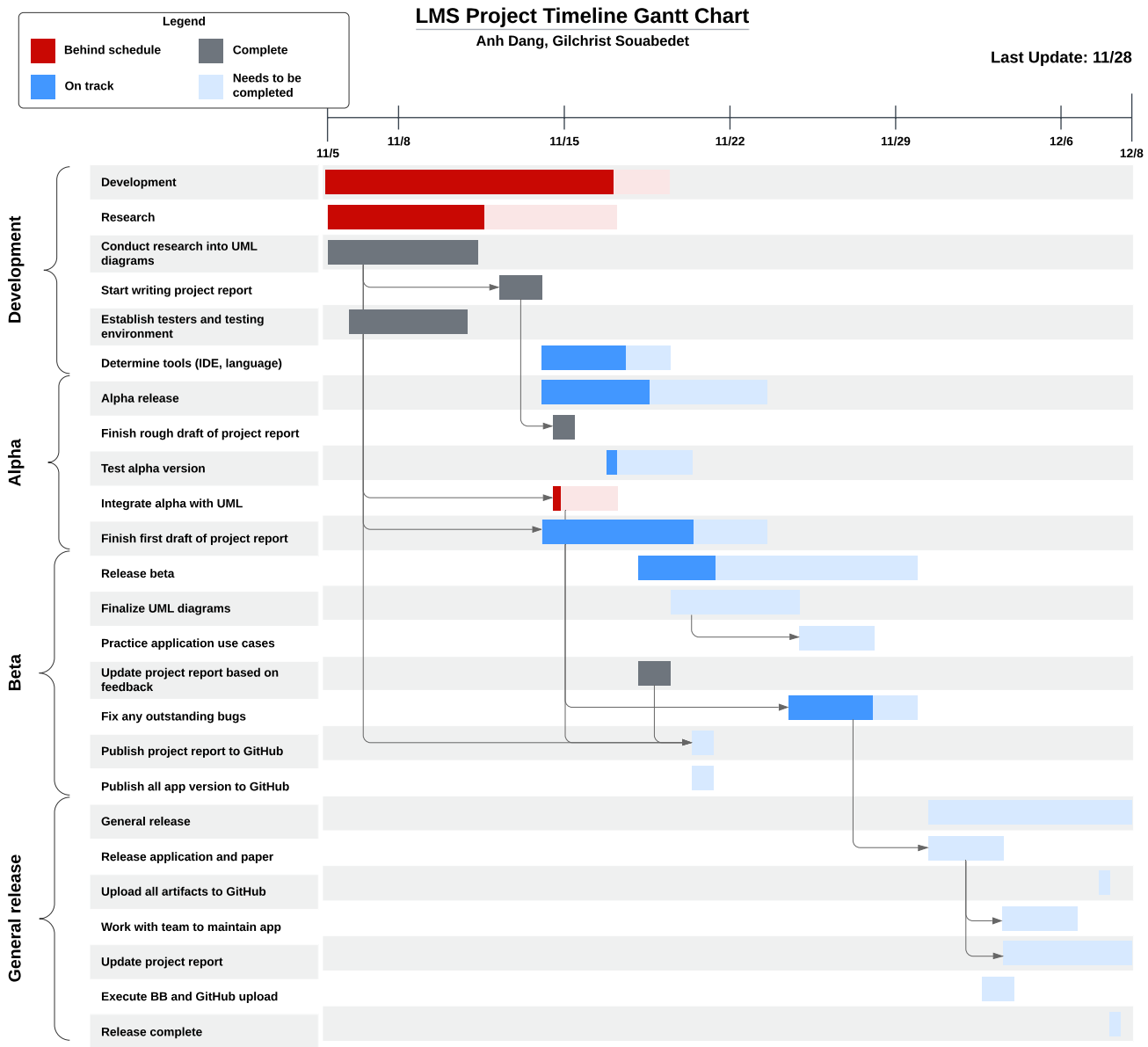
LMS Milestone

Anh Dang, Gilchrist Souabedet

Last Update: 11/10

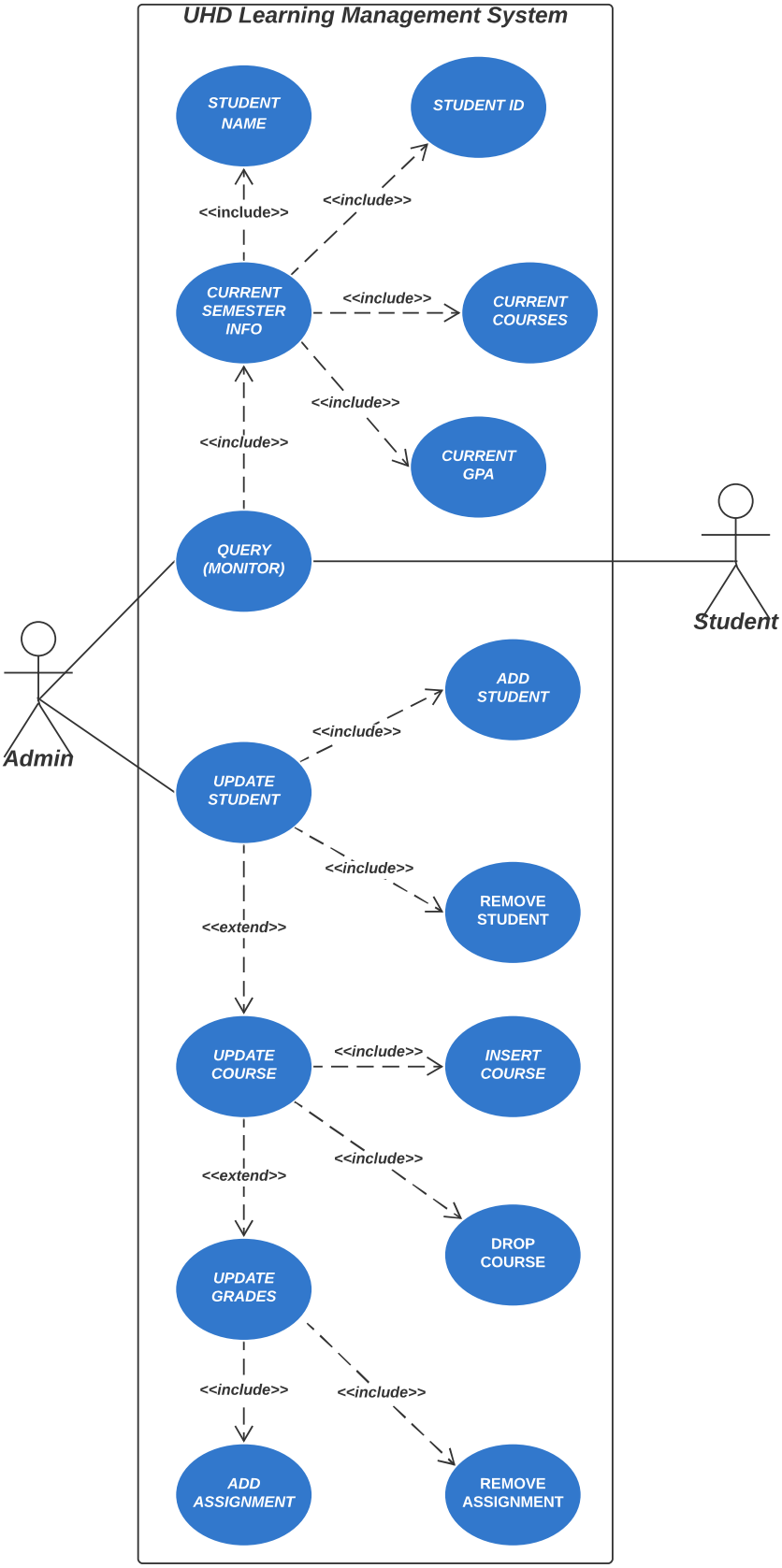
	Description	Week 1			Week 2		Week 3			Week 4	
		Milestone 1	Milestone 2	Milestone 3	Milestone 1	Milestone 2	Milestone 1	Milestone 2	Milestone 3	Milestone 1	Milestone 2
Research	Research for project report										
	Prepare UML diagrams										
	Research UML diagrams										
	Establish life cycle model										
	Establish team model										
	Establish application environment										
Alpha Development	Create application forms										
	Fix minor bugs										
	Test application										
	Check for bugs										
	Finalize alpha										
	Release alpha										
	Test alpha										
	Lauch beta										
Beta Release	Prepare project report first draft										
	Finalize project report first draft										
Project Report	Prepare application deployment										
	Integrate application and project report										
GitHub Integration	Create GitHub repository										
	Update GitHub Repository										
	Finalize GitHub Repository										
Application Release	Test application										
	Maintain application										
	Update application										
	Integrate application, report, and version ctrl.										

Legend: Milestone is complete | Milestone is behind schedule | Current date


LMS Project Timeline Gantt Chart
Anh Dang, Gilchrist Souabedet
Last Update: 11/28
Legend
Behind schedule
Complete
On track
Needs to be completed
11/5
11/8
11/15
11/22
11/29
12/6
12/8
Development
Alpha
Beta
General release
Development
Research
Conduct research into UML diagrams
Start writing project report
Establish testers and testing environment
Determine tools (IDE, language)
Alpha release
Finish rough draft of project report
Test alpha version
Integrate alpha with UML
Finish first draft of project report
Release beta
Finalize UML diagrams
Practice application use cases
Update project report based on feedback
Fix any outstanding bugs
Publish project report to GitHub
Publish all app version to GitHub
General release
Release application and paper
Upload all artifacts to GitHub
Work with team to maintain app
Update project report
Execute BB and GitHub upload
Release complete

LMS Use Case Diagram (UML)

Anh Dang, Gilchrist Souabedet



LMS Class Diagram (UML)

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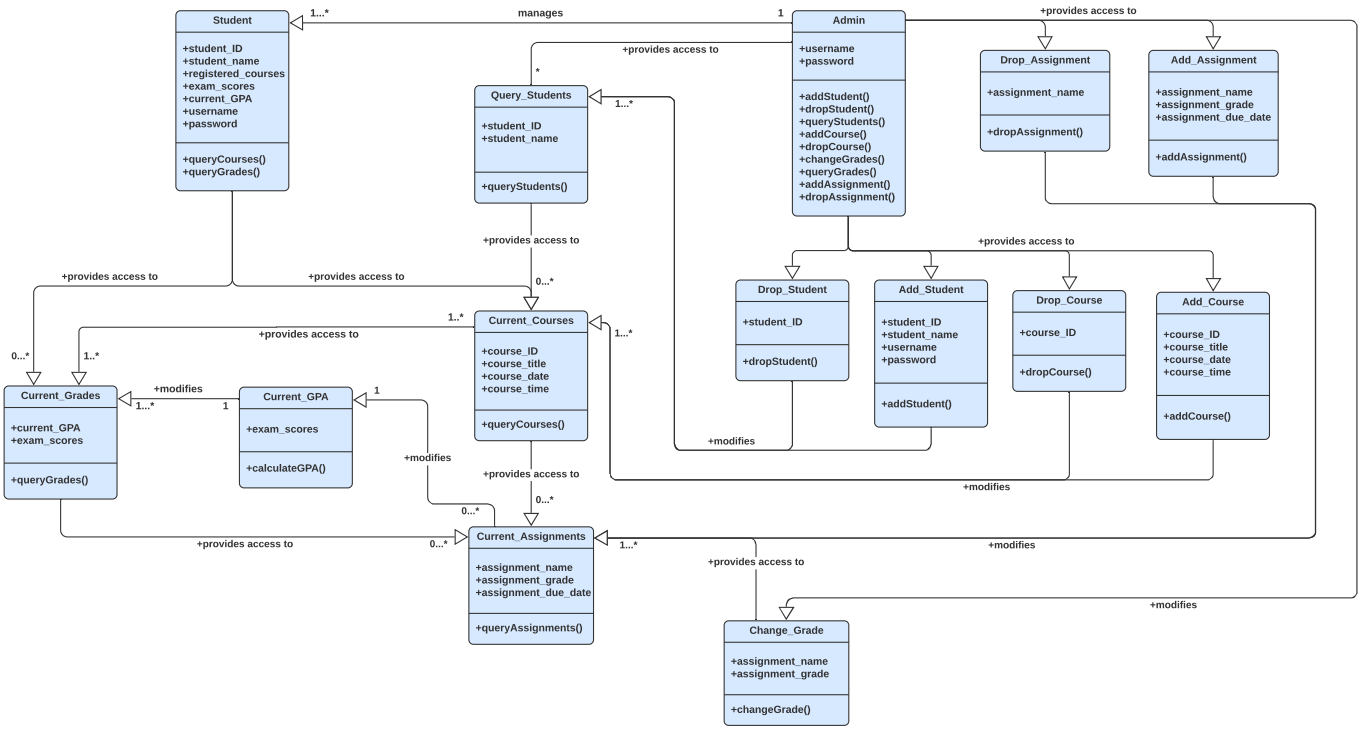

LMS Interaction Overview Diagram (UML)

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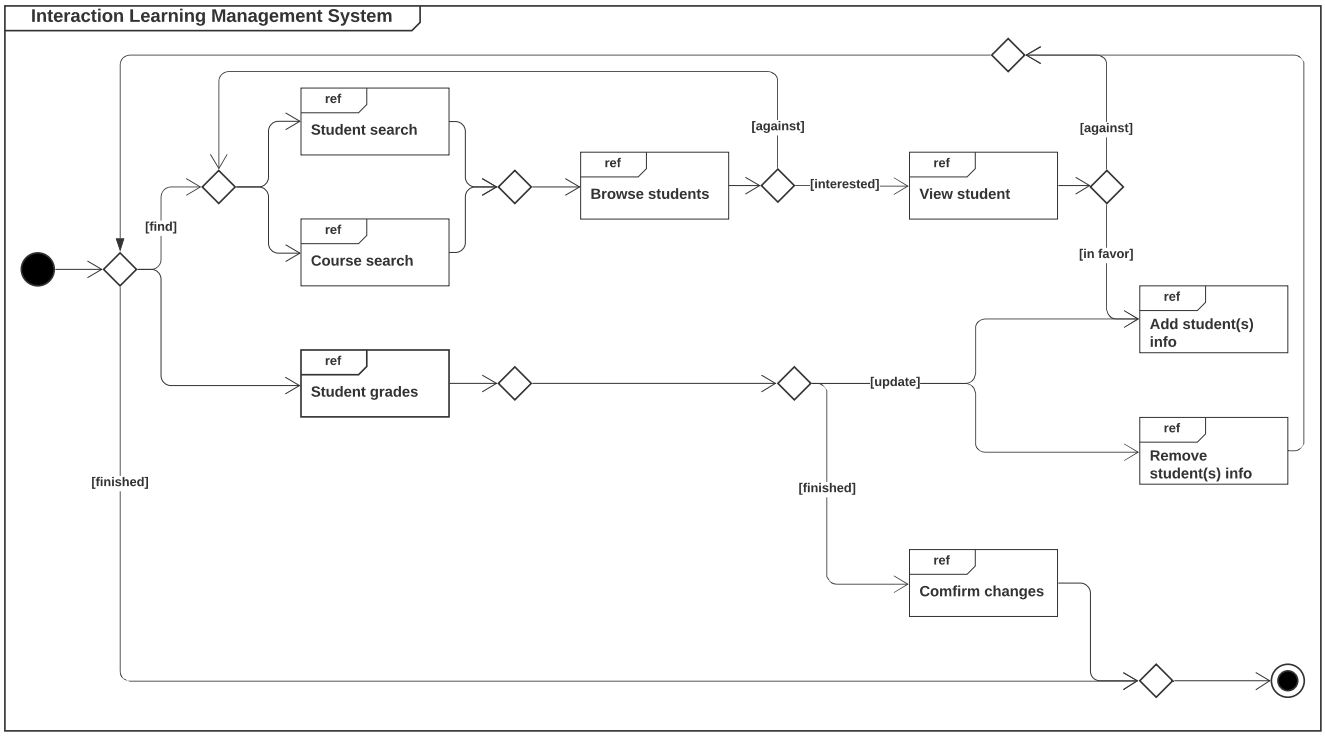

LMS State Diagram (UML)

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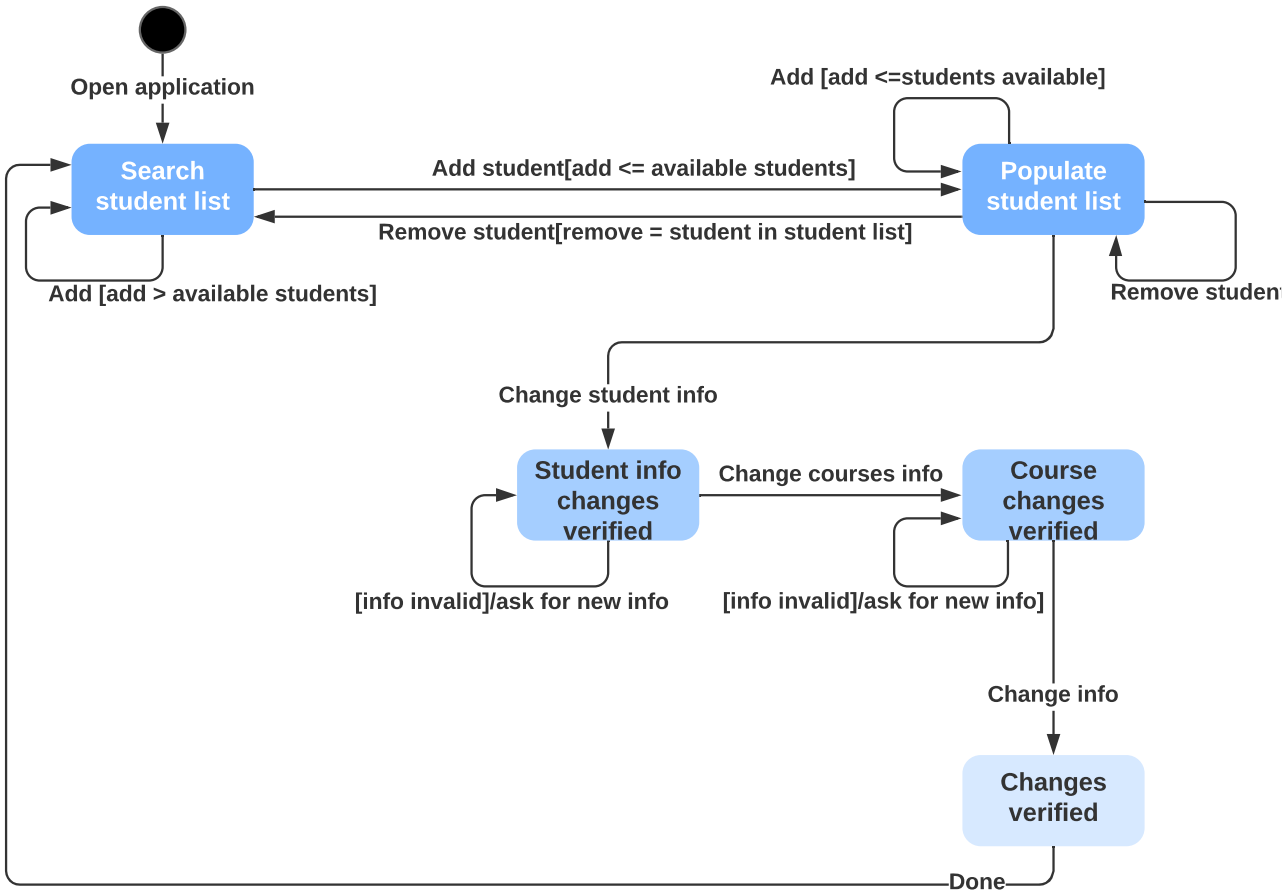

LMS Activity Diagram (UML)

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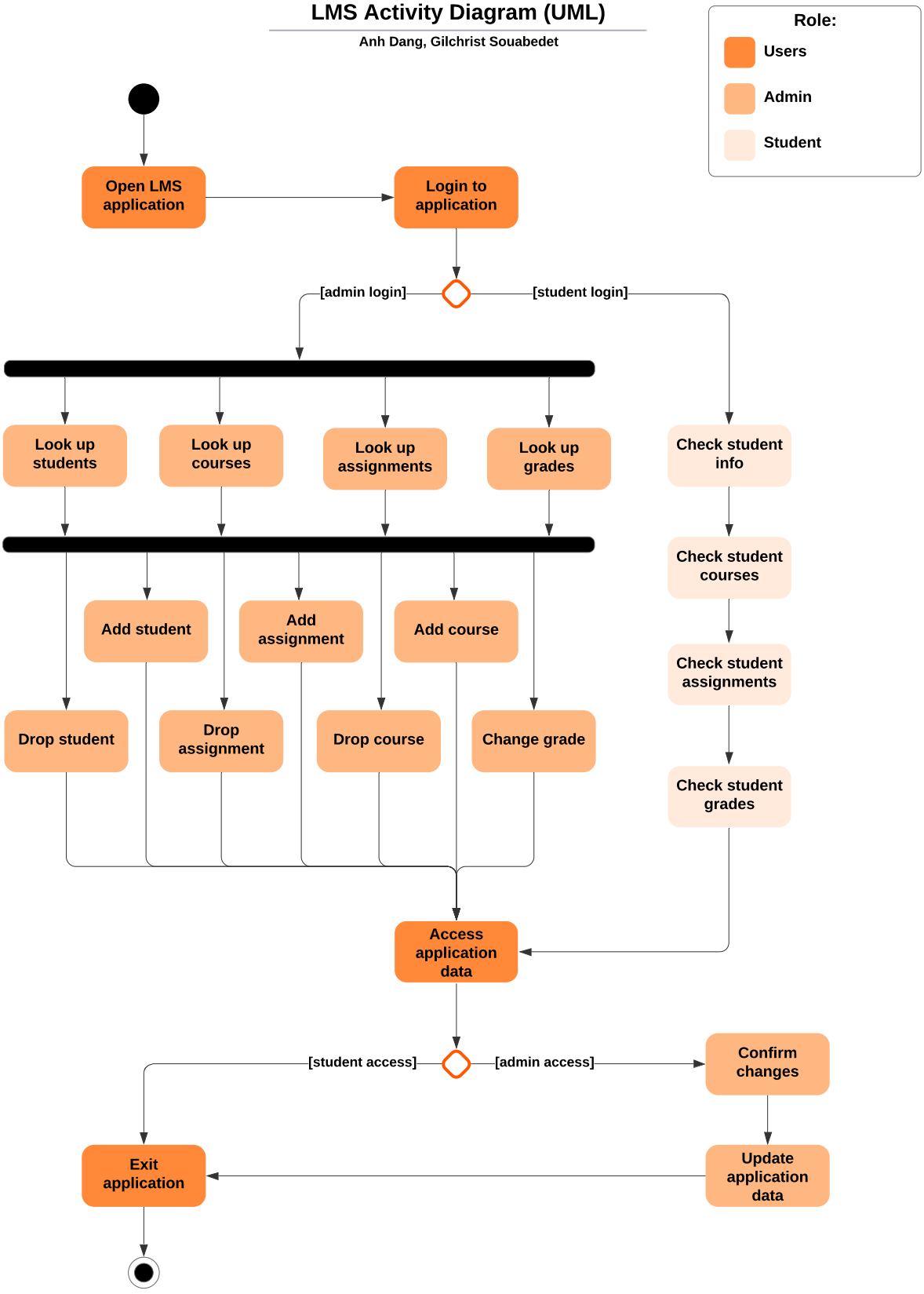

LMS Package Diagram (UML)

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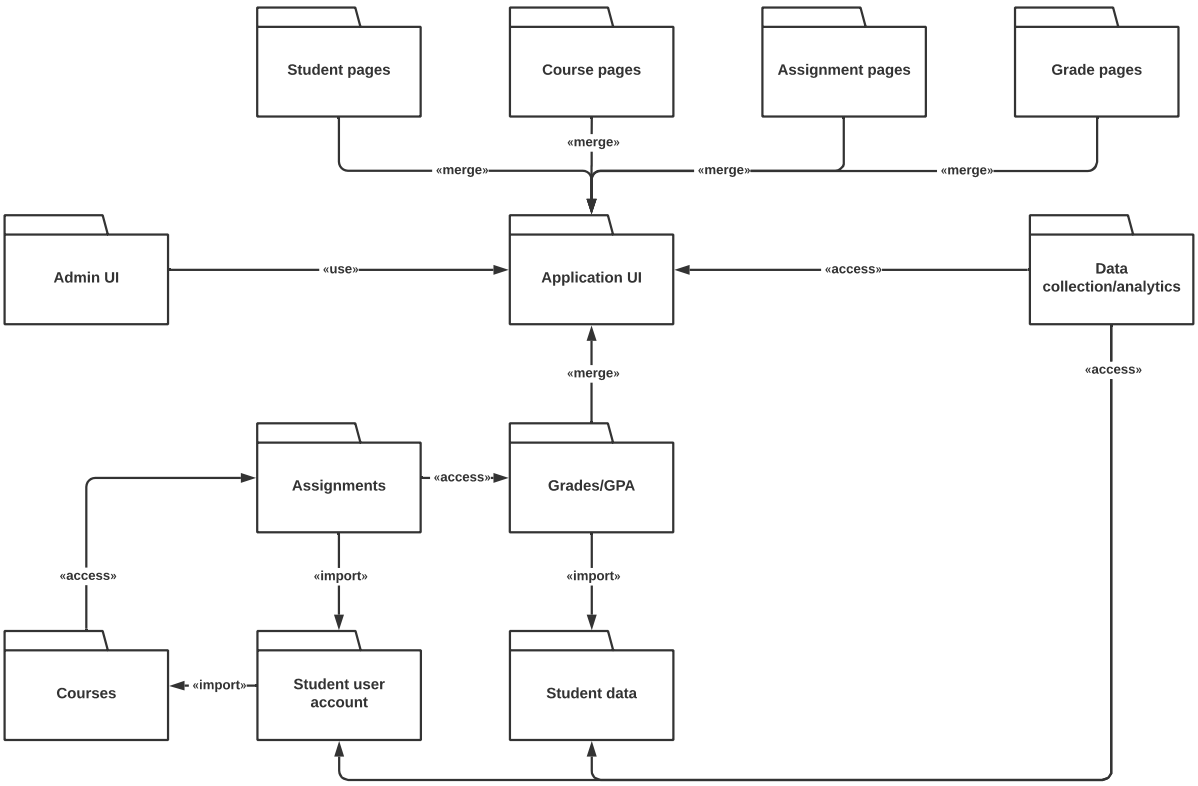

LMS Software Component Diagram (UML)

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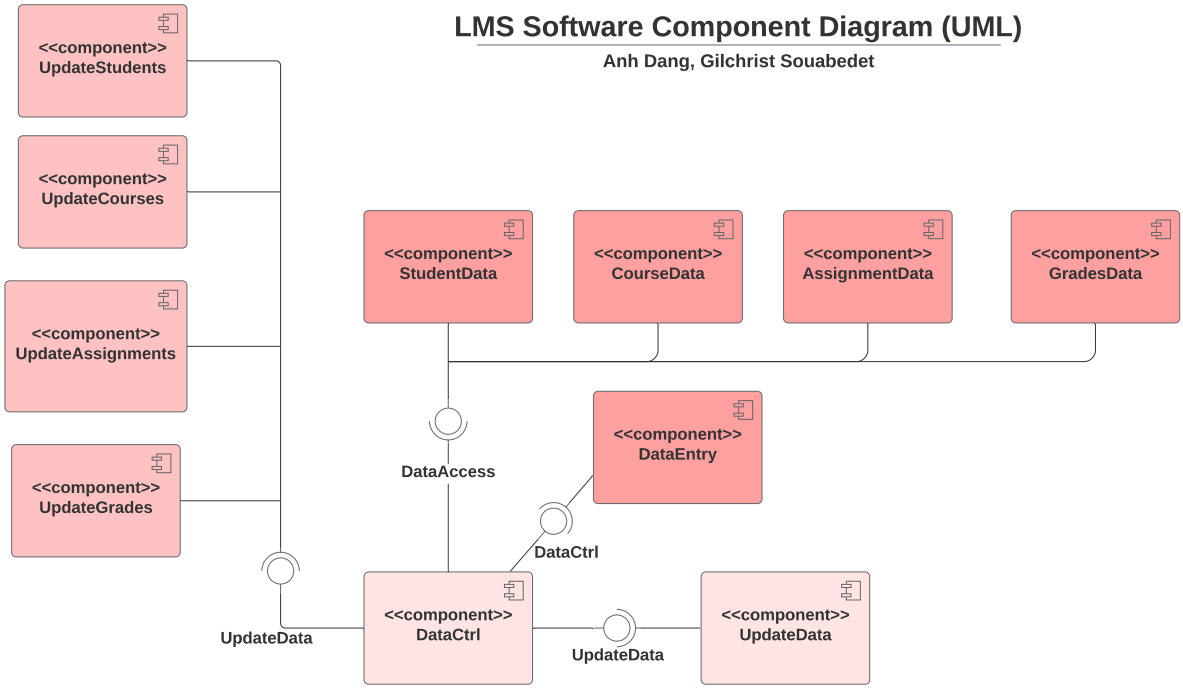

LMS Deployment Diagram (UML) - Higher Level

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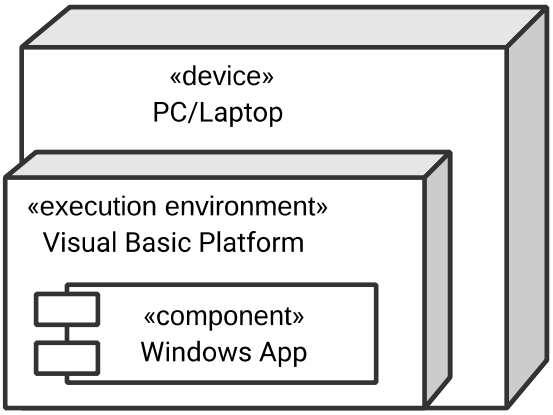
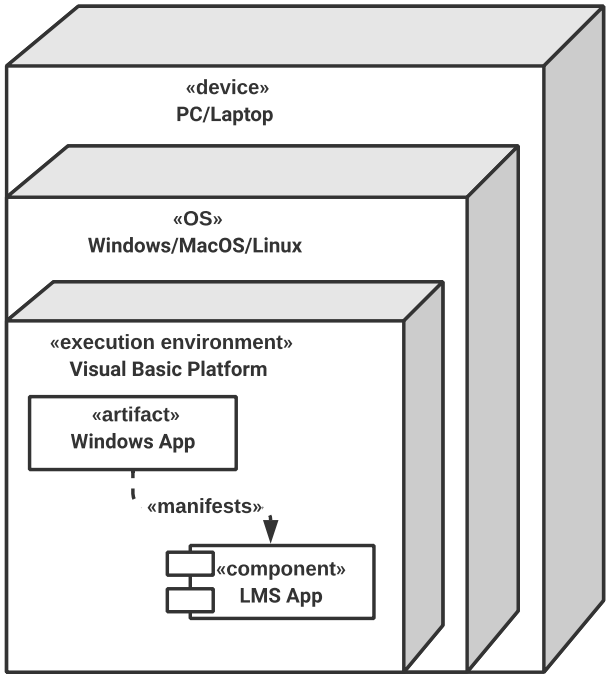
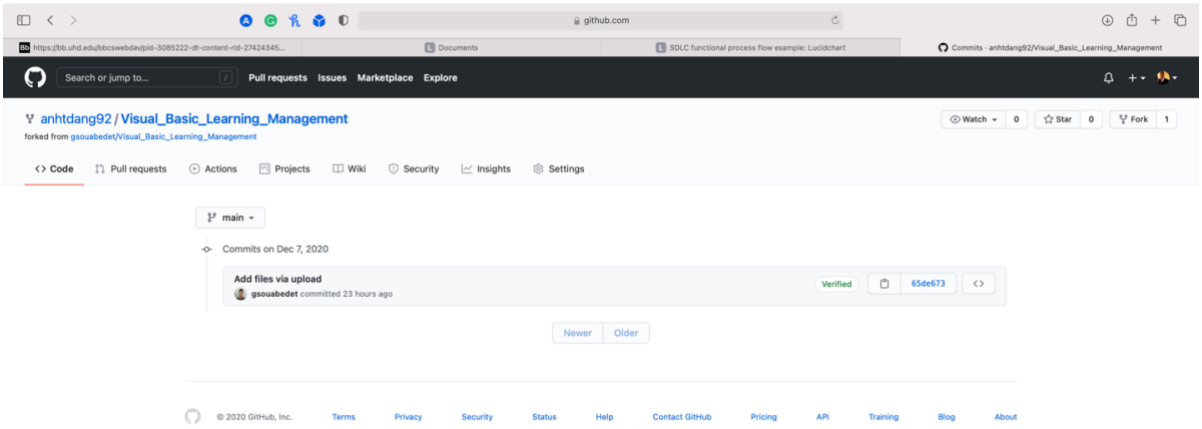


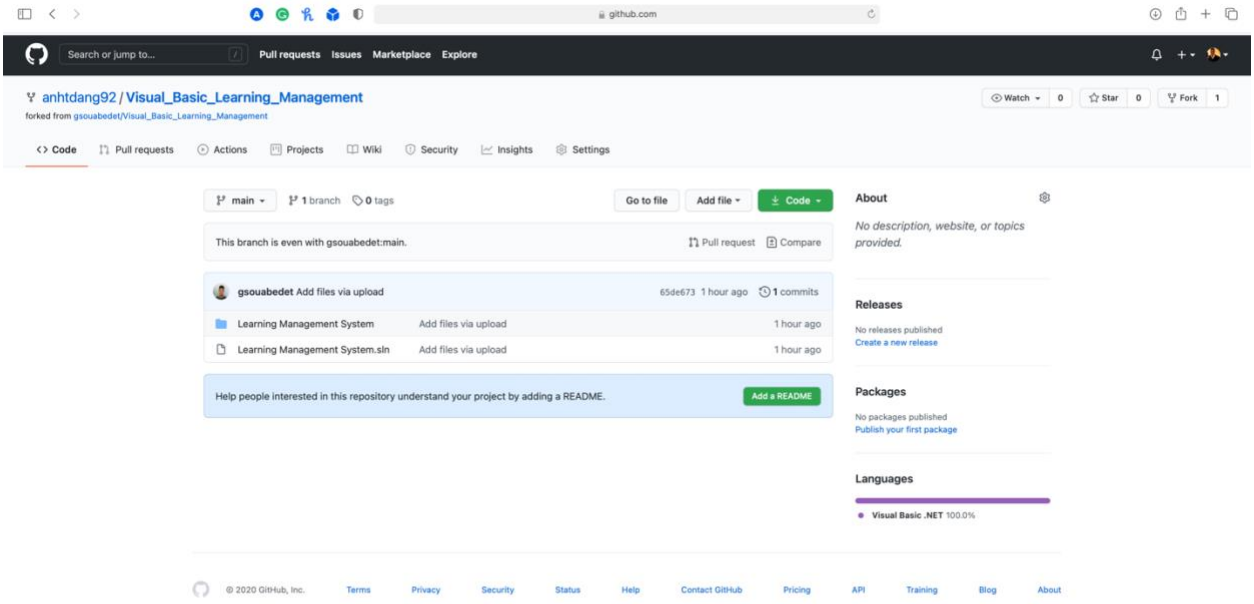
LMS Deployment Diagram (UML) - Lower Level

Anh Dang, Gilchrist Souabedet

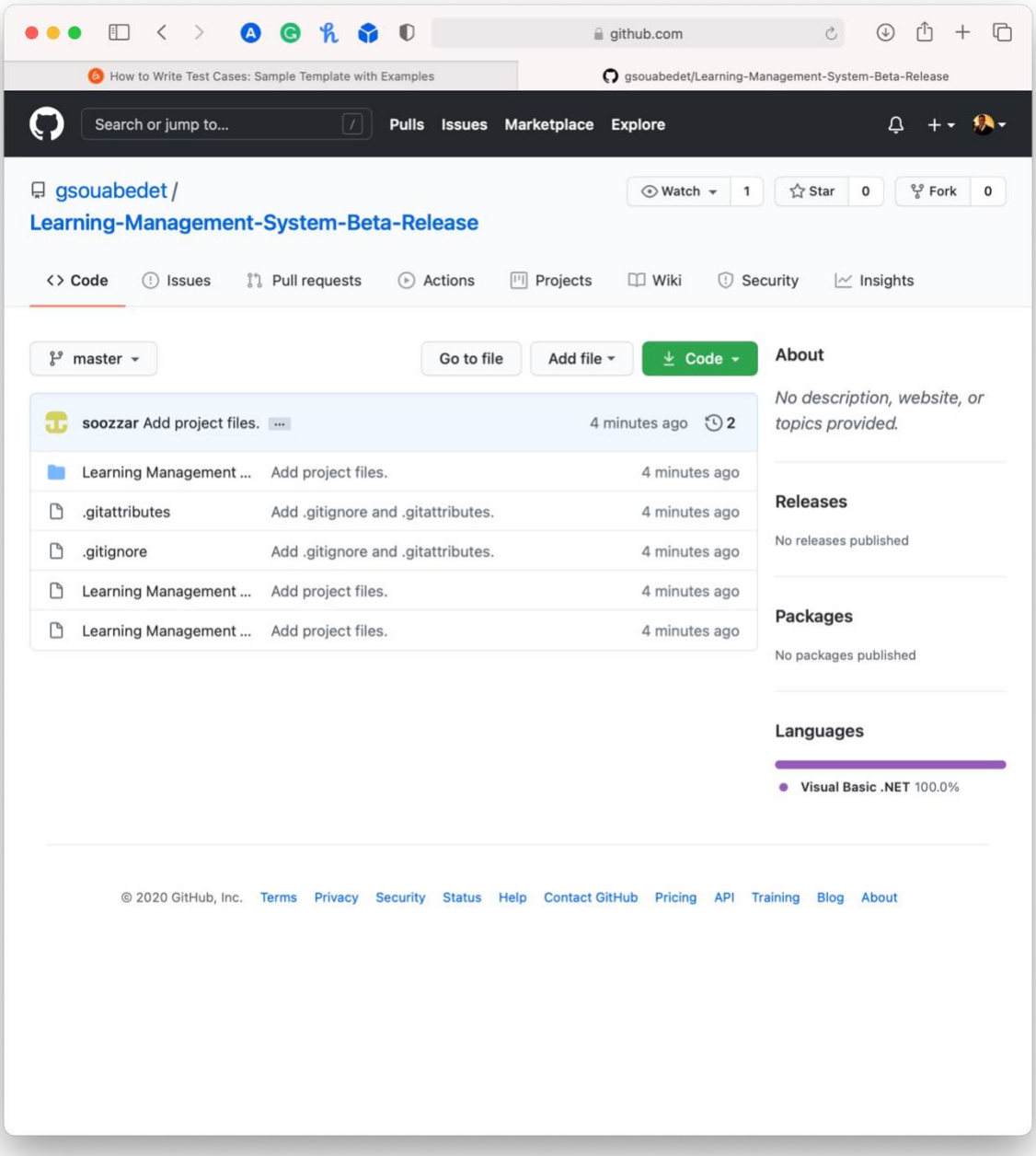


GitHub Integration
(Version Control)
https://github.com/gsouabedet/VisualBasicLearningManagement.git

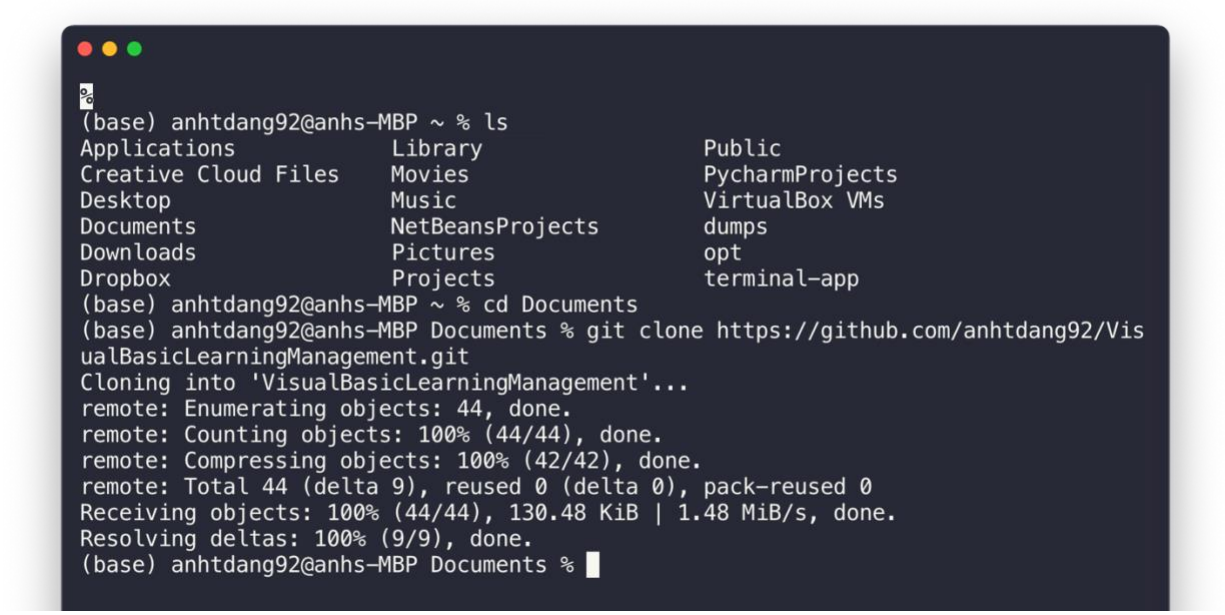




Beta Release



Git Clone



Test Cases:

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/ Fail
TC01	Check student login with valid data	1. Open application 2. Enter a username 3. Enter password 4. Click Login	Username= ‘anh1’ Password = ‘anh123’	User should log in to application as a student	As expected	Pass
TC02	Check student login with invalid data	1. Open application 2. Enter a username 3. Enter password 4. Click Login	Username = ‘anh123’ Password = ‘Anh123’	Lower status bar will say “Wrong Password”	As expected	Pass

TC03	Check Admin login with valid data	1. Open application 2. Enter a username 3. Enter password 4. Click Login	Username = 'admin' Password = 'admin123'	User should log in to application as an admin	As expected	Pass
TC04	Check admin login with invalid data	1. Open application 2. Enter a username 3. Enter password 4. Click Login	Username = 'admin123' Password = 'admin123'	Lower status bar will say "Wrong Password"	As expected	Pass