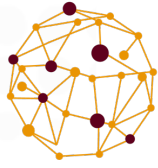




UTM
UNIVERSITI TEKNOLOGI MALAYSIA



CAIRO
UTM

MODULE 2 : INTRODUCTION TO GIT

PREPARED BY:

Dr. Nurulaqilla Khamis
Center for Artificial Intelligence and Robotics
Universiti Teknologi Malaysia



MODULE OUTLINE



01 What is Git?

02 Git Workflow and Fundamental Git Concepts

03 Basic Git Terminology

04 Basic Git Commands in CLI

01

WHAT IS GIT?



WHAT IS GIT?



- **Command** used in **Version Control System (VCS)**
- **Set of commands** that users can **use to perform various version control tasks**
- Version control tasks : make copy of file, changes in file, file status, file history etc

Chan's machine



Maria's machine



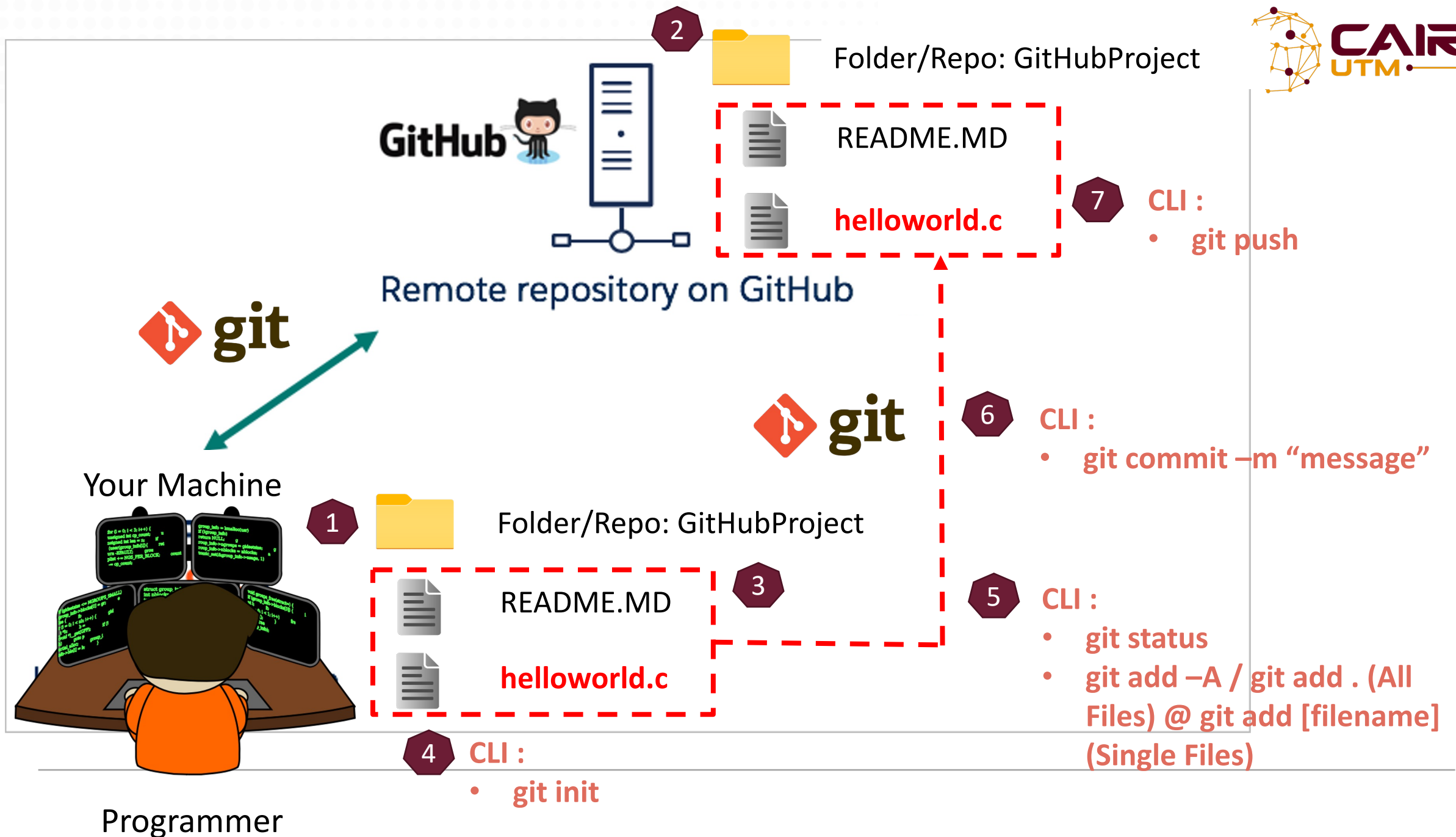
D'Angelo's machine



02

GIT WORKFLOW & FUNDAMENTAL GIT CONCEPT





03

BASIC GIT

TERMINOLOGY



BASIC GIT TERMINOLOGY

Git Terminology	Descriptions
Repository	Storage with collection of files and directories
Init	Initialize new repository
Commit	Changes to repository at specific point in time
Add	Add file
Status	Information which files have been modified
Push	Upload local changes to remote repository

04

BASIC GIT COMMANDS IN CLI



BASIC GIT COMMANDS IN CLI

- Git commands are used by users to communicate with the machine
- Git bash / command prompt is an application for Windows environments
- Terminal is used for Mac user
- There are numerous git commands to perform every functions

GIT BASICS <ul style="list-style-type: none"> git init will create a new local GIT repository git clone is used to copy a repository. git add add a file as it looks now to your next commit (stage). git commit will create a snapshot of the changes and save it to the git directory. git push push local changes to the original 	GIT BRANCHING & MERGING <ul style="list-style-type: none"> git branch will list your branches git checkout switch to another branch and check it out into your working directory git merge will merge the specified branch's history into the current branch git log show all commits in the current branch's history-
MAKE A CHANGE <ul style="list-style-type: none"> git status list new or modified files not yet committed git diff lists down changes and conflicts git add [file] stages the file, ready for commit git reset [file] unstages file, keeping the file changes git commit -m "[descriptive message]" commit all stages files to versioned history 	SYNCHRONIZE <ul style="list-style-type: none"> git remote add <name> <url> Create a new connection to a remote repo. git fetch get all the changes from the origin (no merge) git pull get all the latest changes from the origin and merge git push is used to upload your local repository changes to the origin remote repo

INSTALLATION & CONFIGURATION



INSTALL GIT ON YOUR LOCAL MACHINE

1. Install Git <https://git-scm.com/downloads>
2. Install Visual Studio Code (vscode)
 - Open <https://code.visualstudio.com/>
 - Click Download button



CONFIGURE GIT SETTINGS (NAME, EMAIL ADDRESS)

Configure Git (user information for all local repositories)

- `git config --global user.name "name"`
- `git config --global user.email "email address"`
- `git config --global --list`



THANK YOU



Centre for Artificial Intelligence and Robotics



research.utm.my/cairo/



cairo@utm.my / trainer's email