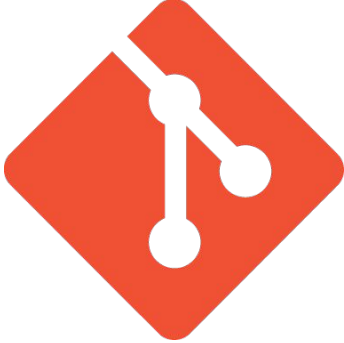
Institute of Technology, Nirma University
Embedded System Programming(6EC204)

Github and its uses

Submitted by :- Dhruvit Tripathi (23MRE004)
Submitted to :- Dr. Sachin Gajjar

What is Git?



- It is free and open source Version Control System.
- Version control is the practice of tracking and managing changes to software code.
- Git, an open source project developed by Linus Torvalds in 2005, is used in numerous software projects for version control, utilizing various operating systems and IDEs.

What is GitHub?

- GitHub is a website and cloud-based service that helps developers store and manage their code
- It was launched in 2008
- it makes it a easier for individuals and teams to use Git for version control and collaboration.
- Instead of starting from scratch, Github makes it easy to find and clone the perfect repositories for your project.

Tools and actions required for GitHub

- Sign up for GitHub (https://github.com/)
- Download and install Git (https://git-scm.com/downloads)
- Create a Repository (A repository contains all of your project's files and each file's revision history.)
- Create a Branch (allow you to work on different parts of a project without impacting the main branch)
- Create and Commit Changes to a Branch

Features

- Collaboration
- Integrated issue and bug tracking
- Git repositories hosting
- Project management
- Team management
- Code hosting
- Track and assign tasks
- Conversations

Language and tools required

- Git is primarily written in C, with some shell scripts and a small amount of Perl
- Download Git Bash
- Command Line

Important commands in git

Git Bash is used for running the github commands

Some important commands are:-

- **git init:** Initializes the new git repository
- **git clone:** command is used to clone the repositories which are already available in the remote repository
- **git add:** Files present in the working area will move to the staging area
- **git commit:** Files that are available in the staging area will be committed to the local repository

Cont...

- **git status**: This command shows the status of the working tree and the staging area
- **git merge:** For merging the changes from one branch to another branch
- **git config:** it will help you to configure the username and email id.

Steps to use Git Bash

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1. Configuring Git
    - Set your username
    - Set your email address
2. Commit Repository in Git Bash
    - git init
    - git add .
    - Git status (for check the status of your commit)
    - git commit -m "First commit"
3. Initializing a Local Git Repository
4. Connect the local Repository to GitHub
    - git remote add origin repository_URL
    - git push origin master


Thank
you!