

# SE 3XA3: Development Plan

## Google Images Downloader

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# 1 Introduction

This document outlines many aspects of how we intend to develop our product, including our team roles, technological details, and project management.

## 2 Team Meeting Plan

Meetings will take place every lab session, which is twice a week on Tuesday and Wednesday from 2:30 - 4:30 pm in ITB 236, when possible. ~~If extra meetings are needed,~~ Extra meetings will be scheduled when needed on a case-by-case basis at a time and location that fits for everyone in the group.

The roles individuals take in meetings are outlined below in Section 4.

An agenda will be set by the project manager (Joshua Guinness) before the meeting and will be sent to the Facebook group chat so everyone in the group is aware. The project manager will chair the meeting and will ensure that this agenda is adhered to during the meetings. Any next steps, deliverables, or actions that need to take place will be agreed to by the individuals at the end of the meeting.

## 3 Team Communication Plan

In order to properly communicate between team members on important issues related to code and development, we will make use of ~~git issue~~ the git issue tracker when necessary. This also provides us with a logged record of all the issues and problems that occurred during the development process. Other communication, like discussing tasks or diagnosing bugs, will also be done via Discord and Facebook Messenger.

For team meetings and general planning, our team will make use of Discord for remote meetings and Facebook Messenger for meeting planning and coordination.

## 4 Team Member Roles

All members will also act as developers, designing and implementing the code for our program.

### 4.1 Joshua Guinness - Project Manager

- Responsible for meeting minutes and other supporting documentation
- Will ensure project deadlines are adhered to and everyone is kept on track

## 4.2 Nicholas Mari - Software Tester

- Responsible for testing the software and ensuring it meets our requirements

## 4.3 Sam Crawford - Git Specialist

- Responsible for fixing issues arising with Git, such as merge conflicts

# 5 Git Workflow Plan

We will be using trunk-based development for our workflow. We will branch off of the master branch only when needed for implementing a specific feature; otherwise we will be working in the master branch, especially for smaller updates like modifying documentation. This will allow us to avoid frequent and messy merge conflicts. As we are just getting started, and since we're working with a small team, using this method of code development will allow us to develop our code and write our documentation quickly with minimal wait times or delays [1].

# 6 Proof of Concept Demonstration Plan

In order to provide a proof of concept for our product, the basic functionality of the application will be demonstrated. A Python script will be created that can download multiple images from the Internet given a keyword. However, as the proof of concept intends to focus on the basic functions, the additional features such as input flags and white-listing, ~~a vetting process, or a GUI~~ will not be implemented in this version. ~~At the onset of this project, Google had changed their method of handling images; instead of having the image URLs directly in the HTML, they resolved it dynamically using JavaScript. This means that the original implementation no longer works. Since mitigating this issue will be a significant hurdle, the proof of concept will only focus on creating a product that allows the user to download images. This proof of concept will demonstrate that a solution to this problem is still feasible, despite the change in Google's service.~~

# 7 Technology

Programming Language: Python 3  
IDEs: Visual Studio/Sublime Text  
Testing Framework: pytest  
Document Generation: doxygen  
Linters: ~~pylint~~/flake8

## 8 Coding Style

We will be basing our style guide off of Google's style guide for Python [2], with some modifications. Linting will be done ~~as per our own discretion, either with pylint or flake8; this is subject to revision in the future and will possibly be standardized.~~ **with flake8, instead of the pylint used by Google.** We will not be considering Python 2 compatibility, type annotating functions or variables, or using shebang lines, unless we decide it is advantageous during the development process. All functions, variables, classes, modules, etc. will be named with camel case convention, with the first letter's capitalization depending on the type (ie. classes will use `UpperCamelCase` and functions will use `lowerCamelCase`); the rationale for this is improving readability and reducing long function names.

## 9 Project Schedule

The [Gantt Chart](#) can be found in the project schedule folder on the repository or by clicking the link in this section.

## 10 Project Review

### References

- [1] Konrad Gadzinowski. *Trunk-based Development vs. Git Flow*. <https://www.toptal.com/software/trunk-based-development-git-flow>.
- [2] Google. *Python Style Guide*. <http://google.github.io/styleguide/pyguide.html>.

Table 1: Revision History

Date	Developer(s)	Change
Jan 28	Joshua	Added team member information
Jan 29	Sam	Added bibfile
Jan 29	Sam	Added section content
Jan 29	Sam	Added table of contents and Introduction
Jan 29	Nick	Added Gantt Chart link
Jan 30	Nick	Updated Gantt Chart link
Jan 30	Joshua	Spelling, grammar, sentence structure, formatting
Apr 5	Sam	Revisions for Rev 0