SOFTWARE DEVELOPMENT PROPOSAL

Winter 2020
Peanuts Development Team
PDT-2

CLIENT
Ceive App

CREATED
2020 10 20

ABOUT US

We are a team of developers originally based in Gambier, Ohio, United States.

Our goal is to create software systems that fulfill your needs and prioritize the things important to you, such as speed, accuracy, or reliability. We are all looking forwards to working with you as we explore the latest technologies to create dynamic solutions for your problems.

Our development team consists of two developers and system designers, Shane Canfield, and Sejin Kim.

GET IN TOUCH

Shane Canfield (*software developer*)
- C++14
- Python 3
- HTML5
- SQL

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Sejin Kim (*software developer and systems designer*)
- C++14
- Python 3
- HTML5
- SQL
- PHP

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PROJECT SCOPE

Ceive was designed to launch an app (originally a native app, but rescaled to a web-app). It's intended to be a platform aimed at reducing digital noise. The purpose is to share and receive recommendations on pop media (movies, books, TV shows) or IRL (restaurants, theaters) from the people you trust most, family and friends. Central goals include streamlining the recommendation process for all parties (making word-of-mouth recommendations easier) and decreasing decision paralysis. Ceive currently has no software systems in place to achieve these goals.

The project will attempt to follow the timeline outlined below and does not include any ongoing maintenance of the web-app outside of what may be stated in the scope.

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PROPOSED SOLUTION

Technology Stack & Server Architecture

We *recommend* the following technology stack for platform development.

Server-Side Programming Language	PHP 7.3+
Client-Side Programming Language	HTML5, CSS3, jQuery, Bootstrap 4.3
Database	MySQL 5.6
Web Server	Apache 2.x.x OR Nginx 1.x.x
Hosting	Microsoft Azure Virtual private server
Cloud Storage	None recommended
Content Delivery Network (CDN)	Cloudflare
Session & Cache Storage	Cloudflare
Version Control System	Git

We *recommend* hosting on a reputable enterprise cloud. The minimum server requirements are as mentioned below.

- LAMP Stack - https://en.wikipedia.org/wiki/LAMP_(software_bundle)
- Operating System - Linux x86, x86-64
- PHP version 7.0 or greater - http://php.net
- MySQL version 5.6 or greater - https://www.mysql.com/
- Apache 2.x.x (mod_rewrite module enabled, https://httpd.apache.org/) OR Nginx 1.x.x (https//www.nginx.com/resources/wiki/)
- Required PHP extensions
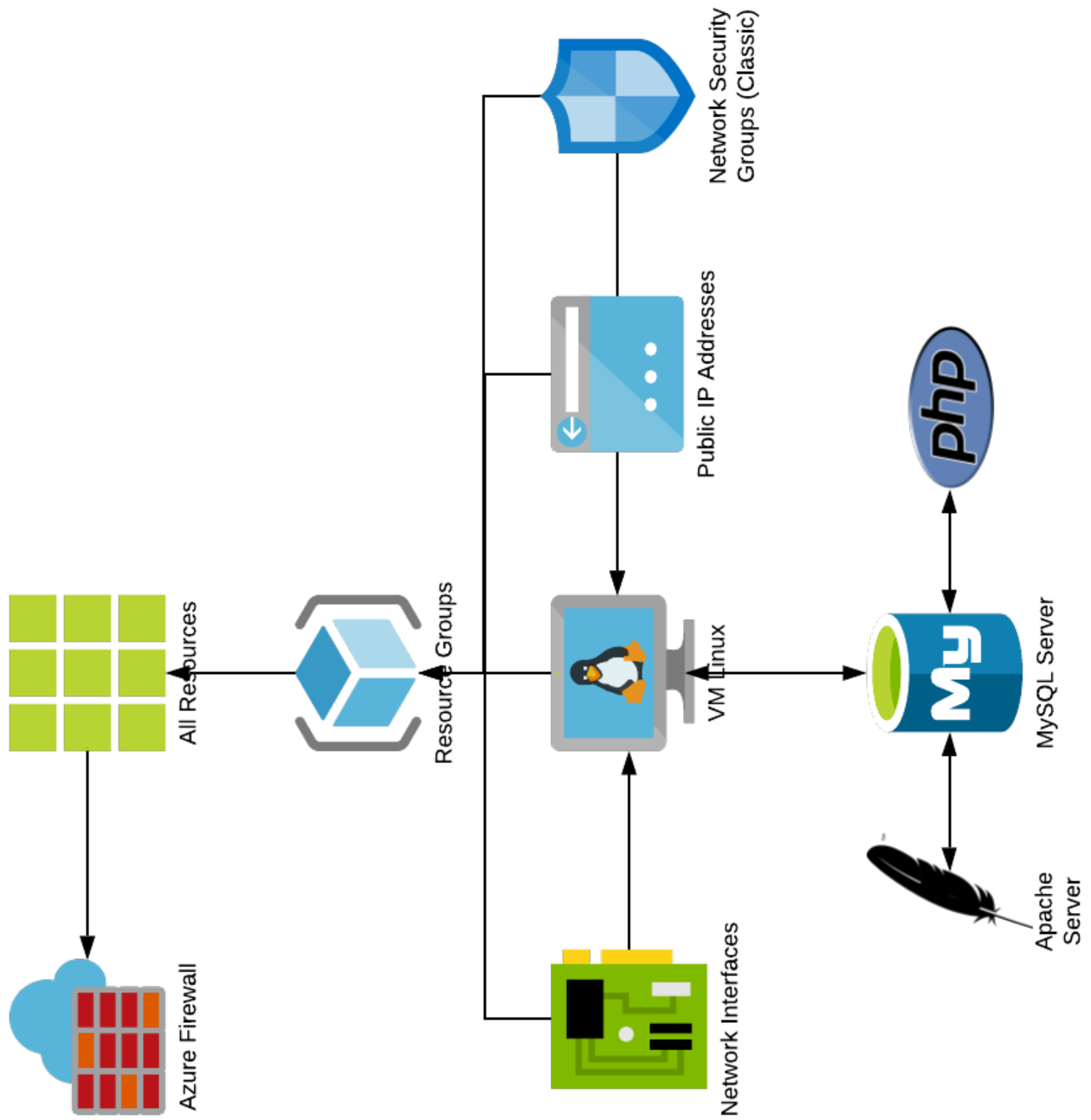   - OpenSSL
    - XML
    - Ctype
    - JSON

For better performance, reliability, security, and scalability, we *suggest* the following:

- Securing the website by SSL certificate
- Utilizing a reverse proxy

We recommend deploying the software in a virtual private server (VPS) on Microsoft Azure. This would allow you to run all of the server-side software in a well-protected and robust system. We are only supporting deployments to Ubuntu Server 16.04 LTS (xenial), 18.04 (bionic), or 20.04 (disco).

We are unable to adequately support macOS Server or Windows Server deployments.

The recommended high-level server architecture for the platform is as illustrated in the following diagram.

Network Security Groups (Classic)

Public IP Addresses

All Resources

Resource Groups

VM Linux

MySQL Server

Apache Server

Network Interfaces

Azure Firewall

FEATURES OVERVIEW

- There will only one type of user: a standard user.
    - An administrative user and console is not being created, and administration will be done through hard code and database changes.
    - The User role is read/write/executable to their own properties and read-only to all other properties.
- The user interface for the front-end (User area) of the platform will be responsive and mobile-friendly, as the end product is intended for both desktop and mobile use. It shall support the following resolutions:
    - 320px for common smartphones
    - 480px and below for common smartphones in the landscape orientation
    - 768px and 960px for tablets in their common orientations
    - 960px and upwards for desktop monitors
- The following pages will be designed:
    - Home page, including a feed
    - Search page, including a search query page and results page
    - Profile page, including a profile edit page

VERSION CONTROL

GitHub will be used as the online version control repository hosting service for tracking all development and coding changes. We usually follow the GitFlow workflow, which has a Main branch, hotfixes, release, develop, and feature branches.
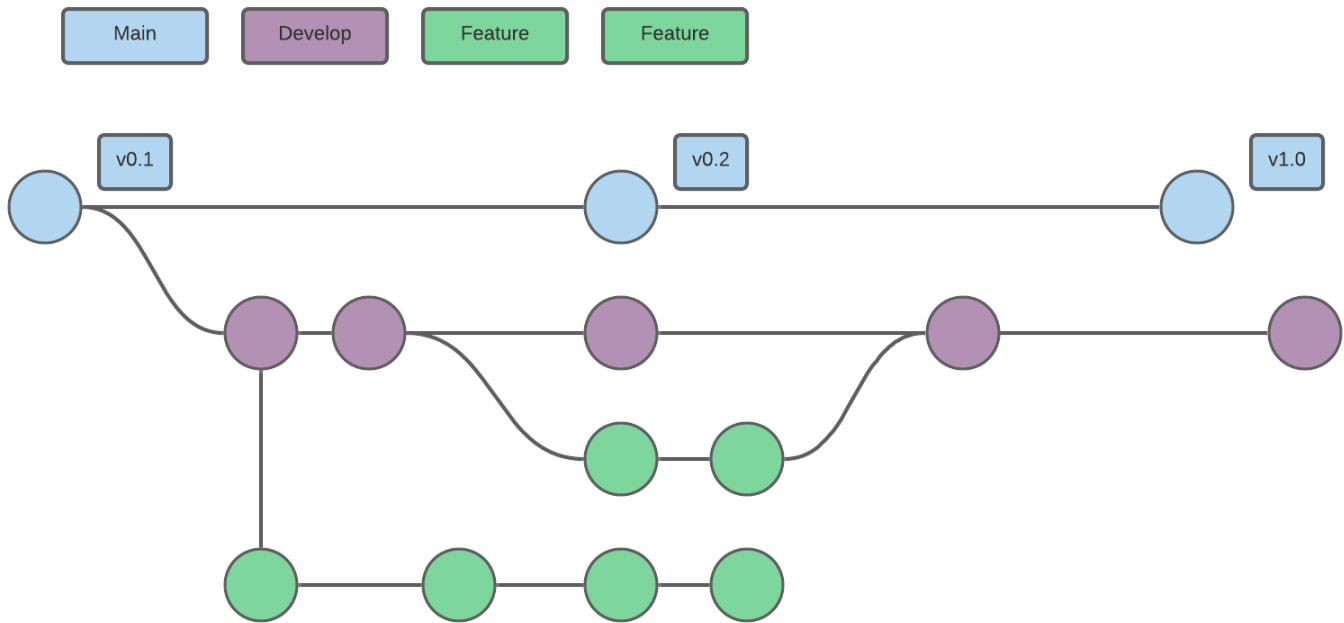
DELIVERY

Delivery is expected to take place in two to three months, with continuous code integration.

Deliverables will include the following:

- Project plan
- Deployment on a requested domain
- A backup copy of the files and database associated with the platform
- Content/data addition and migration

The following are excluded from the project scope:

- Logo design
- Extensive UI design mockups
- Mobile app (iOS and Android) and related RESTful AP/Web services

DEVELOPMENT METHOD

The project execution methodology which will be followed for this project design and development is the rapid development (cyclical) model. We find that the rapid development model is a great way to successfully manage projects that are relatively small in scope, with all functional and nonfunctional requirements defined in sufficient detail before any code is written.
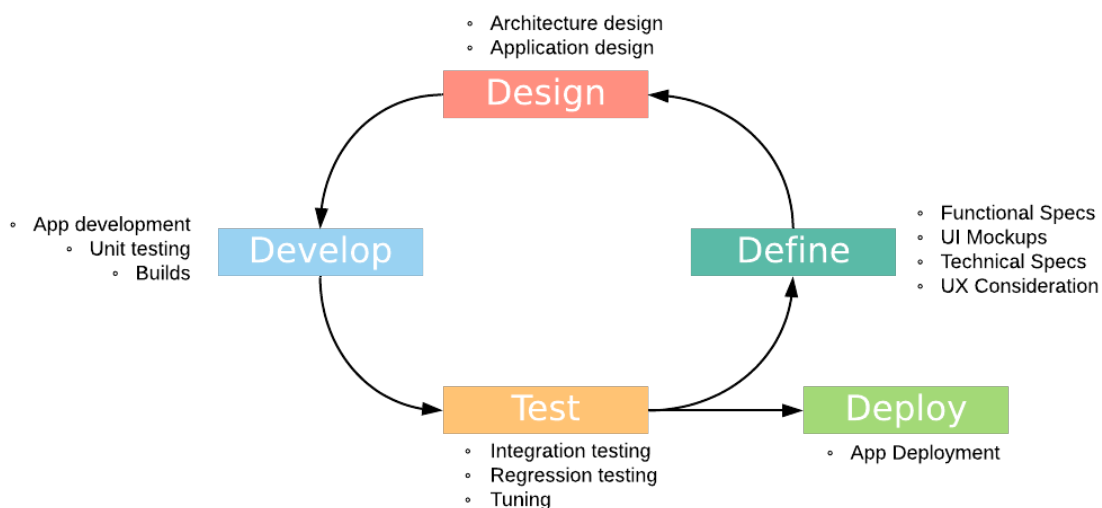
TASK TRACKING

We use Teamwork for our task tracking and project management, and Slack to centralize our documentation and communications. We also manage source code on a private development server and hold our code on remote GitHub repositories, which can be found at *https://github.com/ceive-software*.