

4.1 Introduction

This Software development plan provides details of the development timeline and strategy of the Bubbl social camera application, which is used to automate and streamline the process of taking and sharing photos.

4.1.1 Project Deliverables

Week 8 – Week 9

- Finish Invites Endpoint for API
- Write Tests for Invites Endpoint
- Start Images Endpoints and Images Endpoint tests

Week 9 – 10

- Finish Images Endpoint & testing
- API wrap up – refactoring and optimization
- Generate Android client using Retrofit

Week 10 – 11

- Start full-speed ahead on Android client
- Integrate OpenCamera interface
- Start integrating adobe creative cloud

Week 11 – 12

- Add client support to create and invite members to groups, and view groups

Week 12 - 14

- Start background threads for automated photo upload
- Start gallery interface for viewing photos

Week 14-15

- Finish up client UI

Week 14 – 16

- In depth QA of Android Client

4.2.1 Hardware resources

Bubbl will be a distributed application, with both a server component and an Android mobile client. The server host will need to be a multi-core machine with a network connection. Amazon web services will be used to host the instance.

The Android client will be capable of running on any device that supports Android version 5.1 or greater (API level 21+). For testing purposes, the device will be tested on virtual hardware devices simulating 32 bit x86 and ARM architectures.

4.2 Resources

4.2.2 Software Resources

Mobile Client

The primary development for Bubbl will take place on a machine running Windows 7. The Google provided IDE, Android Studio, version 1.5.1 will be used to develop the mobile client.

Open Camera version 1.27, an open source camera will be used as the base for the camera interface. Adobe creative cloud will be integrated for photo editing functionality.

Retrofit version 2.0.0 will be used to generate the Android client from the API specs.

API

Sublime Text 2, version 2.0.2 will be used as the text editor to develop the API and associated scripting / database tools. The plugin JavaScript Next will be used to allow syntax highlighting of ES2015 features. As the server is a node.js project, Node.js version 5.7.1 will be used. The following NPM packages will be used for the API:

Package	Version	Purpose
Express	4.13.3	Web framework
Morgan	1.6.1	Log output with request and response formatting
Dotenv	1.2.0	Environment variable centralization and loading
Pg	4.4.2	Javascript Interface for interacting with the PostgreSQL database
Body-parser	1.14.2	Parsing of HTTP request body
Jwt-simple	0.4.1	Encoding / decoding of JSON web tokens for request authentication
Mocha	2.3.4	Test Framework
Supertest	3.4.1	Library for testing HTTP server testing
Should	8.2.1	Assertion library for tests

To store persistent data, the API will make use the relational database management system, PostgreSQL, version 9.5.0. For schema planning and development, MySQL workbench version 6.3 will be used.

For manual testing of API endpoints, Postman version 3.2.20 will be used.

4.3 Project Organization / Human Resources

As previously described, the application can be split up into a server module, and a mobile client module. If this were a team project, it would make sense to split the labor evenly in half, between the two modules. Within each of these teams, 25-30% of the team should be devoted to testing and QA.

4.4 Schedule

This section provides schedule information for the Bubbl Project.

4.4.2 Task Resource Table

As there is only one person working on this project, all tasks and resources are allocated to the sole developer.

