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# **Software Requirements Specification**

**for**

**Picstant**

**Version 1.0**

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## Revision History

Name	Date	Reason for Changes	Version
Picstant	30 <sup>th</sup> March, 2020	First version	1.0

# **1. Introduction**

This section of the report is to describe and overview each and everything in the SRS document.

## **1.1 Purpose**

The purpose of this document is to give a detailed description of the requirements of the “Picstant” software which is going to be developed for two operating systems i.e. Android and iOS in a native platform called Flutter. It will illustrate the purpose and complete declaration for the development of the system. It will also explain system constraints, interface, and interactions with other external applications. This document is primarily intended to be proposed to a customer for its approval and a reference for developing the first version of the system for the potential developers.

## **1.2 Document Conventions**

This document was created based on the IEEE template for System Requirement Specification Documents.

## **1.3 Intended Audience and Reading Suggestions**

This document is intended for a vast set of audience. This document is intended for the software developer authorities, the design team, developers, project manager, team leads, supervisors, security analysts, testing team and the QA team to better understand the system requirements. Knowledge and understanding of UML diagrams is also required in order to completely understand this document. Programmers who are interested in working on the project by further developing it or fix existing bugs can also use this document to better understand the requirement specifications of the application “Picstant”.

## **1.4 Product Scope**

“Picstant” is a social smartphone application which helps people to connect with others in order to share their feelings and their thought to the world. In this, people share media like pictures and textual statuses to share what is on their mind. They have an option to like and comment on friend’s pictures. People can communicate with each other through pictures and videos. They can also share others’ posts like pics and videos. In order to use this app effectively, one has to follow someone to whom he wants to get connected with. The person can be unfollowed by pressing the unfollow button. This app has so many features which are very help full for the users. For the account security of users, we have a public and private mode, this is helpful in securing one’s personal pictures from the public. If someone has a private account, he also has to accept the “follow request” that someone sends in order to get connected.

## **1.5 References**

IEEE Template for System Requirement Specification Documents:

<https://goo.gl/nsUFwy>

Babich, Nick (Feb 12, 2018). A Comprehensive Guide to Mobile App Design:

<https://www.smashingmagazine.com/2018/02/comprehensive-guide-to-mobile-app-design/>

## **2. Overall Description**

### **2.1 Product Perspective**

This application is designed for almost everyone in this era who is interested in socializing via a digital platform like none other. This mobile app would enable users to easily obtain relevant information about their friends and family, the people they are interested in e.g. celebrities (what they do, who they are friends with and various other pages that they follow along with other activities. The most common device to the people of this era i.e. mobile phones will be used to solve the above-stated problems. This application will be able to run on both iOS and Android smartphones. Also, it will be an open-source project and it has a very active developer team to support it and provide feedback to users.

### **2.2 Product Functions**

#### **2.2.1 Activity log**

It enables your users to check all the recent activities performed by them and their friends on the app. Following/unfollowing people, commenting on the photos, and checking other users' posts are easily possible.

#### **2.2.2 Search box**

Enable users to search for another user, including friends, relatives, or anyone using their name and user-name. To search people, your users just need to click on the search feature and enter the user's name or user-name.

#### **2.2.3 User profile**

Users can maintain a complete profile, including detailed information like name and email address, followers, following, the total number of uploaded photos/videos.

#### **2.2.4 Upload photos/media**

Users upload photos directly from the library or using the camera of the smartphone either apple or android.

#### **2.2.5 Live alerts and push notifications**

It allows users to get real-time notifications when someone likes their pictures/videos, send an add request, mentioned them in a comment or any activity related to them.

#### **2.2.6 Structuring and displaying posts**

The application will create a post model while structuring the post widget automatically when the user will want to create a new post on his/her profile. The application will also display all the posts along with the post count on the user profile.

### 2.2.7 Realtime messaging with comments

The application will allow the users to do real-time messaging with firebase as a back-end database.

### 2.2.8 Following and unfollowing users

The account holders or users will have the option to follow another user and also unfollow if he/she wants to anytime.

### 2.2.9 Geolocation

Integrating geolocation plays an important role when your users want to share a place where a photo was taken. Users can upload pictures with geolocation integrated in order to show their location with the post.

### 2.2.10 Liking and unlinking posts

The account holders or users will also have the option to like someone's post or picture and later on, they will also be able to unlike it if they wish to.

## 2.3 User Classes and Characteristics

The user should be familiar with Facebook, Twitter and other social media applications that are used for digital socializing. They should know the basics of how social media applications work and the different actions that can be performed. The user should already have an account on any social site to easily login with social login option. The typical users will be students, office workers and everyone who is interested in digital socialization.

## 2.4 Operating Environment

The application will run both Android and iOS. There will be the same UI for both the devices as it has the same code base. The requirements for running the "Picstant" on any smartphone are:

Operating system	Android	iOS
OS version	8.0 or above (recommended)	10.0 or above (recommended)
Ram	2 GB (recommended)	
Processor	2.2 GHz(recommended)	
Disk space	Depends upon the device	

## 2.5 Design and Implementation Constraints

1. This application will only be available in the English language for now as it is the first version of it. This language constraint will be eradicated in the upcoming versions.

2. Another constraint in this application is that the users can only share pictures in order to express their feelings and what is on their mind. Video sharing will be made available in the later versions.
3. Users cannot upload stories that would remain posted for 24 hours like in other social media applications.
4. This application can only be installed on an android or iOS smartphone and not on windows phone or on desktop itself.
5. There were many features that could be added and were skipped in order to keep the minimum requirements for the application to be minimal. So that more users with low-end phones could also manage to use this application.

## **2.6 User Documentation**

- **User manual** - a guide to teach new users how to use the Picstant. This guide will outline the best practices for training a new user on how to use the Picstant in an effective way that will fulfill their social needs. This will provide a list in which all commands will be listed in order to provide all the information about how this app works.
- **Online tutorial video** – an online video tutorial will be posted on YouTube which will enable users to completely understand the usage of Picstant.

## **2.7 Assumptions and Dependencies**

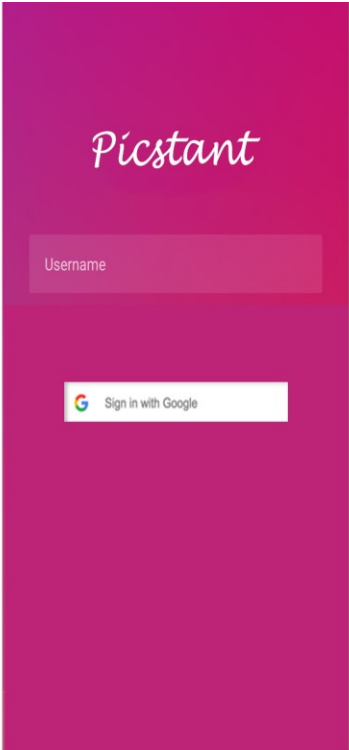
Picstant is developed in a way that it can support the maximum users with low-end phones. However, it may not achieve this if the application is installed on a phone that has an Android version of less than 6.0 or and iOS version less than 7.0. Furthermore, the ram of the phone should also not be less than 1GB.

# **3. Specific Requirements**

## **3.1 External Interface Requirements**

### **3.1.1 User Interfaces**

This app has mainly three user interfaces which include Login in / Sign up page, upload image page, User profile page, Activity feed page, Search page, and Newsfeed page. Samples of all the user interfaces mentioned are shown in the figure below:



Login Page

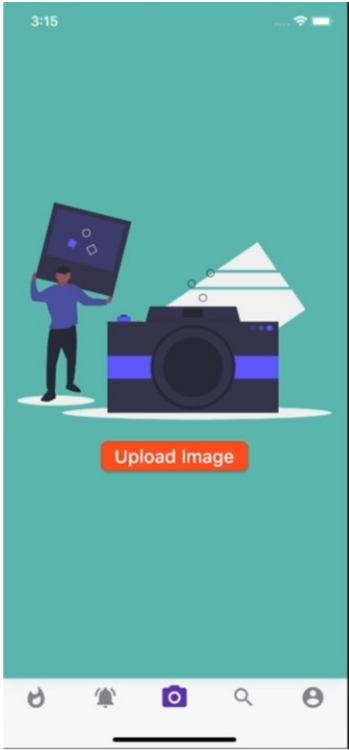
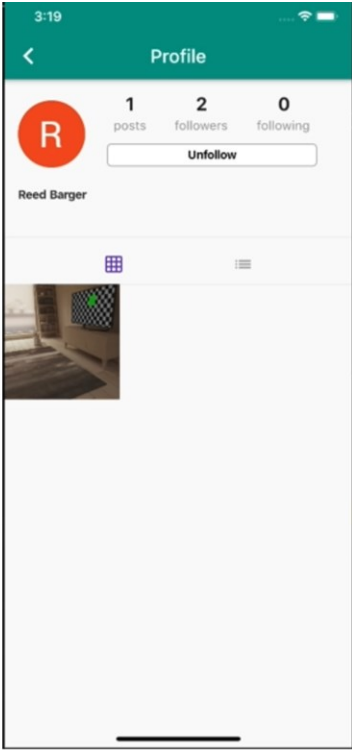
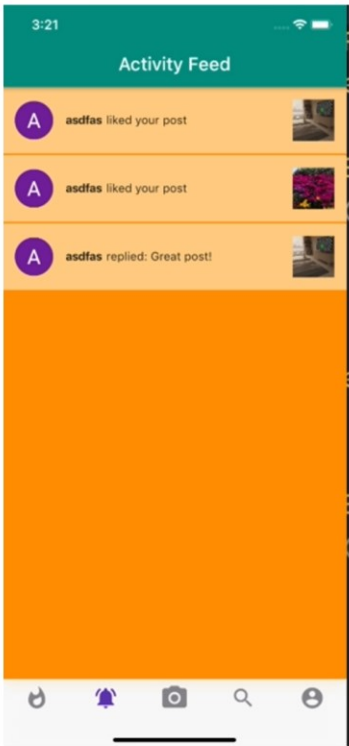


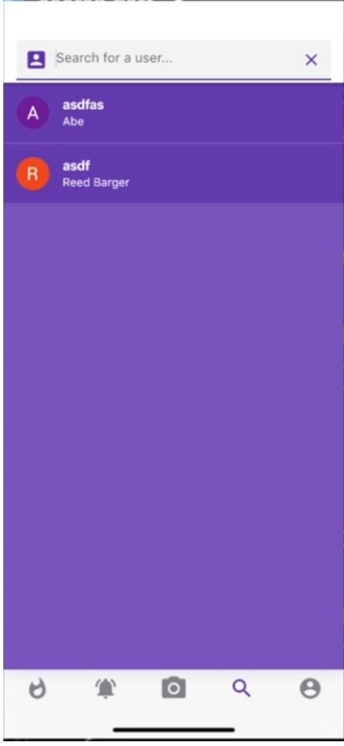
Image upload page



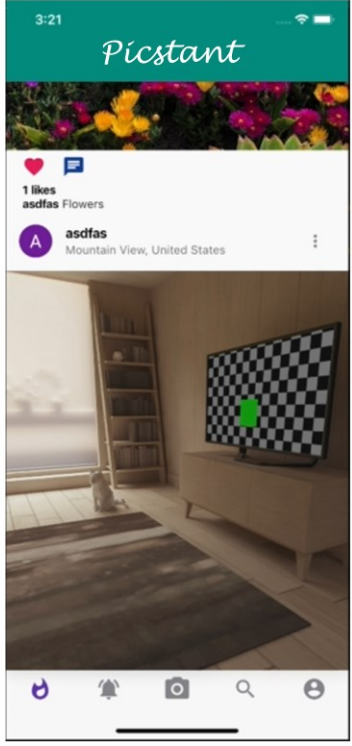
Profile page



Activity feed



Search page



News feed



### **3.1.2 Hardware Interfaces**

The upload image page will need to interface with the device camera if the user presses the take photo now option. Any device camera will work in this case.

### **3.1.3 Software Interfaces**

The framework which will be used for the development is Flutter and Dart language will be used to create the amazing user interfaces and for overall programming of the application. Using Flutter will enable the application to run on android and iOS with the same code base. Firebase will be used as the database. Using firebase will enable users to comate by message and comments in real-time.

### **3.1.4 Communications Interfaces**

Picstant will require an internet connection to get connected to the firebase. Firebase will enable users to perform real-time messaging. And the overall database is also firebase here so internet connectivity will be required for communication.

## **3.2 Functional Requirements**

The system features will be listed and described in this portion.

### **3.2.1 User account registration/ creation and login**

#### **3.2.1.1 Description and Priority**

User will create an account if there is no existing account associated with him/her. User must sign up in order to use this app. This has to be the first page when user opens the application. This is the highest priority task with a priority rating of "9".

#### **3.2.1.2 Stimulus/Response Sequences**

The user must have an email from which he/she can register on this application.

#### **3.2.1.3 Functional Requirements**

The user will have to go to the first page of the application and use his/ her google account or Gmail to sign up on the application. Then the user will have to create his unique username. The username will now be entered in the Firebase database online. There will be an error prompted if the username entered is too short or too long.

### **3.2.2 Display Newsfeed and liking/ unliking posts**

#### **3.2.2.1 Description and Priority**

Users must be able to see the newsfeed where they can see what other users have posted from their profiles. This is a high priority task with a priority rating of "8".

#### **3.2.2.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to view the newsfeed.

#### **3.2.2.3 Functional Requirements**

This will be the second page which will be displayed to the user when he/she logs in to the account. This page will be having the posts shared by him and other people the user is in contact with on the application. The user will be able to like a pic and comment on it. The user will also be able to switch to other tabs from here from the taskbar at the bottom.

### **3.2.3 Realtime messaging and comments**

#### **3.2.3.1 Description and Priority**

Users must be able to do real-time messaging and comment on the posts shared by other users they have followed on Picstant. This is a high priority task with a priority rating of "8".

#### **3.2.3.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to view the newsfeed to like and comment on posts.

#### **3.2.3.3 Functional Requirements**

This will be on the second page which will be displayed to the user when he/she logs in to the account. This page will be having the posts shared by him and other people the user is in contact with on the application. The user will be able to do real-time messaging and comment on posts. The user will also be able to switch to other tabs from here from the taskbar at the bottom.

### **3.2.4 Upload or delete status (Pictures)**

#### **3.2.4.1 Description and Priority**

User must be able to upload or delete a status/ post which will be a photo basically. This is a high priority task with a priority rating of "7".

#### **3.2.4.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to upload or delete a post.

#### **3.2.4.3 Functional Requirements**

The user must be able to upload an image as his post from the image upload page and must be able to delete it from the news feed and the profile page in the future if he wants to.

### **3.2.5 Profile settings**

#### **3.2.5.1 Description and Priority**

User should be able to manage and apply changes to his/her profile. This is a high priority task with a priority rating of "7".

#### **3.2.5.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to perform any changes in the profile.

#### **3.2.5.3 Functional Requirements**

The user must be able to go to the profile page and should be able to update or change his/her profile settings. These settings will include changing of the profile picture, username, and bio.

### **3.2.6 Public and private mode**

#### **3.2.6.1 Description and Priority**

User should be able to set their mode of profile to public or private according to their needs. This is a high priority task with a priority rating of "7".

#### **3.2.6.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to perform any changes in the profile.

#### **3.2.6.3 Functional Requirements**

The users will have to select between two modes of the account which include public mode and private. In public mode, all users of Picstant will be able to see their posts in the newsfeed and on their profile. However, in private mode, only those will be able to review the profile whom the user will allow.

### **3.2.7 Following users**

#### **3.2.7.1 Description and Priority**

User should be able to send follow requests to other users in order to get connected to them. This is a high priority task with a priority rating of "7".

#### **3.2.7.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to perform this action.

#### **3.2.7.3 Functional Requirements**

Users should be able to follow other users so that they can see posts and pictures from other people whom they are following in their newsfeed. In order to follow anyone, the user must visit the profile which they want to follow and click the follow button.

### **3.2.8 Searching for users**

#### **3.2.8.1 Description and Priority**

Users must be able to search other users in order to see their profiles and following them. This is a high priority task with a priority rating of "7".

#### **3.2.8.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in to perform this action.

#### **3.2.8.3 Functional Requirements**

When the user goes to the search page, there is a search box in which the users can search out other users in order to see their profiles and follow them. The users may be searched out on the basis of their usernames.

### **3.2.9 Activity feed and notifications**

#### **3.2.9.1 Description and Priority**

User will be notified when the people connected to them perform a task on their profile or on others. This is a high priority task with a priority rating of “7”.

#### **3.2.9.2 Stimulus/Response Sequences**

The user must be a Picstant account holder and must be logged in and must have at least one connected person to perform this action.

#### **3.2.9.3 Functional Requirements**

The users will be notified from a notification that will be prompted on the activity page. Notifications will come when some connected friend likes, comments or uploads a picture.

## **4. Other Nonfunctional Requirements**

### **4.1 Performance Requirements**

All actions linked with the Firebase database are supposed to be executed or processed within 1 second of execution given that the internet connection is good, as our interface requires precise timing from the user while performing actions. Any action not involving the database should be performed without a millisecond lag.

### **4.2 Safety Requirements**

To ensure that no one loses his/her data on Picstant, the developing team must use efficient coding techniques to secure data. Also, firebase is a safe way to have a safe and permanent cloud database.

### **4.3 Security Requirements**

This application also has to be safe for users who are going to use Picstant because they can have privacy issues with some specific user then they can remove them from their following friends and also can block them. The application itself must be secure from cybercriminals' attacks.

### **4.4 Software Quality Attributes**

This application is designed to interpret user actions as reliably as possible, ensuring that when the user invokes the “login” command, the application will respond correctly to select an item on the user interface. In addition, the application is usable by anyone who has created a Picstant profile and has some idea of any other social application usage. Due to its well designed and easy to use interface it can be used by both experts and typical users. However, users must already have a basic knowledge of social applications.

## 5. Other Requirements

The front-end user interface of the application should also be good looking and interactive so that motivates users to use the “Picstant” and like it. Also, there should not be any unnecessary lags in the application which might hinder the usage of the application by the user.

## 6. Use Case

