# SOFTWARE REQUIREMENTS SPECIFICATION

# Unravel

**Version 1.1 approved**

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# Contents

# Revision History

| Date | Reason For Changes | Version |
|---|---|---|
| 04.10.2017 | Formatting error and grammatical error | SRS 1.0 |
| 04.10.2017 | Many section need more elaborations | SRS 1.0 |
| 04.10.2017 | Supporting need to be also included | SRS 1.0 |
| 04.10.2017 | Background knowledge regarding CSE should be assumed | SRS 1.0 |

# 1 Introduction

## 1.1 Purpose

Unravel is a common platform for every software developer who keep searching on the internet for topics and code but ends up winding with almost nothing. Unravel provides a common platform wherein the user is able to find videos related to specific topics of Computer Science domain along with their given practical applications in real life in form of code.
So the given software gives the advantage of easy topic searching in form of videos and code in one single place and thus reducing the wasting of time that users go through while searching for materials.

## 1.2 Intended Audience and Reading Suggestions

The given software aims at the following audience-

1. Student Community
2. Teaching Community
3. Software Developers

## 1.3 Project Scope

Aims at creating a unified work space for Videos and Projects. Benefits of having such a software-

1. Common platform for Videos and Projects.
2. Reduces time to search for video material.
3. Topic wise ordering of videos and accordingly playlists for their specific categories.
4. Easy and hassle-free code viewing.
5. Easy view of trending sector in Computer Science domain via trending videos.

# 2 Overall Description

## 2.1 Product Perspective

When a particular user wants to learn about a specific topic in CSE domain , the user searches for codes and video materials online which ends landing him on more than one site and article. All this creates a sense of confusion for the users.
Moreover sites like Coursera and Udacity which provide education and charge cost for their content are pretty expensive which sometimes is not affordable so users tend to rely on free easily available solutions.
YouTube hosts worldwide data in form of videos which contains each and every topic but the data is very scattered and takes time to find.
This software brings together organized and sorted content from YouTube and Proper course wise Project codes from Github together at one common platform free of cost. Hence the software saves a lot of precious time and money which could otherwise would have been wasted.

## 2.2 Product Functions

The software hosts the following functions and uses-

1. Categorical Ordering of Videos(Topic wise).
2. Categories given in form of playlists.
3. Playlist can be arranged via Most Popular/Most Liked/Most Viewed sorting.
4. Current trend of Videos and Projects.
5. Code of Projets can be viewed.
6. Links to projects on Github for extensive analysis.

## 2.3 User Classes and Characteristics

1. Student Community-
   a) Frequency Level - Quite often.
   b) Education Level -Students currently unemployed and have a background knowledge of Computer Science

2. Teaching Community -
    a) Frequency Level - General(may or may not be extensive as in mainly research purposes).
    b) Education Level - Currently teaching in some school/college/university or working in some job and requires learning on some specific topics along with its projects and having knowledge on Computer Science
3. Software Developers -
    a) Frequency Level - Quite often(may or may not be extensive as in mainly research purposes).
    b) Education Level - Working in some organizations or company and require immediate or long term learning of topics for developing or learning purposes. May include some of Student and Teaching Community too and have knowledge in Computer Science domain

## 2.4 Operating Environment

The software will be operating on the following platforms -

1. Web app- The deployed online website.
2. Android app- The deployed online android application for smart phones(Android).

The software will be suitable to Windows/Mac/Linux Operating systems. The software will be suitable to all browsers including Chrome/Safari/Opera/Internet Explorer

## 2.5 Design and Implementation Constraints

1. Videos -
    a) The data is being is acquired from YouTube API.
    b) The data cannot be stored for more than 30 days on the web server and device.
    c) The data from API cannot be used for commercial purposes without prior notice to YouTube and its approval.
    d) This request requires authorization with at least one of the following scopes-
    https://www.googleapis.com/auth/youtube.upload
    https://www.googleapis.com/auth/youtube
    https://www.googleapis.com/auth/youtubepartner
    https://www.googleapis.com/auth/youtube.force-ssl
2. Project-Data -
    a) The project data is being acquired from Github API.
    b) The data from API should not be used for commercial purposes.

## 2.6 Assumptions and Dependencies

It is assumed that user has knowledge about how to operate a computer machine or an android based device.

In addition user's device should have a predefined browser and a stable internet connection for the purpose of viewing the website and android store on user's smartphone to download and use the the app with proper internet connection.

The user should have predefined knowledge of CSE(Computer Science) domain.

# 3 External Interface Requirements

## 3.1 User Interfaces

The following layout shall be followed in the software implementation-

1. Website -
    a) The trending section shall contain the videos which are currently in trend given the videos belong to the categories in the site.
    b) User can view any video by clicking on its thumbnail as the usual norms are.
    c) The second tab shall contain the playlists according to the category distribution.
    d) Each category shall be displayed with its fellow you-tubers below.
    e) On choosing the specified You-tuber the user shall be presented before a list of videos in a separate page which he/she has created.
    f) User can view the video by clicking on the thumbnail.
    g) The third tab shall contain the Project section wherein the user can search any project by typing in the required keyword in the search bar.
    h) On having searched for the project the user shall be presented before with a list of projects.
    i) The projects can be categorized according to the number of forks or number of stars in the repository.
    j) For extensive viewing of the code the user shall be directed to Github for better analysis.
2. Android App -
    a) The trending section shall be the first tab and the first screen.
    b) It will contain the videos which are currently in trend given the videos belong to the categories in the site.
    c) User can view any video by clicking on its thumbnail as the usual norms are.
    d) The second tab shall contain the playlists according to the category distribution.
    e) On clicking any category the user shall be directed to a new activity with the list of You-tubers for that category.

f) On choosing the specified Youtuber the user shall be presented before a list of videos in a separate activity which he/she has created .

g) User can view the video by clicking on the thumbnail.

h) The third tab shall contain the Project section wherein the user can search any project by typing in the required keyword in the search bar.

i) On having searched for the project the user shall be presented before with a list of projects.

j) The projects can be categorized according to the number of forks or number of stars in the repository.

k) For extensive viewing of the code the user shall be directed to Github for better analysis.

## 3.2 Software Interfaces

This software shall be making use of the following-

1. YouTube API Services -
   a) For data of videos
   b) Player view
2. Github API Services -
   a) For projects and data

For database we will be having our own server created wherein we will be hosting data regarding videos and projects which can be conveyed to app and website. The primary operating system for development will be Linux and Windows and Android studio and XML and JS IDEs shall be the platforms.

# 4 System Features

Our software features the following most important features-

1. Category wise ordering of youtubers with concern to the particular topics.
2. Easy viewing of videos in one section.
3. Bringing code and video material together.
4. Codes directly linked to the Github Server.