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# Introduction

This document will focus on requirement analysis and SDLC of an android app designed to stream youtube or local video content and implement child lock functionality through disabling phone hardware button and navigation bars.

# Requirements

## Youtube video streaming:

The app will implement google developer API for youtube (Youtube Data API v3). It will also keep servlet structure open to integrate other streaming API in future.

## Locking/Disabling phone hardware/physical buttons

The app will keep hardware or capacitive buttons disabled during runtime. If it is complicated to implement this then modification and handling hardware button actions and re-mapping them is desirable.

## Hiding navigation bars with full screen view

The app will hide top navigation bar during runtime. To do that it should run as full screen and only disabling the view if swipe action is performed on navigation bar.

# Implementation Phase

## First Phase

First phase will consist of 1 month and will implement youtube video streaming capabilities. It will also include UI & UX design finalization. 2 weeks duration sprint of total 2 sprints.

## Second Phase

Second phase will implement hardware button or capacitive button locking feature over 1 month time. 2 weeks duration sprint of total 2 sprints.

## Third Phase

Third phase will consist of getting the app view to full screen and on-top of every android activities. It will also implement disabling navigation bar of android and unlocking using custom gesture. 2 weeks duration sprint of total 2 sprints.

## Fourth Phase

Fourth phase will implement offline media play and background video/audio streaming capabilities. 2 weeks duration of total 2 sprints.

## Fifth Phase

The final phase will focus on integrating non-intrusive advertisement system and working with official app store release as well as finding and resolving critical bugs. 2 weeks duration of 4 sprints.

# Project Resource

## Target android operating system

Android 5.1 lolipop

## IDE

Android Studio 3+

## Development & testing device

Xiaomi Redmi Note 3 Pro

## Developer & advertising account

To Be Determined

## Version control & continuous integration

Git for version control, continuous integration system to be determined

## App structure

Standalone app requiring no registration or login and will use logged in google account for youtube. No backend server will exist and app updates will be pushed by play store.

## Project management

Trello will be used for bug/feature tracking. Scrum will be used for workflow and software development lifecycle.

# Project Management

## Workflow

Scrum should be followed. Requirements should be divided into sub-categories and will be worked on in every sprint. Sprint duration is 2 weeks without weekly holidays.

## Deliverables

From second sprint a base version of application build should be provided. After that at each sprint end a build with latest developed code should be provided.

## Feature/issue/bug tracking

Trello should be used to track feature or bug or issues that are being worked on. If better alternative is found that will be adopted.

## User experience

Simple and flat user interface should be used along with google’s material design concepts.

# Budget

Budget estimation is being done for a full time software engineer working 8 hours per day for full project timeline. As a result the project phases are divided into parts suitable for one developer work time.   
  
One developer weekly 40 hours is estimated as 20,000BDT per month. Following are phase wise budget,  
  
First Phase: Duration 1 month, budget 20K BDT

Second Phase: Duration 1 month, budget 20K BDT

Third Phase: Duration 1 month, budget 20K BDT

Fourth Phase: Duration 1 month, budget 20K BDT

Fifth Phase: Duration 2 month, budget 40K BDT

Grand total of all five phases: Duration 6 months, budget 120K BDT

Please note that all phases duration are subject to changes and budget will be revised according to it if necessary.