Smartphone Recommendation System

Maram Alshehri
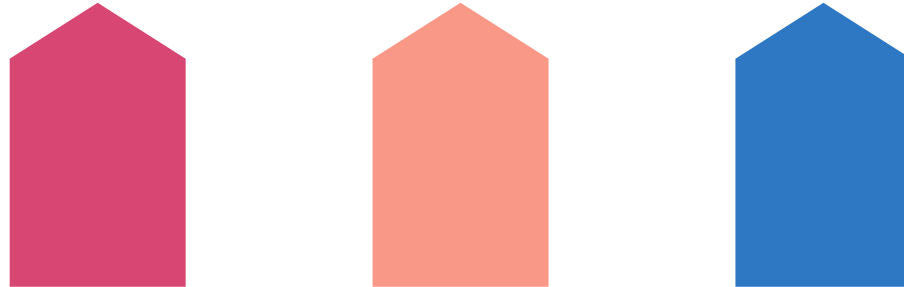
Smartphone Recommendation System

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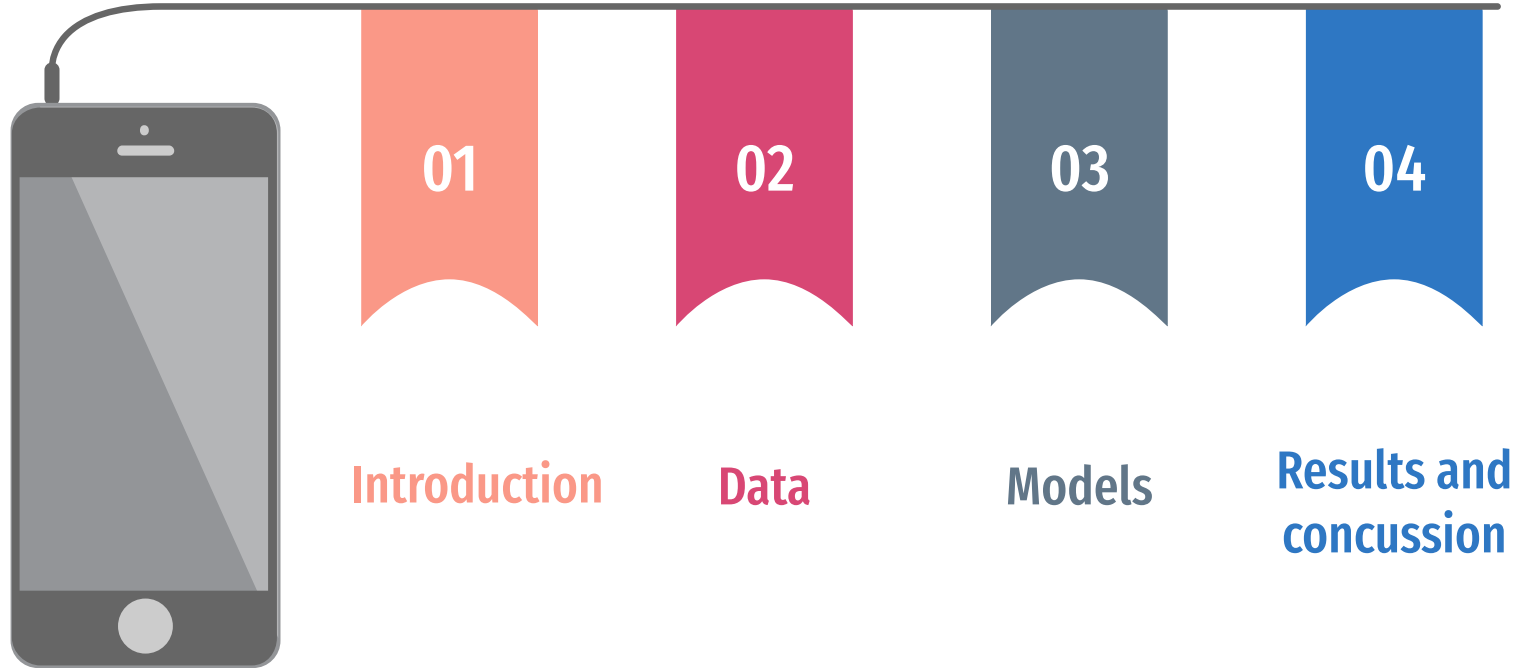
Introduction

The use of mobile devices in combination with the rapid growth of the internet has generated an information overload problem. Recommender systems are essential for determining which data are useful to the user.
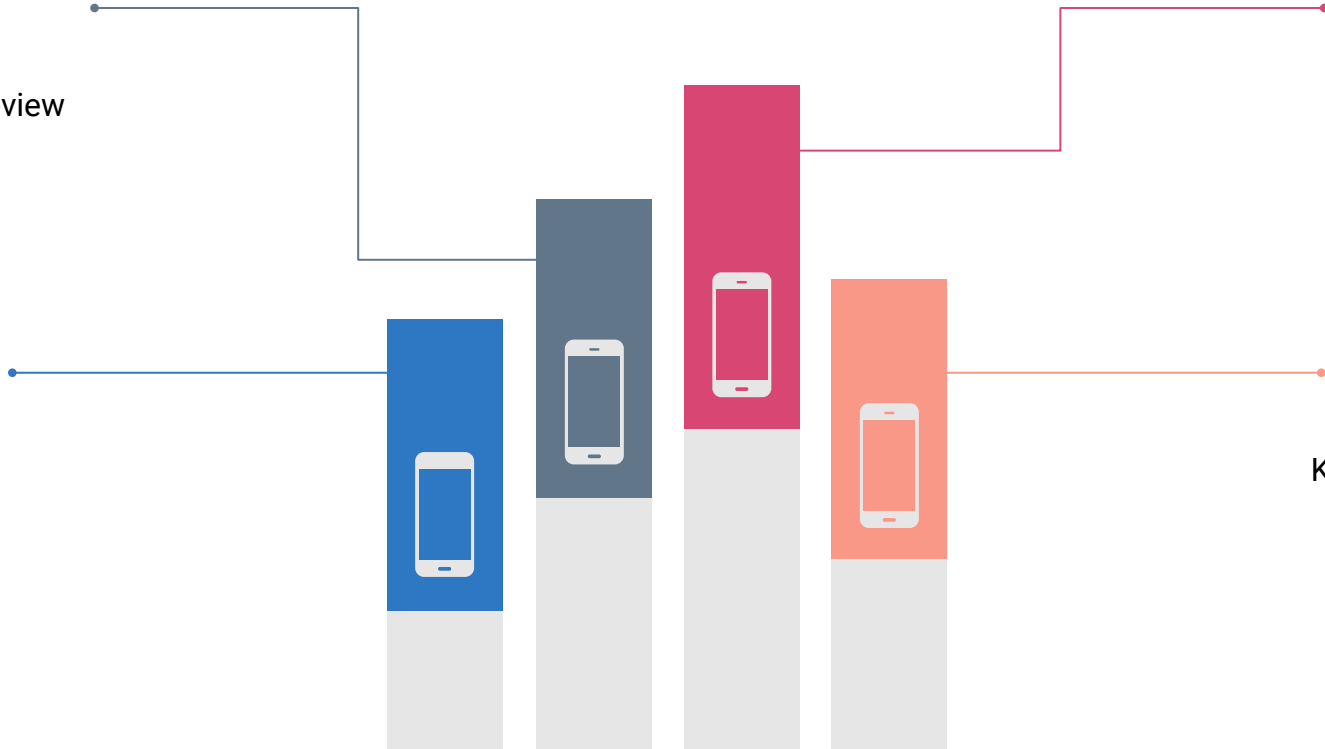
Data

Name

Phone user review

Size

374910 rows

**Features Number**

11 featurest

Originated by

Kaggle website

Example of The Data

|					
phone_url	/cellphones/samsung-galaxy-s8/	/cellphones/samsung-galaxy-s8/	/cellphones/samsung-galaxy-s8/	/cellphones/samsung-galaxy-s8/	/cellphones/samsung-galaxy-s8/
date	5/2/2017	4/28/2017	5/4/2017	5/2/2017	5/11/2017
lang	en	en	en	en	en
country	us	us	us	us	us
source	Verizon Wireless	Phone Arena	Amazon	Samsung	Verizon Wireless
domain	verizonwireless.com	phonearena.com	amazon.com	samsung.com	verizonwireless.com
score	10	10	6	9.2	4
score_max	10	10	10	10	10
extract	As a diehard Samsung fan who has had every Sam...	Love the phone. the phone is sleek and smooth ...	Adequate feel. Nice heft. Processor's still sl...	Never disappointed. One of the reasons I've be...	I've now found that i'm in a group of people t...
author	CarolAnn35	james0923	R. Craig	Buster2020	S Ate Mine
product	Samsung Galaxy S8	Samsung Galaxy S8	Samsung Galaxy S8 (64GB) G950U 5.8" 4G LTE Unl	Samsung Galaxy S8 64GB (AT&T)	Samsung Galaxy S8

Example of The Data
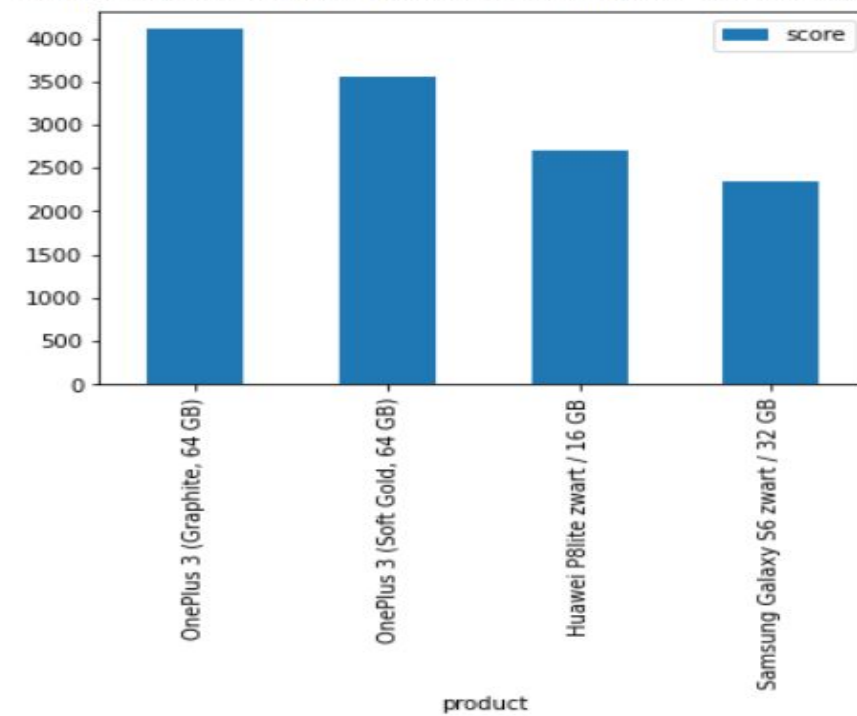
Model

Build the model

Data Preprocessing
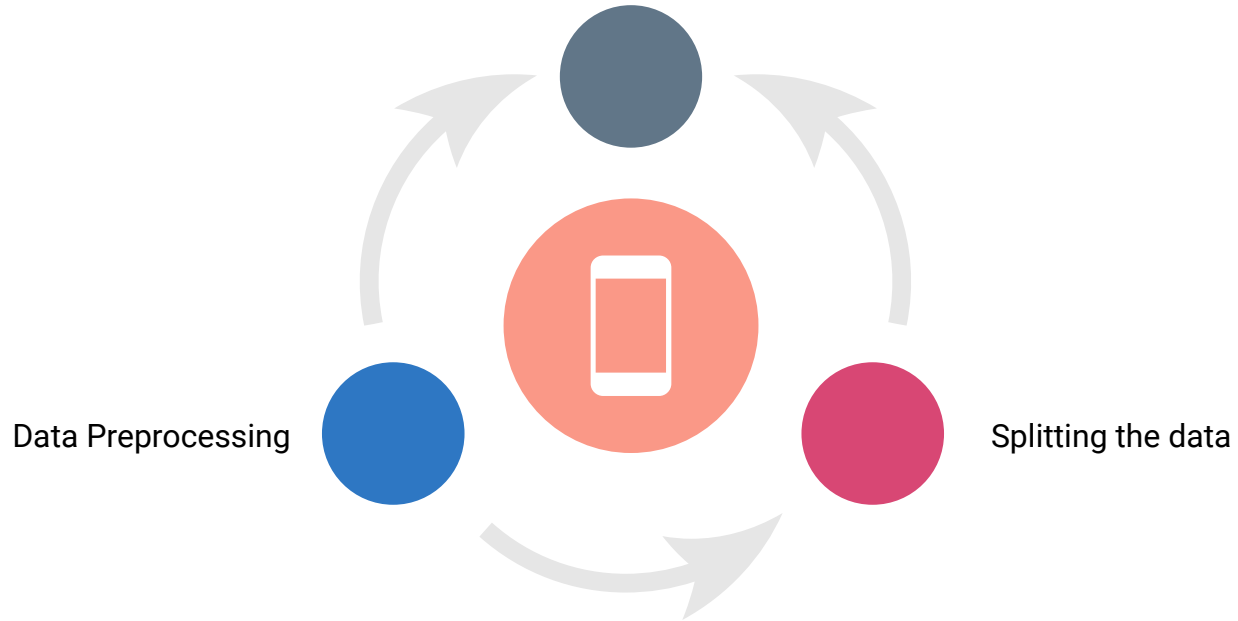
Splitting the data

Data Preprocessing
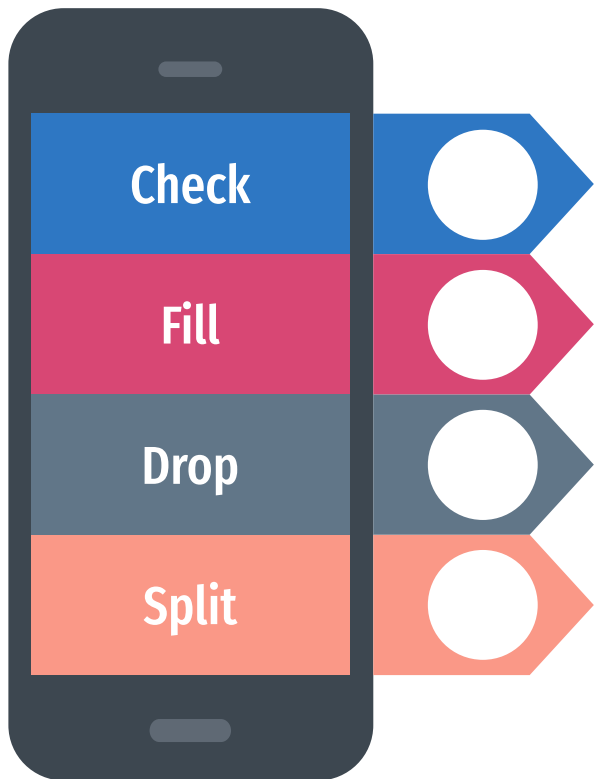
Check — Check missing values

Fill — Fill in null values in the "score" and "score_max" column
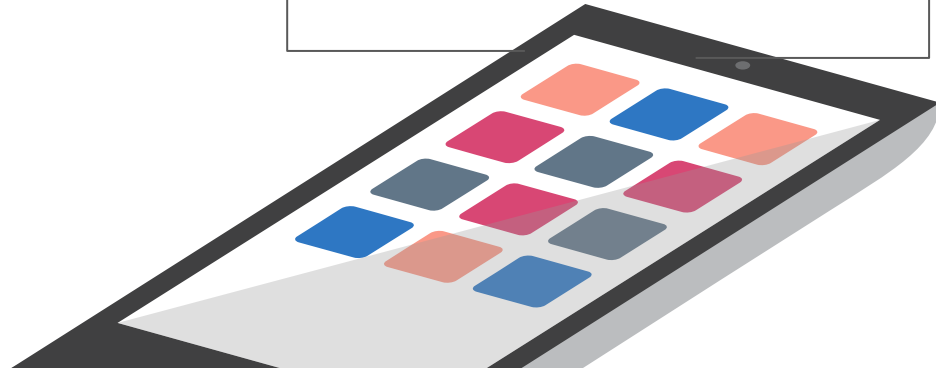
Drop — Drop irrelevant features

Split — Split The data into training and testing

Model used

Collaborative filtering model using SVD.

Collaborative filtering model using kNN with means from surprise using Item based
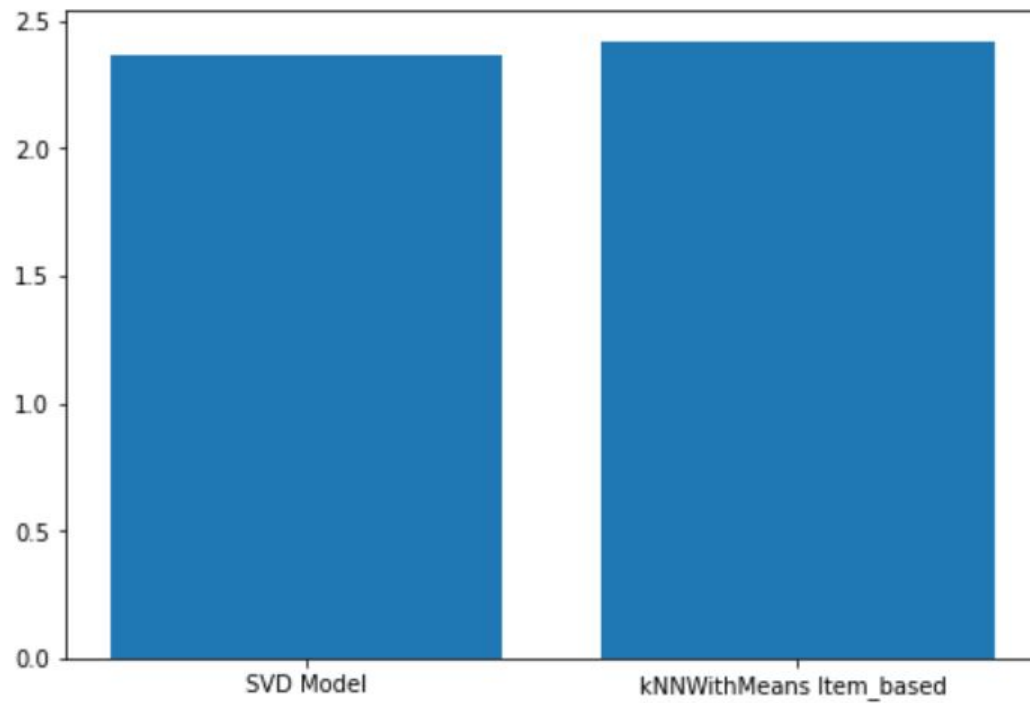
Model Evaluation

ROOT MEAN SQUARED ERROR (RMSE) is similar to MAE but the only difference is that the absolute value of the residual(see above image) is squared and the square root of the whole term is taken for comparison. The advantage of using RMSE over MAE is that it penalizes the term more when the error is high.
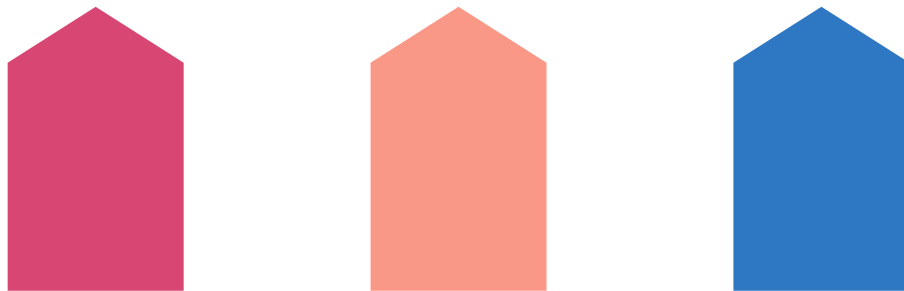
Results

Thanks
Any Questions!

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