MINI PROJECT

(2018-19)

KISAAN

(Software Requirement Specification)

Institute of Engineering & Technology

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Introduction

1.1 Purpose

Looking at the current situation faced by farmers in Uttar Pradesh, we have observed that there is an increase in suicide rate over the years. The reasons behind this includes weather conditions, debt, family issues and frequent change in Indian government norms. Sometimes farmers are not aware about the crop which suits their soil quality, soil nutrients and soil composition. The work proposes to help farmers by providing them the required awareness about farming techniques and also help them to predict which is the most suitable crop for them according to their area. Thus the system focuses on creating awareness on farming methodsand to predict the crop suitable for cultivation according to their area and maximize the crop yield with recommending appropriate crop.

1.2 Scope

1-Website where user can signup/login for getting knowledge about farming.

2-Videos explaining farming methods also available.

3-User can also have a look on recent government policies and district wise best crop in UttarPradesh.
4-And most importantly,user can predict the best suitabe crop according to their area.

1.3 Definitions Acronyms and Abbreviations

A) ML-Machine Learning
B) UI-User Interface
C) CSV- comma separated values
D) SK-Scikit Learn

1.4 Tools Used

- Django (version: 1.10.4)-Django is a free and open-source web framework written in Python, which follows the model-view-template architectural pattern.
- JUPYTER-The **Jupyter Notebook** is an incredibly powerful tool for interactively developing and presenting data science projects. A **notebook** integrates code and its output into a single document that combines visualisations, narrative text, mathematical equations, and other rich media.
- Python- It is loosely typed high level language used in the back end of making of this website.
- Python Libraries-Pandas,Numpy,Sklearn,Seaborn etc.
- Linear Regression-Predicting algorithm used in this model.

1.5 Technologies to be used

1-Machine Learning
2-Django
3-HTML
4-CSS

1.6 Overview

This system creates awareness among farmers to improve their productions by videos and other content available and predict the best suitable crop accordingly.

1.7 Requirements

1.7.1 Software Requirements:

- Django 1.10.5
- Python IDLE (Pycharm 2018.1.4)
- Jupyter Notebook
- Python Libraries(Numpy,Pandas,Sklearn,Seaborn,etc)

1.7.2 Hardware Requirements:

- At least 4 GB Ram
- i3 Processor

1.8 References

*Hands on Machine Learning using Scikit Learn and TensorFlow

*MachineLearning tutorials edureka/youtube.com

*Software Engineering (3rd ed.), By K.K Aggarwal & Yogesh Singh

*Django Tutorials for Beginners thenewnoston/youtube.com

*Machine learning tutorials by edureka/youtube.com

REQUIREMENTS

2.1 Use Case Diagram

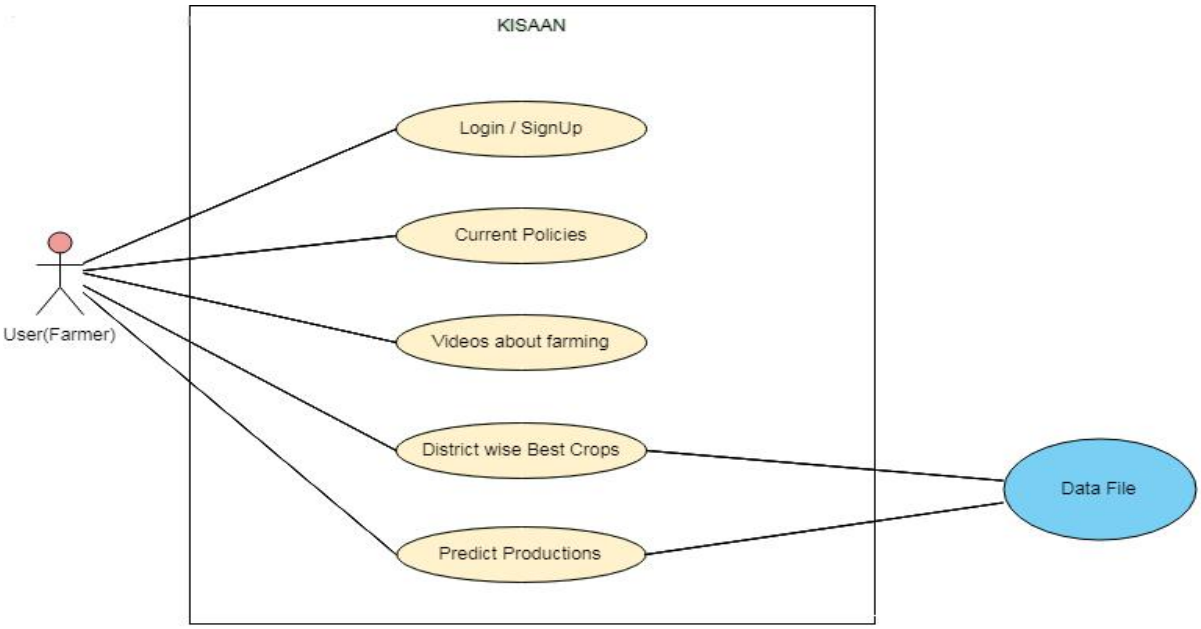

FIG 2.1-Use Case Diagram

2.2 Flow Chart

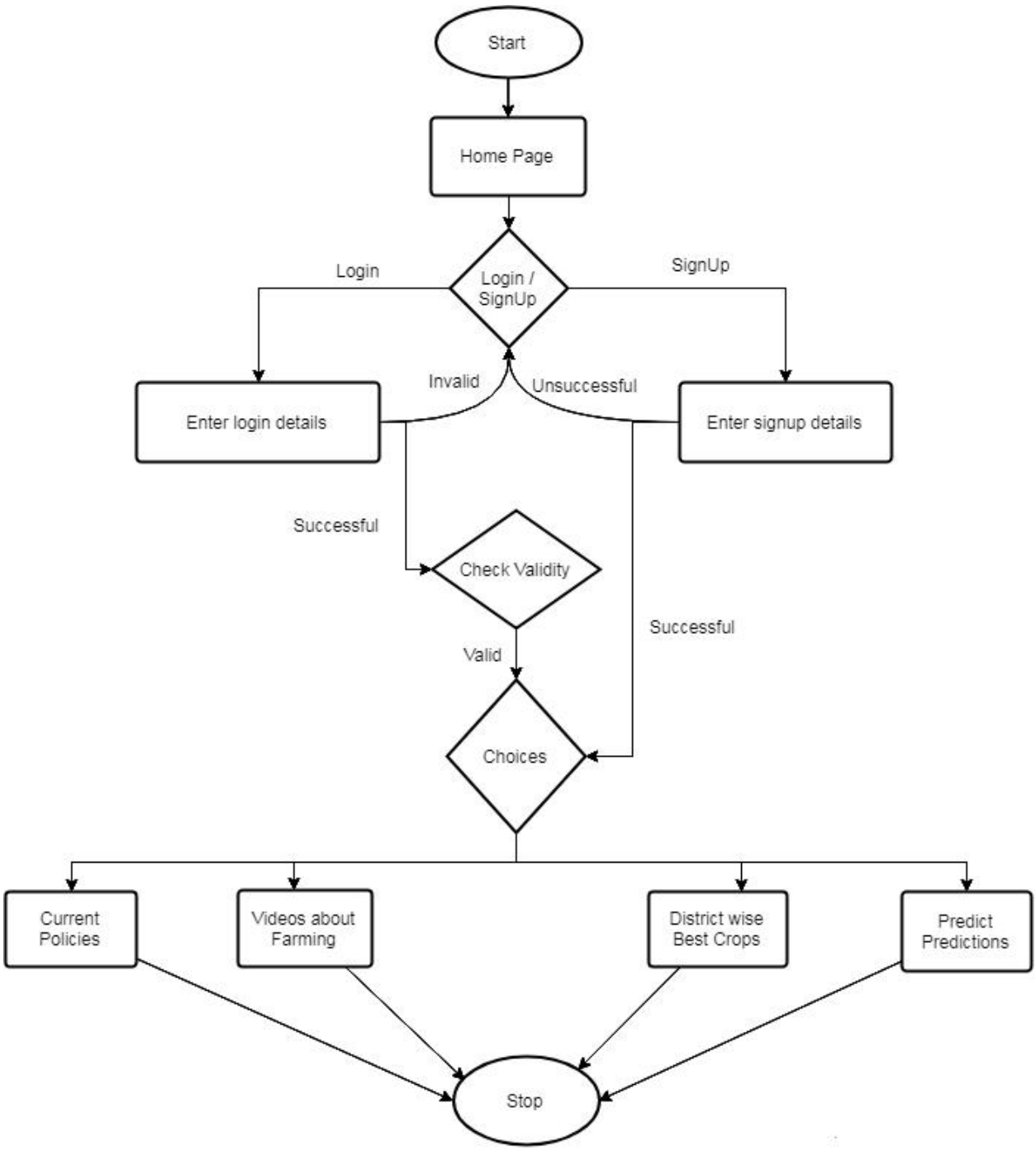

FIG 2.2-Flow Chart

2.3 Class Diagram

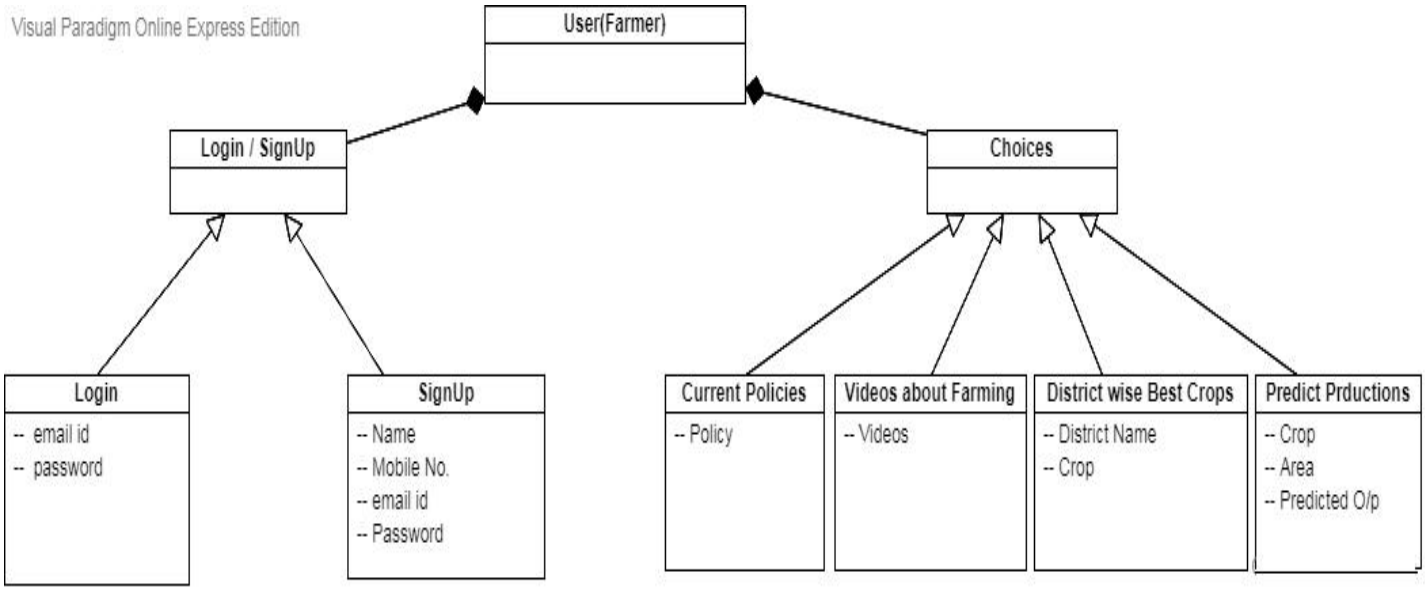

FIG 2.3-Class Diagram

2.3 Data Flow Diagram

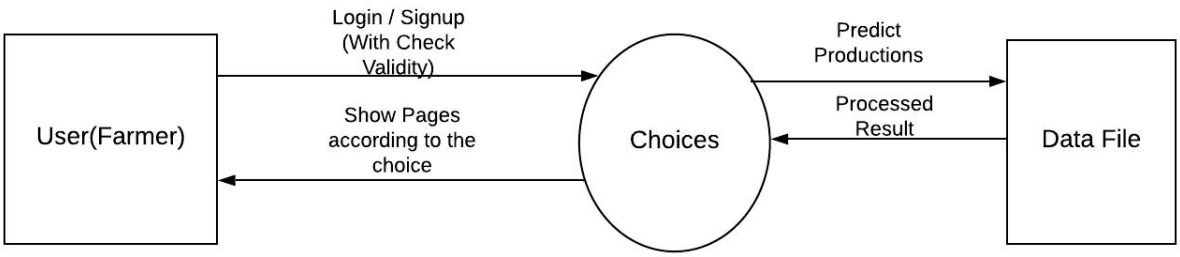

Fig 2.3 DFD Level 0

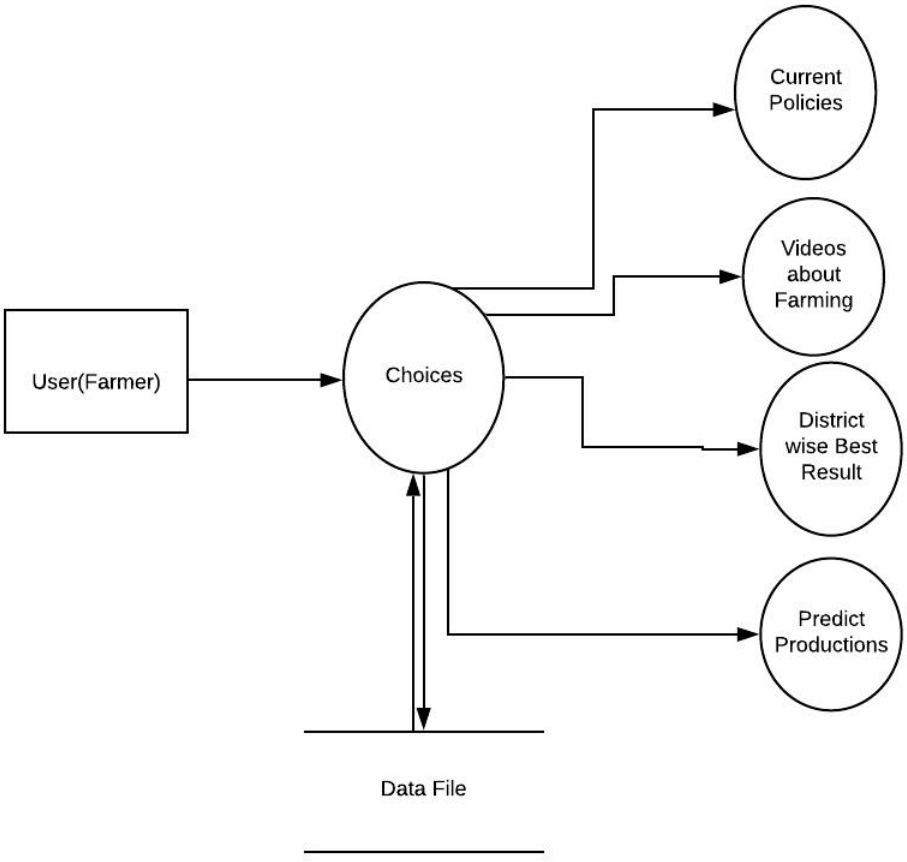

Fig 2.4 DFD Level 1

2.4 Sequence Diagram

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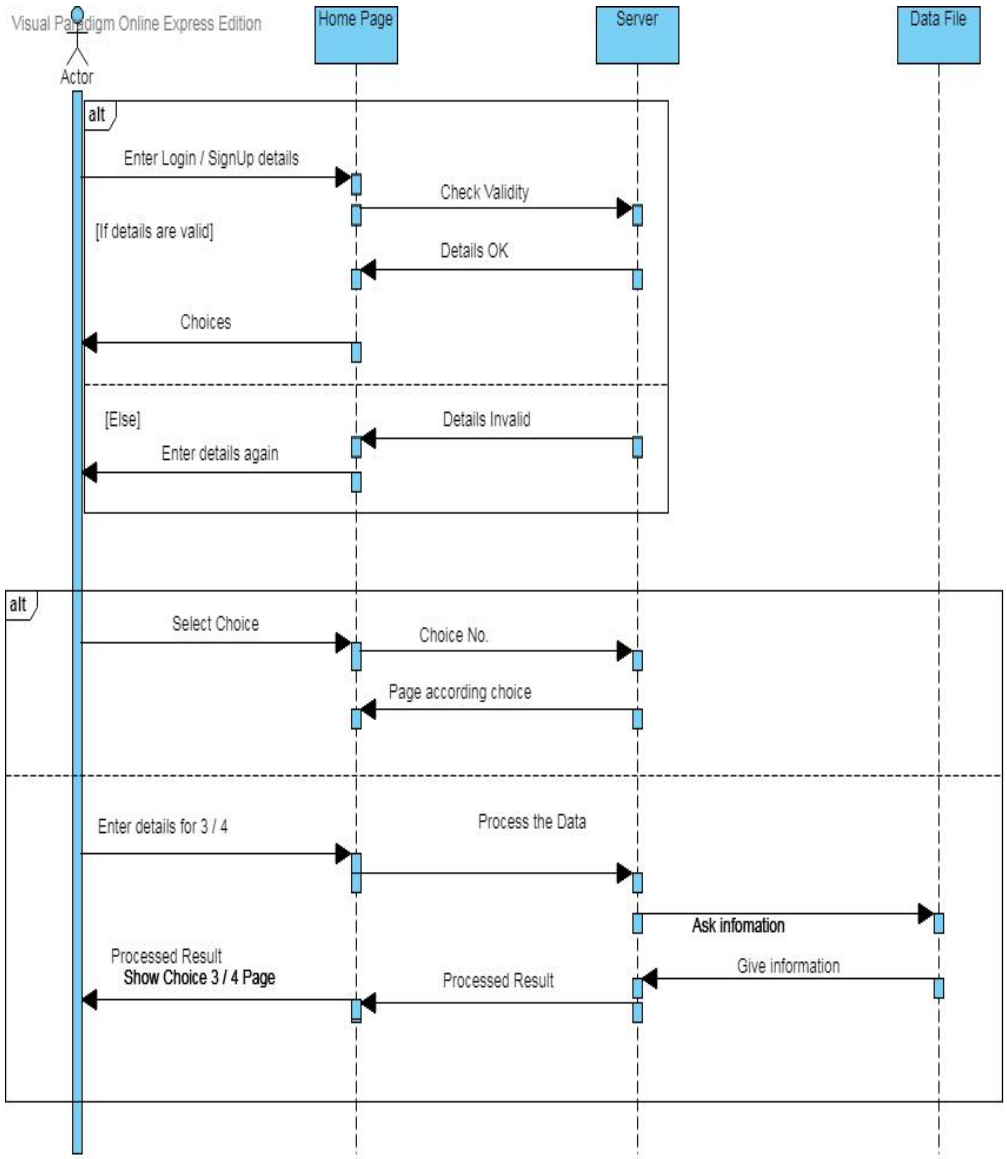

FIG 2.5-Sequence Diagram

2.5 Activity Diagram

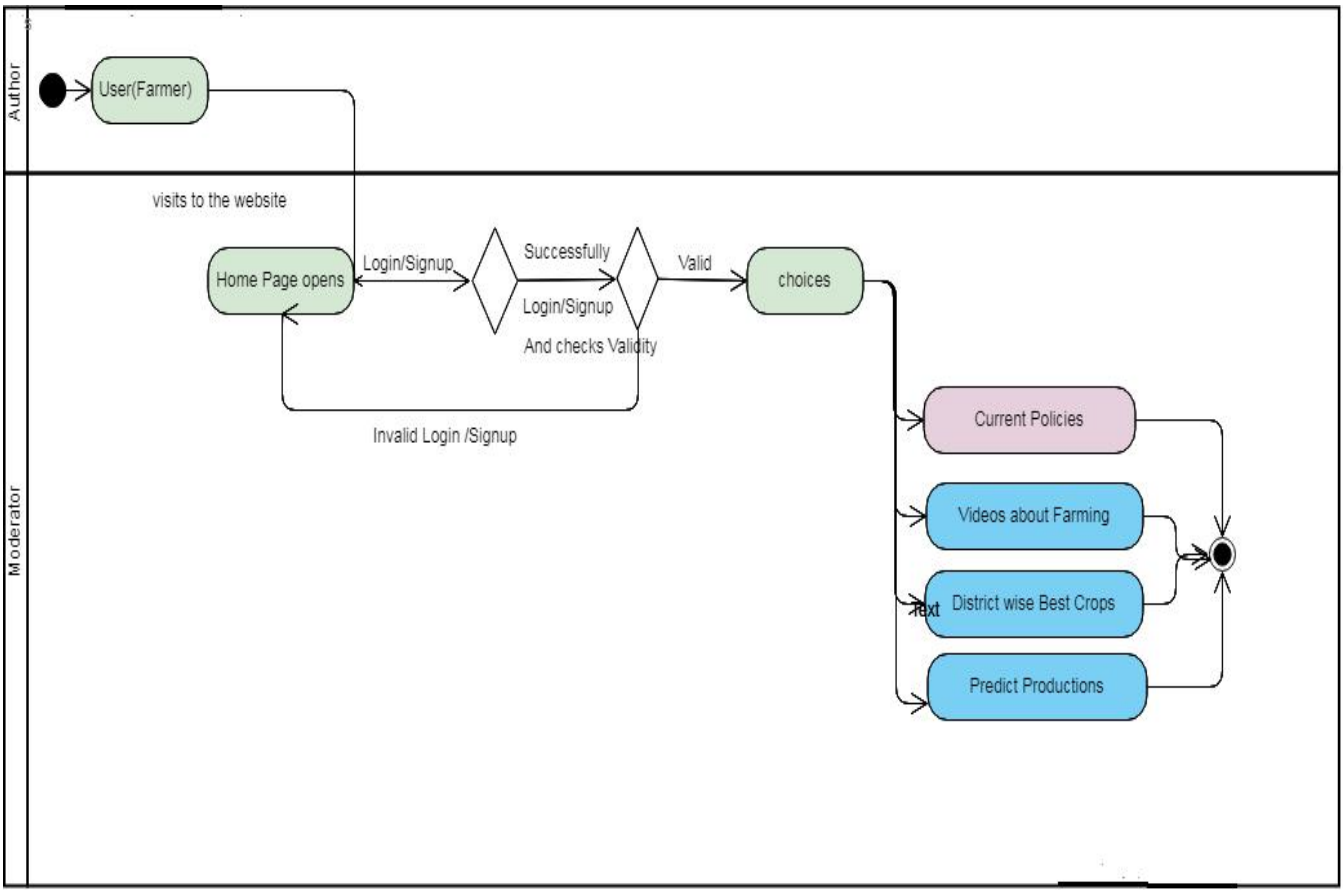

Fig 2.6 Activity Diagram