



# USER MANUAL

Published on: November 3, 2021

Version 1.2



Prepared by

Technical Writing Team, Spiralogics, Inc.

## Table of Contents

<b>ABBREVIATIONS</b> .....	i
<b>DEFINITIONS</b> .....	ii
<b>1. Executive Summary</b> .....	1
1.1 Purpose .....	1
1.2 Scope .....	1
<b>2. System Overview</b> .....	1
2.1 Hardware and Software Requirements .....	1
2.2 How to install Nepal Samvat? .....	1
<b>3. Design Overview</b> .....	1
3.1 Background Information .....	1
3.2 Application Overview .....	2
<b>4. Getting into the Application</b> .....	2
4.1 Home .....	2
4.2 Calendar .....	6
4.3 Festivals .....	11
4.4 Date Converter .....	12
4.5 Settings .....	14



## ABBREVIATIONS

<b>AD:</b>	Anno Domini
<b>BS:</b>	Bikram Samvat
<b>iOS:</b>	iPhone Operating System
<b>NS:</b>	Nepal Samvat



## DEFINITIONS

**Analā:** Analā is a leap month which occurs when two new moons fall over the same solar month (Shukla paksha).

**Ga:** The second cycle from the full moon to the next new moon is called Ga (Krishna) paksha. This represents moon decreasing its luminosity.

**Moon Sign:** The moon sign is the zodiac sign that the moon was positioned in the moment of birth.

**Moonset Time:** The time of setting of the moon below the horizon.

**Nhalā:** Nhalā is a skipped month which plays a significant role in keeping the NS calendar in sync with the seasons, which depend on the solar year. Nhalā is much rarer.

**Nakshatra:** Nakshatra is the term for lunar mansion in Hindu astrology and Indian astronomy. A nakshatra is one of 2 sectors along the ecliptic. Their names are related to a prominent star or asterisms in or near the respective sectors.

**Nepal Samvat:** Nepal Samvat calendar is a lunisolar calendar that has been in-use in Nepal since 879 AD. Almost all festivals and culturally significant events in the country are celebrated using this calendar.

**Paksha:** A paksha is a half lunar cycle from a new moon to the next new moon, which is divided in Tho and Ga paksha.

**Sun Sign:** Sun sign is a modern simplified system of Western astrology which considers only the position of the sun at birth.

**Sunset Time:** The time of setting when the upper limb of the sun disappears below the horizon.

**Synodic Month:** Synodic month or lunation is the period between two consecutive new moons. An average synodic month is about 29.530588 days. NS months are synonymous with the synodic month.

**Tho:** The first cycle from the new moon to the full moon is called Tho (or Sukla) paksha. This represents moon increasing its luminosity.

**Tithi:** Tithis are the days of NS calendar. They are denoted by numbers from 1 to 15. Day 15 represents a full moon for Tho Paksha and new moon for Ga Paksha. Tithis can repeat over two consecutive days or skip completely.



## 1. Executive Summary

### 1.1 Purpose

Purpose of this document is to provide users with a step-by-step guide to use Nepal Samvat mobile application. This document includes guidance to use all features of the application such as getting into the system, view calendar, festivals, converter, and many more.

### 1.2 Scope

Nepal Samvat is a mobile application which allows users to view any year, month or day in NS format. Users can view all the tithi months and days, each tithi festivals along with sun sign and moon sign details. Users can view all significant festivals and events of the country which are usually set based on NS calendar. Users can also convert any dates from NS to AD, NS to BS, BS to AD and vice-versa and can set application language preference in English or Nepal Bhasa.

Application is supported in both iOS and Android platforms.

## 2. System Overview

This section explains the hardware and software requirements for accessing NS mobile application.

### 2.1 Hardware and Software Requirements

Users need to have a device with iOS or Android operating system. The minimum iOS version should be 12.0 or above. The minimum Android version should be 5 or above. Users can access all functionalities of NS mobile application offline once downloaded.

### 2.2 How to install Nepal Samvat?

Depending on your mobile device, go either to App Store or Google Play and follow these simple steps:

1. In App Store or Google Play, tap on **Search** icon.
2. Enter **Nepal Sambat** in the search field.
3. Click on **Get** button on iPhone or **Install** button on Android, right next to the application name, which will download application in your device.

## 3. Design Overview

This section explains the background information of NS mobile application and gives a brief overview of the application.

### 3.1 Background Information

A calendar reflects the richness and growth of human civilization. Each calendar till date carries a historical and cultural significance and provides a peek into the mathematical and astronomical genius behind it. Nepal Samvat calendar is a lunisolar calendar that has been in-use in Nepal since 879 AD. Almost all festivals and culturally significant events in the country are celebrated using this calendar. Nepal Samvat mobile application is developed to generate NS calendar for any given year, month or day.



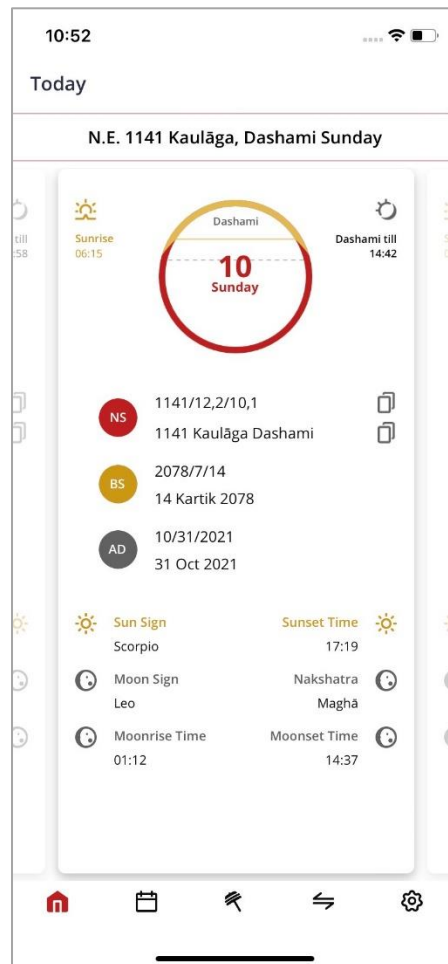
### 3.2 Application Overview

Once application is downloaded, user can easily use all NS application features. Users are first directed to home page which details the calendar information about the current day. The Nepal Samvat application consists of five tabs: **Home**, **Calendar**, **Festivals**, **Date Converter**, and **Settings**.

## 4. Getting into the Application

### 4.1 Home

You can easily access the application once downloaded. When you first open the application, you can view detailed calendar information about current day in home page as shown below:

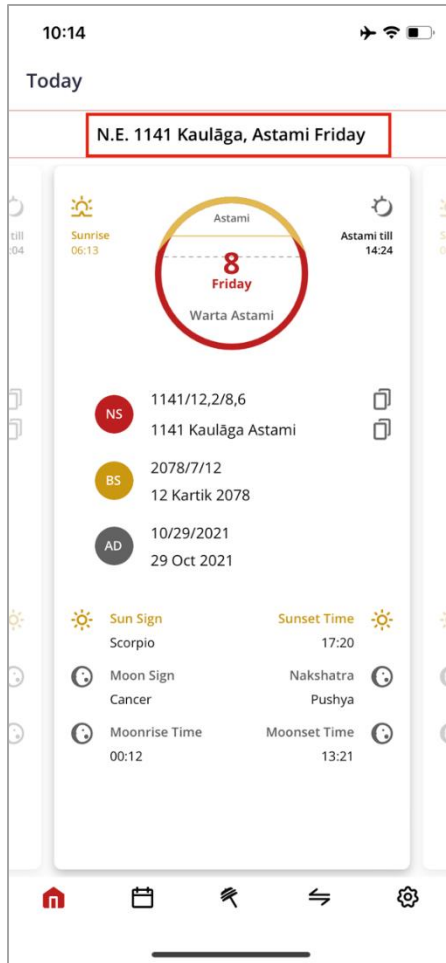


*Fig(i): Home Page*

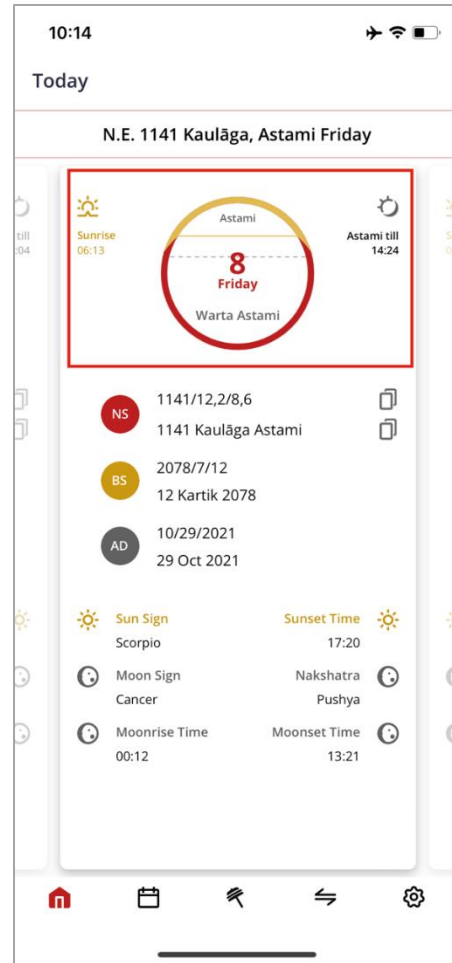
From home page, you can view following information:

- (i) Current Nepal Samvat year, month along with paksha, tithi name and day.
- (ii) Followed by the current day's sunrise time on left, the circle in middle displays current tithi name, tithi number, current day followed by current tithi festival (if any). You can then view today's tithi duration on right.





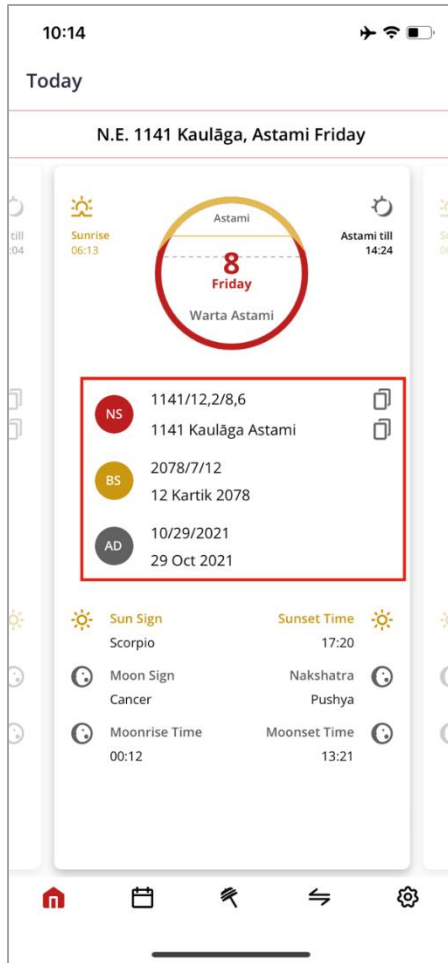
*Fig(ii): NS Date*



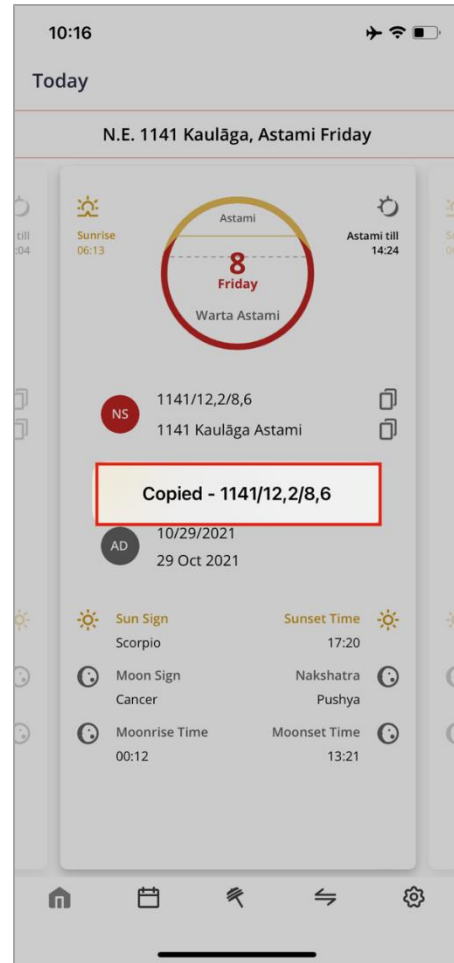
*Fig(iii): Today's Sunrise and Tithi Info*

- (iii) Today's date in numeral, followed by descriptive current date in NS, BS and AD.
- (iv) You can copy and use today's NS date in numeral as well as descriptive date.





*Fig(iv): Today's Date in NS, AD & BS formats*

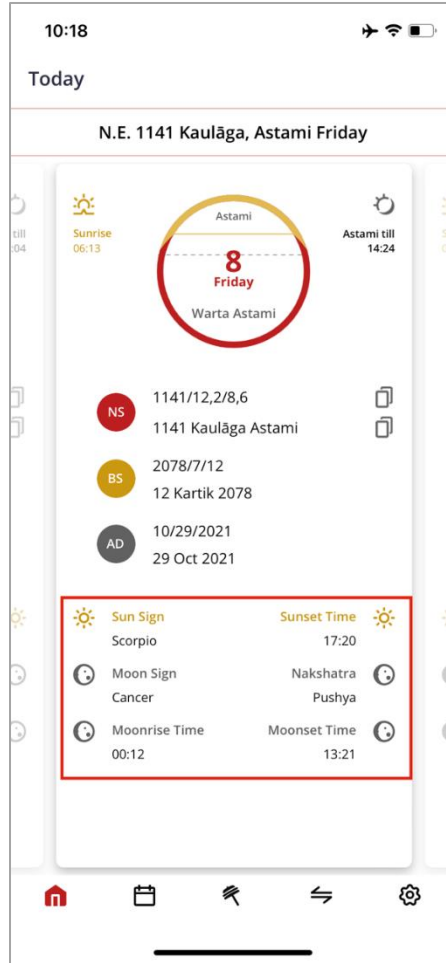


*Fig(v): Copied NS Date*

- (v) Then at the bottom of the home page, you can view today's Sun Sign, Moon Sign, Moonrise time, Sunset time, Nakshatra, and Moonset time.



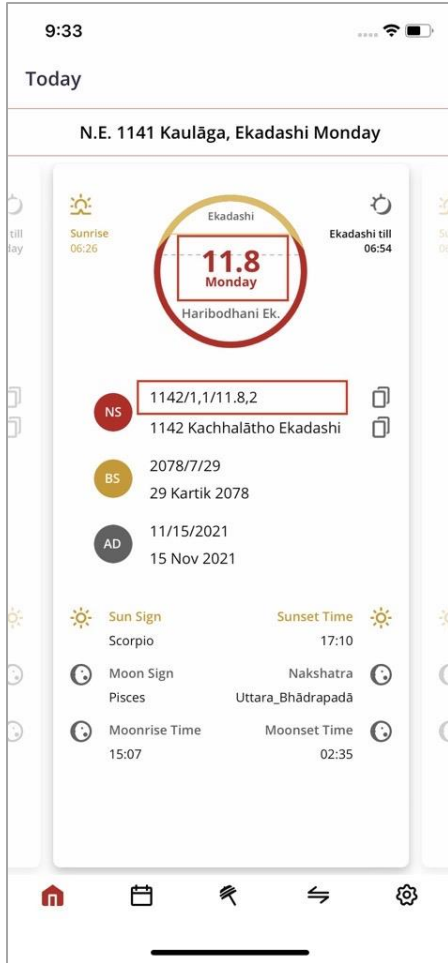




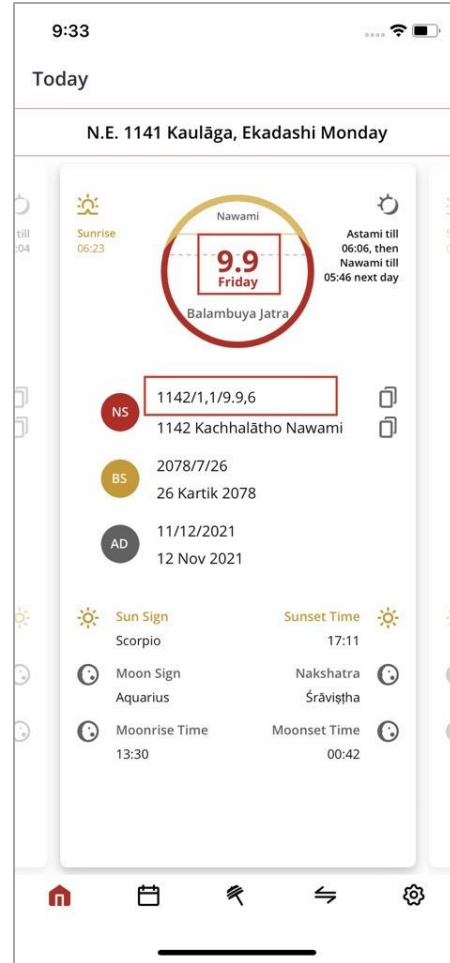
*Fig(vi): Today's Sunrise, Moonrise detail along with Nakshatra*

In Nepal Samvat, tithis can repeat over two consecutive days or skip completely. When a tithi is repeated, the second one in the list is added with a suffix of **8** to denote repeat, **9** if a day is skipped day, and 0 otherwise.





Fig(vii): Repeated Tithi



Fig(viii): Repeated Tithi

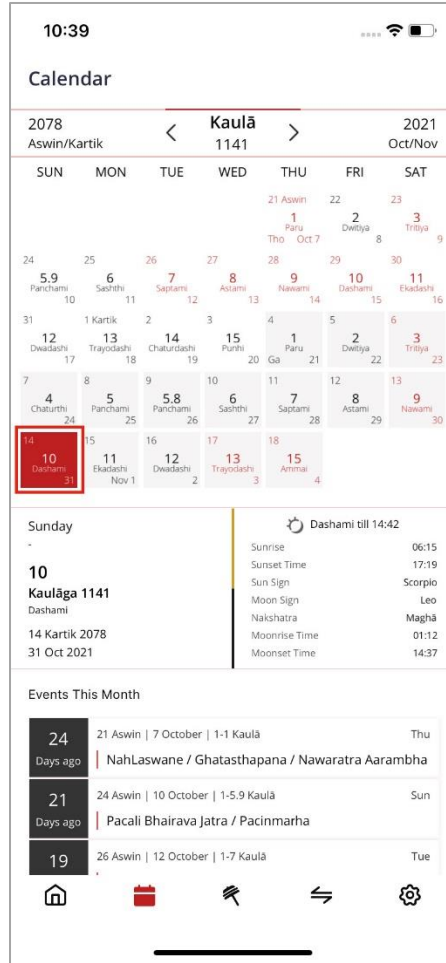
Similarly, NS calendar includes a leap year every three years, with 13 months which is called Analā in NS calendar. And, a skipped month called Nhalā, which keeps the NS calendar synced with the seasons.

You can view calendar information from current day to next 15 days or previous 15 days by swiping right or left respectively.

## 4.2 Calendar

In calendar tab, you can view current month’s calendar with today’s date marked in red.

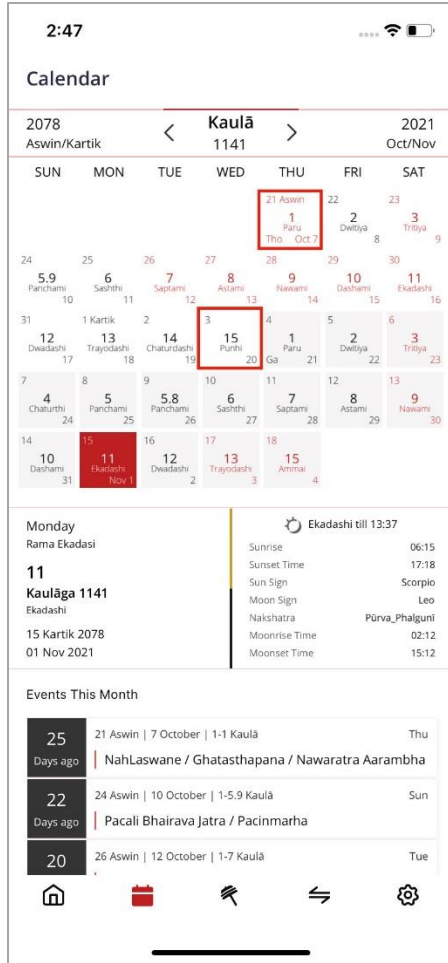




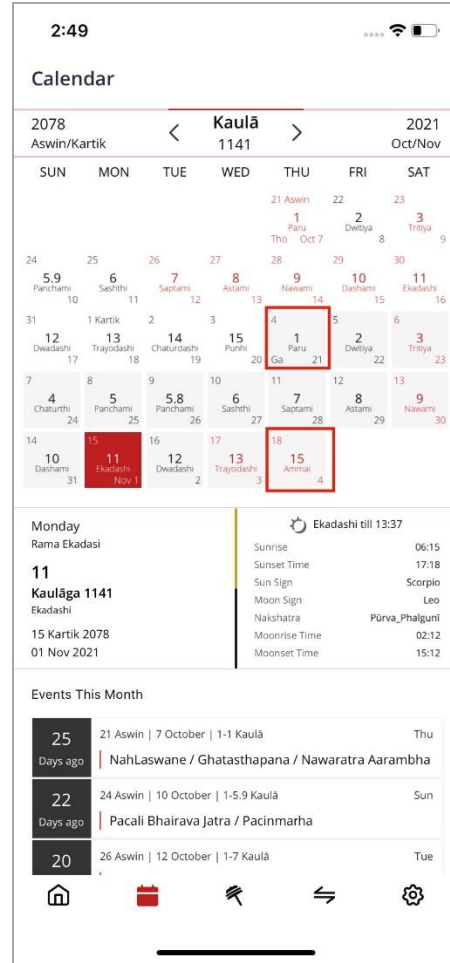
Fig(ix): Today's Date marked in Calendar page

In NS, tithi days occur in two 15 days interval. First 1-15 days fall under ‘Tho’ paksha in which date 1 is **Paru**, and **Punhi** on date 15. Second 1-15 days fall under ‘Ga’ paksha, where date 1 is **Paru** and date 15 is **Ammāi**.





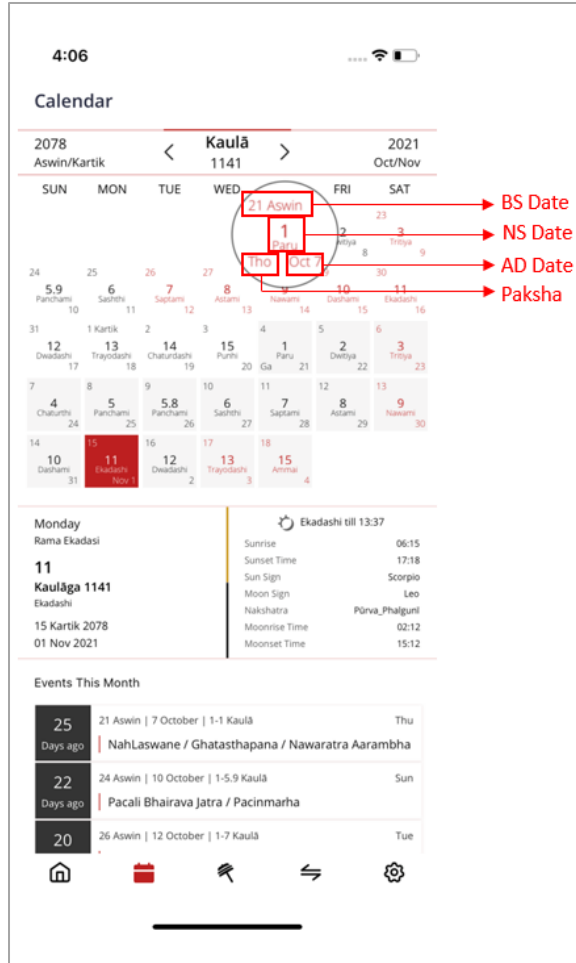
Fig(x): Tho Paksha



Fig(xi): Ga Paksha

Calendar view in Nepal Samvat displays date not only in NS format, but also in BS and AD formats, which can be seen as follows:

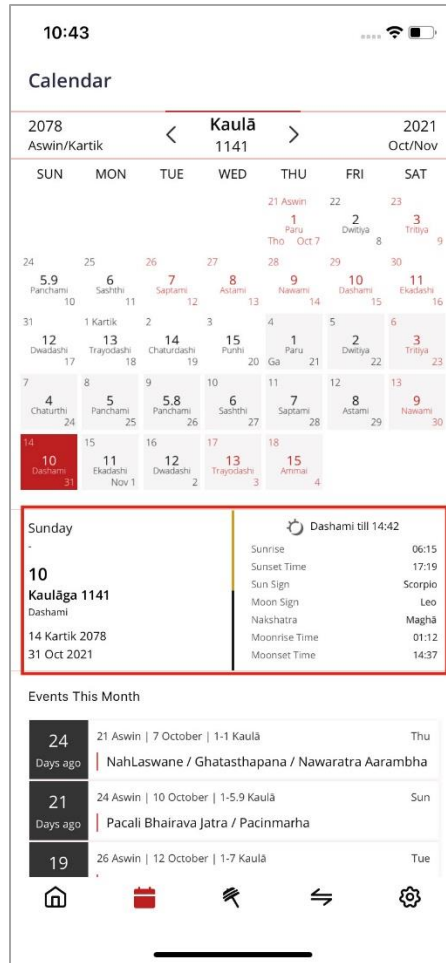




*Fig(xii): Different format dates in Calendar*

Also, today’s date in NS, BS and AD formats with tithi name and number and other information is displayed as follows:





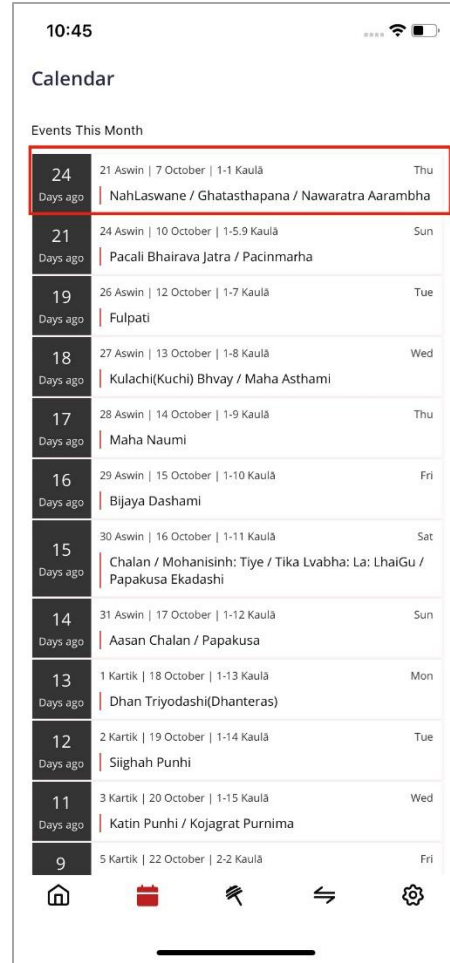
*Fig(xiii): Today's date in different formats, and related Information*

On the bottom of calendar tab, you can scroll to view all events of the current month. Each event displays number of days indicating if the event has occurred or is about to take place, followed by date and month in BS, AD and NS respectively and name of the day on the right.





Fig(xiv): Events of Current Month



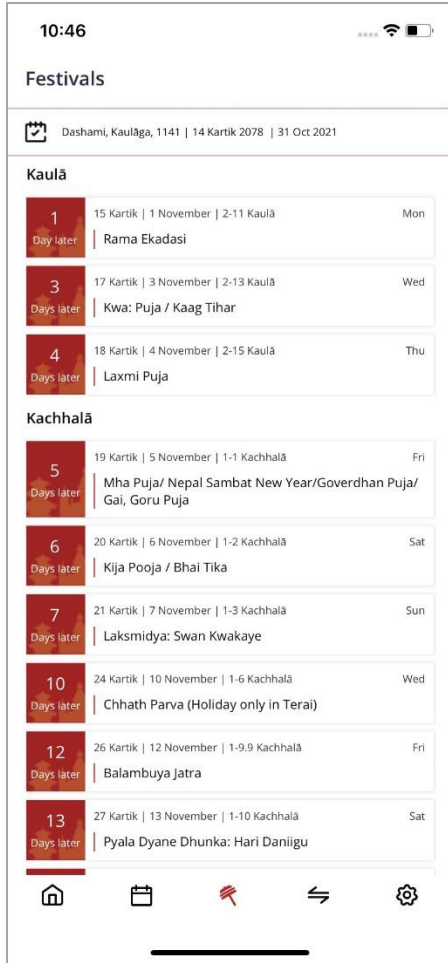
Fig(xv): Event Details of Current Month

### 4.3 Festivals

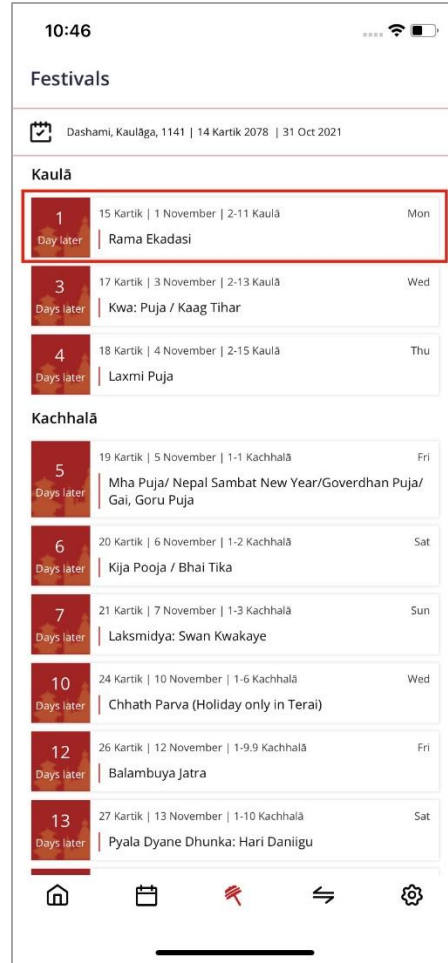
In festivals tab, you can scroll and view list of all festivals of whole year under their respective months.

Each festival displays number of days indicating if the event has occurred or is about to take place, followed by date and month in BS, AD and NS respectively and name of the day on the right.





Fig(xvi): Festivals Page



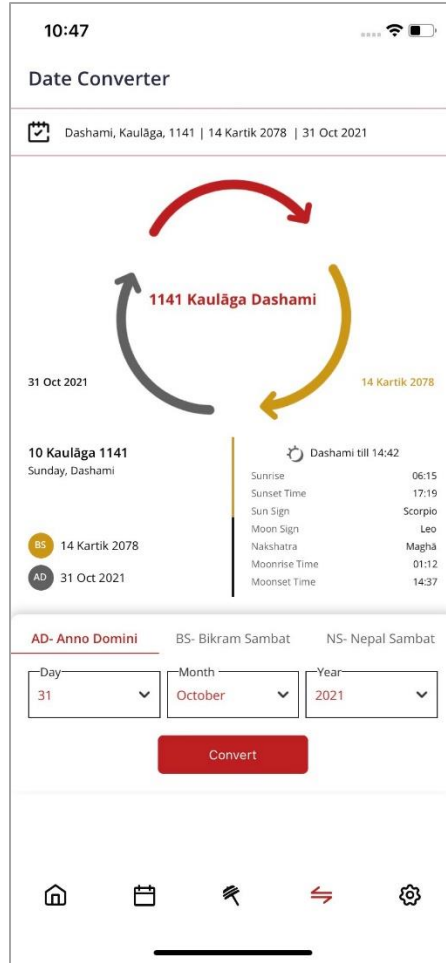
Fig(xvii): Festivals Detail

#### 4.4 Date Converter

Date converter tab allows you to convert any date in either AD, BS or NS into any other format as required. By default, current day's detail is displayed.







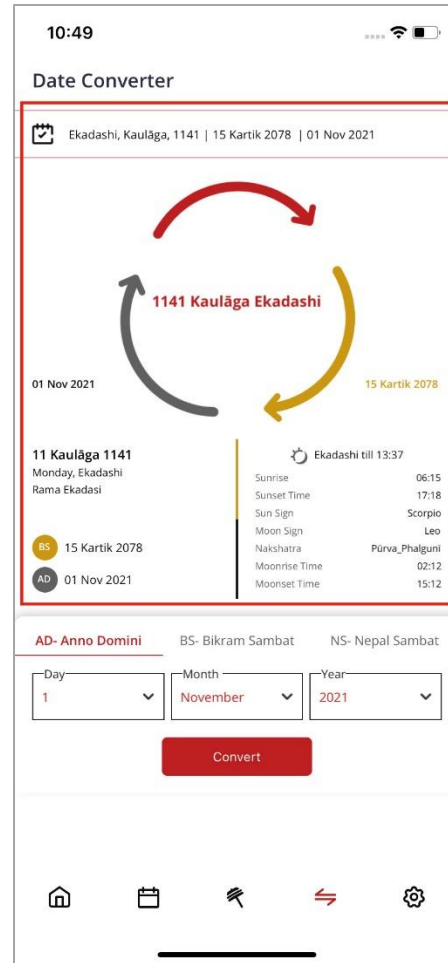
*Fig(xviii): Date Converter Page*

For instance, to convert AD into NS, select required day, month and year under AD and click on ‘Convert’ button. This will convert the entered date into corresponding NS and BS date with details such as Sunrise, Sunset time, Sun Sign, Moon Sign, Nakshatra, Moonrise and Moonset time.





Fig(xix): Date Convert Button



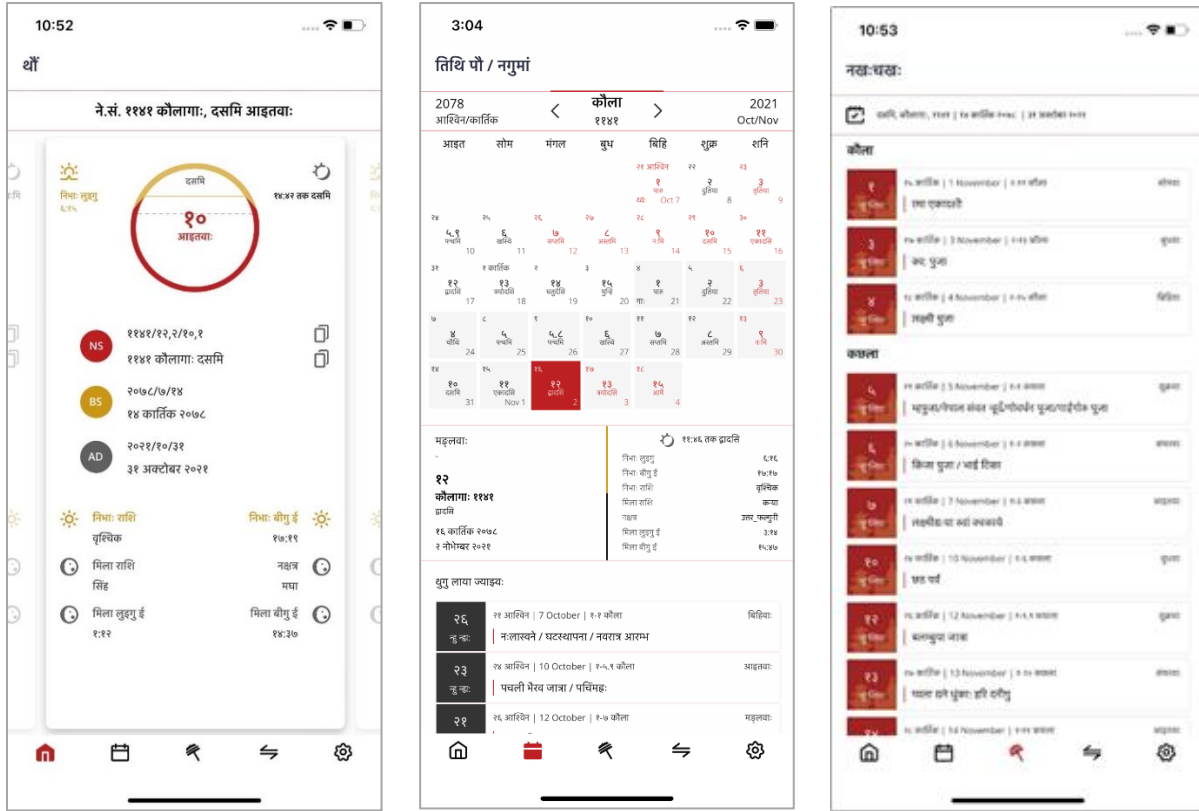
Fig(xx): Converted Date from AD to NS format

## 4.5 Settings

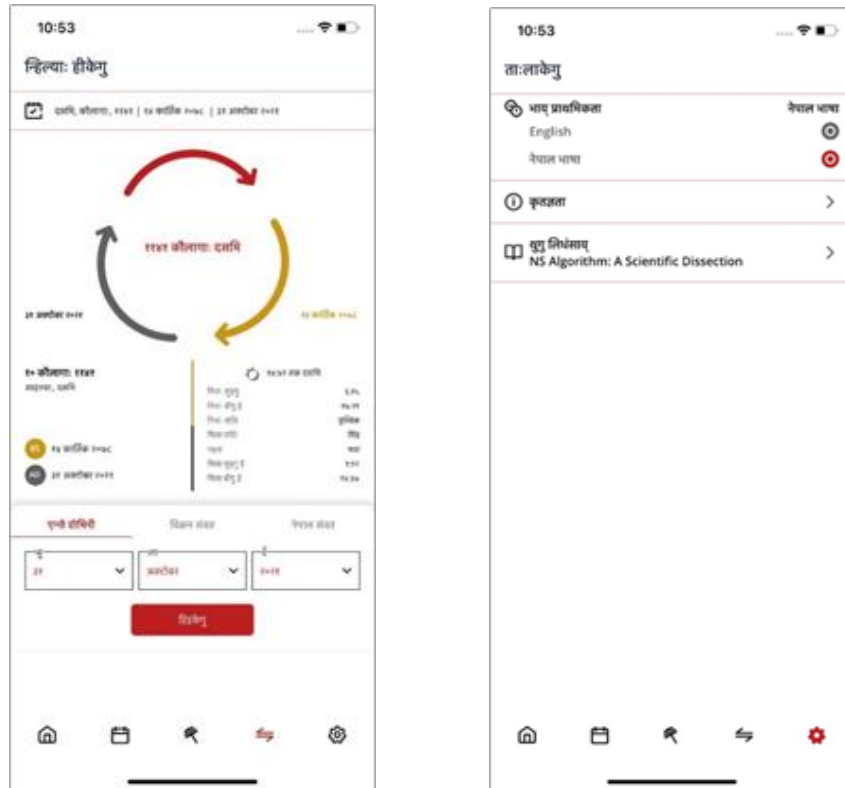
In settings tab, you can access following features of the application:

- Language Preference:** You can select either English or Nepalbhasa as preferred language for using application. Once you set either of the language, application will convert into that specific language. For instance, by selecting 'Nepal Bhasa', entire application will change its default language as follows:





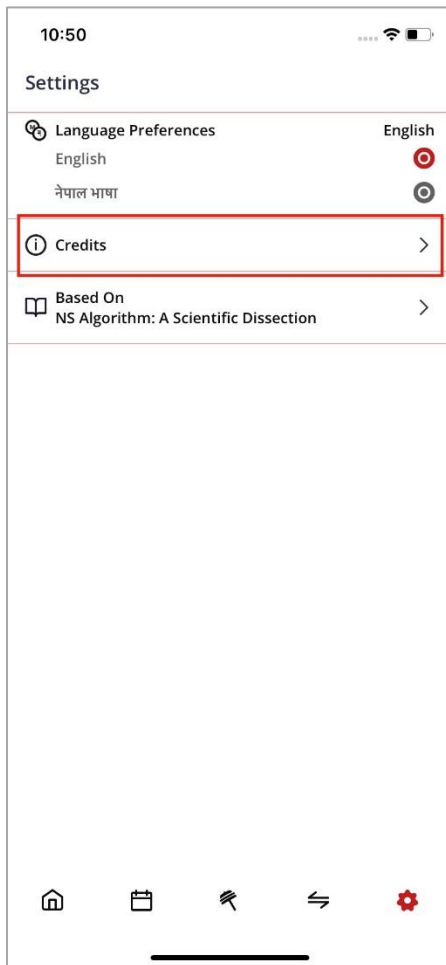
Fig(xxi): Home, Calendar, and Festivals Pages in Nepal Bhasa



Fig(xxii): Date Convert Page and Settings Page in Nepal Bhasa



- **Credits:** Credits section provides list of team members involved in research and development of application. You can scroll to view entire credit list.



*Fig(xxiii): View Credits in Settings page*



*Fig(xxiv): List of Credits*

- **NS Algorithm:** Under this, you can view the PDF - NS algorithm: A Scientific Dissection, on which the application is based on and has been developed.



*Fig(xxv): View NS Algorithm Paper*

