

Nithya Panchangam

Vedic Calendar

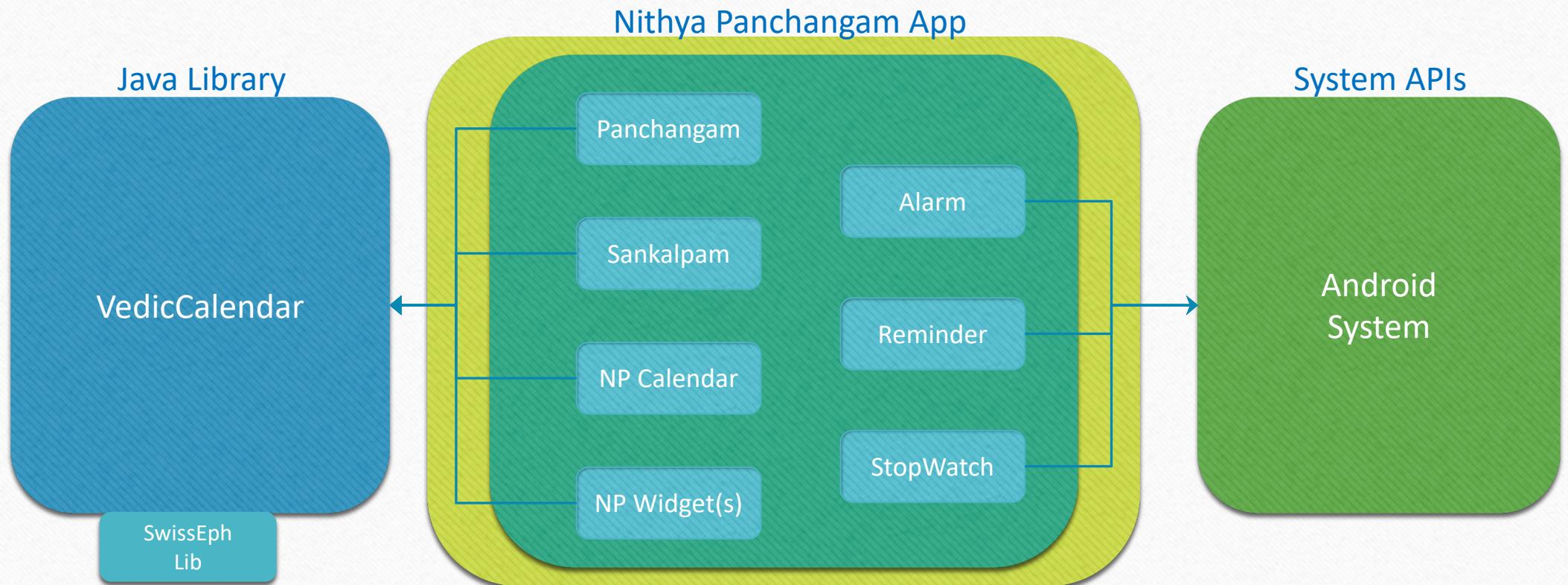
HARIHARAN KRISHNAMURTHY

Sep '21

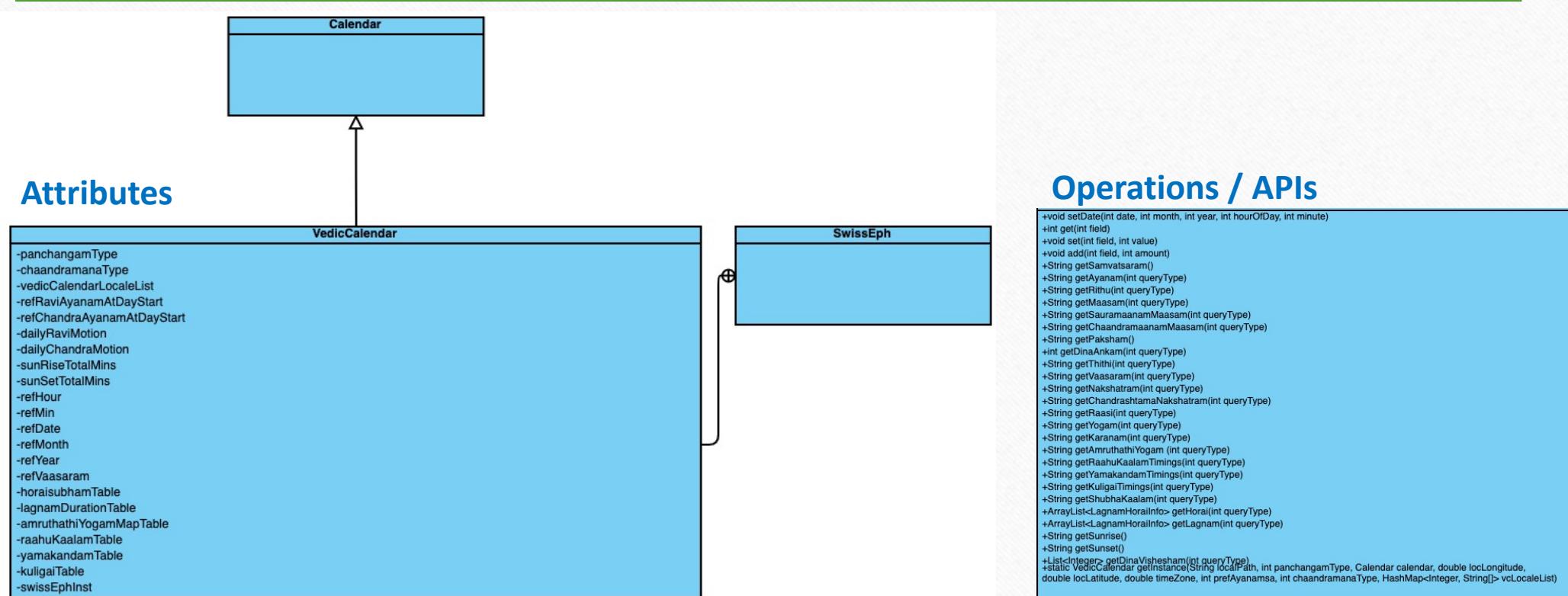
Agenda

- *Nithya Panchangam Software Architecture*
- *Interfaces to VedicCalendar Java Library*
- *Nithya Panchangam App Screenshots*
- *References*

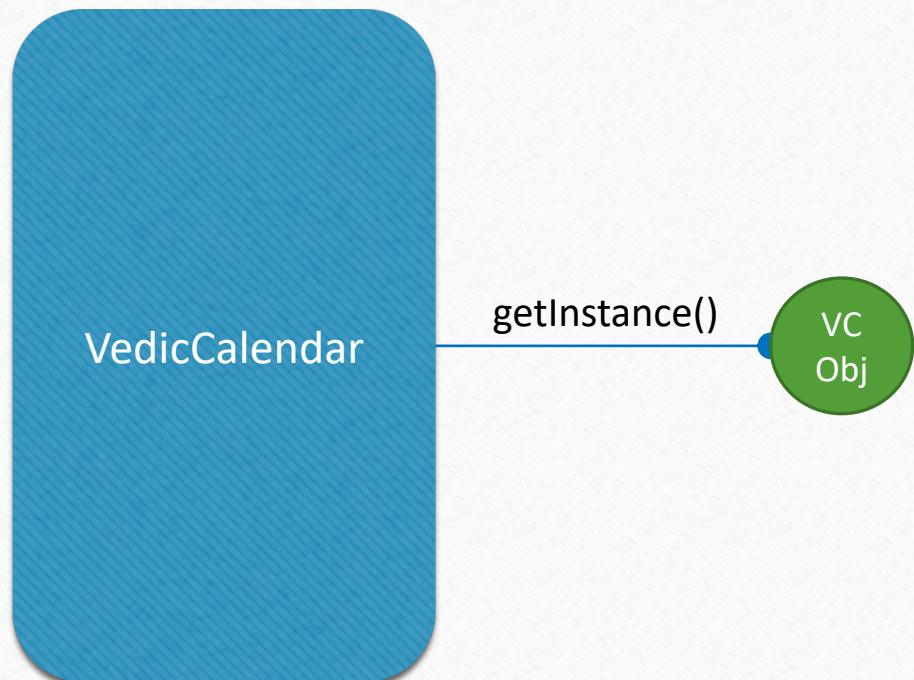
Nithya Panchangam Software Architecture



Interfaces to VedicCalendar Library



Interfaces to VedicCalendar Library



Parameters to `getInstance()` static API:

- [1] "Path" to "app_assets" directory
- [2] Panchangam Type
 - PANCHANGAM_TYPE_DRIK_GANITHAM /
 - PANCHANGAM_TYPE_TAMIL_VAKHYAM /
 - PANCHANGAM_TYPE_TELUGU_PANCHANGAM /
 - PANCHANGAM_TYPE_KANNADA_PANCHANGAM
- [3] Calendar object to indicate date
- [4] Longitude of the location
- [5] Latitude of the location
- [6] Timezone of the location
- [7] Ayanamsa Type (AYANAMSA_CHITRAPAKSHA / AYANAMSA_LAHIRI)
- [8] Chaandramaana Type
 - CHAANDRAMAANAM_TYPE_AMANTA /
 - CHAANDRAMAANAM_TYPE_PURNIMANTA
- [9] HashMap<Integer, String[]> - string arrays that contain locale-specific texts for each Panchangam field. Total 17 fields supported as of now.

Interfaces to VedicCalendar Library

17 Panchangam fields for which locale-specific array definitions are expected as input to getInstance().

For ex: refer buildVedicCalendarLocaleList() in MainActivity.java (Check References slide)

- `VEDIC_CALENDAR_TABLE_TYPE_SAMVATSARAM`
- `VEDIC_CALENDAR_TABLE_TYPE_AYANAM`
- `VEDIC_CALENDAR_TABLE_TYPE_RITHU`
- `VEDIC_CALENDAR_TABLE_TYPE_SAURAMANA_MAASAM`
- `VEDIC_CALENDAR_TABLE_TYPE_CHAANDRAMANA_MAASAM`
- `VEDIC_CALENDAR_TABLE_TYPE_PAKSHAM`
- `VEDIC_CALENDAR_TABLE_TYPE_THITHI`
- `VEDIC_CALENDAR_TABLE_TYPE_SANKALPA_THITHI`
- `VEDIC_CALENDAR_TABLE_TYPE_NAKSHATHRAM`
- `VEDIC_CALENDAR_TABLE_TYPE_SANKALPA_NAKSHATHRAM`
- `VEDIC_CALENDAR_TABLE_TYPE_YOGAM`
- `VEDIC_CALENDAR_TABLE_TYPE_KARANAM`
- `VEDIC_CALENDAR_TABLE_TYPE_VAASARAM`
- `VEDIC_CALENDAR_TABLE_TYPE_DHINAM`
- `VEDIC_CALENDAR_TABLE_TYPE_HORAI`
- `VEDIC_CALENDAR_TABLE_TYPE_AMRUTATHI_YOGAM`

Interfaces to VedicCalendar Library (*Contd.*)

Panchangam Primary Interfaces

1. getThithi()
2. getNakshatram()
3. getVaasaram()
4. getYogam()
5. getKaranam()

Panchangam Supplementary Interfaces

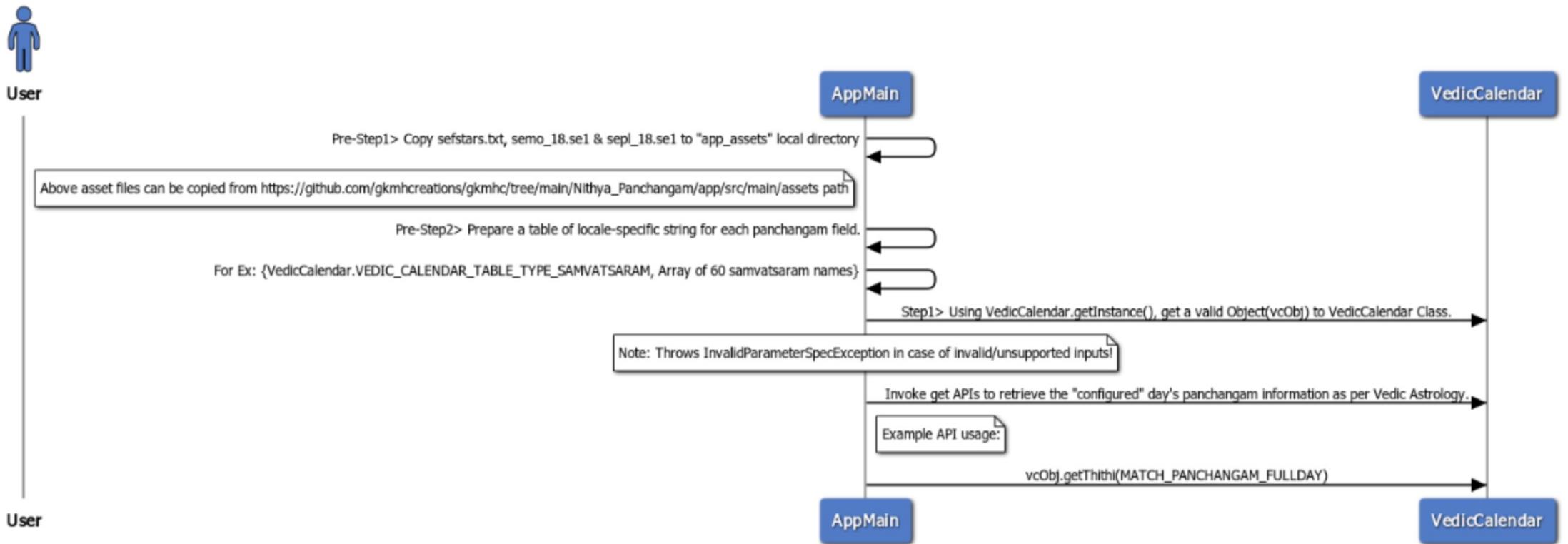
1. getSunrise()
2. getSunset()
3. getSamvatsaram()
4. getAyanam()
5. getRithu()
6. getSauramaanamMaasam()
7. getChaandramaanamMaasam()
8. getPaksham()
9. getRaasi()

Panchangam Misc Interfaces

1. getDinaVishesham()
2. getChandrashtamaNakshatram()
3. getLagnam()
4. getHorai()
5. getAmruthathiYogam()
6. getShubhaKaalam()
7. getRaahuKaalamTimings()
8. getYamakandamTimings()
9. getKuligaiTimings()

This can be improved based on feedback!

Interfaces to VedicCalendar Library (Contd.)



Interfaces to VedicCalendar Library (Contd.)

Input parameter for some APIs:

MATCH_PANCHANGAM_FULLDAY – For Ex: Panchami (14:05) > Sashti

MATCH_SANKALPAM_EXACT – For Ex: Sashti (based on current time)

MATCH_PANCHANGAM_PROMINENT – For Ex: Sashti (based on prominent thithi during the day!)

Sample Usage:

```
vcObj.getAyanam(VedicCalendar.MATCH_PANCHANGAM_FULLDAY)  
vcObj.getDinaAnkam(VedicCalendar.MATCH_PANCHANGAM_FULLDAY);  
vcObj.getSauramaanamMaasam(VedicCalendar.MATCH_PANCHANGAM_FULLDAY);  
vcObj.getHorai(VedicCalendar.MATCH_SANKALPAM_EXACT);  
vcObj.getDinaVishesham(VedicCalendar.MATCH_PANCHANGAM_PROMINENT);
```

Check References slide for links to sample & UT files.



Nithya Panchangam Android App Screenshots



Nithya Panchangam

PANCHANGAM SANKALPAM REMINDER

20, Bhanu-Bhadrapada (26-Sep-2021) Bengaluru

Day's Event(s)

Sunrise	06:12
Sunset	18:09
Samvatsaram (Year)	Plava
Ayanam (6-month cycle)	Dhakshinayanam
Rithu (Season)	Varsharithu
Maasam (Solar Month)	Kanni
Maasam (Lunar Month)	Bhadrapada
Paksham (15-day cycle)	Krishna
Thithi (Lunar Day)	Panchami (13:05) [Next]

नित्य पञ्चांगकम्

पञ्चांगकम् संकल्पम् निषेण्टुप्त

20, पाञ्च-पात्रपत (26-Sep-2021)

ममोपात्तत समस्त
तुरीत शश्यत्वारा
पूर्वप्रमेश्वर पूर्त्यर्थम्
सापे शोपाणे मूल्यवर्ते
आत्यप्रवर्लभ्मणः | तवित्य
प्रार्थते श्वेतवराह्यकल्पे
वेवस्वत मन्वन्तरे
अष्टाविमश्तिमेकलियुके
प्रथमेपाते ज्यम्पृत्येपे
पारतवर्षेष प्रथक्षन्नटे
मेरोः तक्षीजेषपार्श्वे
सकापते अस्मिन् वर्तमाणेन
वयावहारीके प्रपवातीनाम
षष्ठ्याः सम्वत्सराणाम
मत्ये ...

पिलव नाम सम्वत्सरे
तक्षीजेणायने वर्षष्ठीरेतना
पात्रपत मात्रेष क्रूष्णपक्षेष
षष्ठ्याम् शाप तीरेतना
वासा यक्कायाम्

नित्य पञ्चांगकम्

संकल्पम् निषेण्टुप्त

अलारम्

06:00 ओव्वेलारु निकழ्वुम्
अमावास्ये

06:00 ओव्वेलारु निकழ्वुम्
पेऩर्षणम्

06:00 ओव्वेलारु निकழ्वुम्
संकट ह्यर चतुर्थी

06:00 ओव्वेलारु निकழ्वुम्
कृपमन्नय षष्ठ्ये

06:00 ओव्वेलारु निकழ्वुम्
क्षात्री

06:00 ओव्वेलारु निकழ्वुम्
प्रतोषम्

06:00 ओव्वेलारु निकழ्वुम्
वेवासा

नित्य पञ्चांगः

Sep 2021

भानुः	इन्दुः	भीमः	सौम्यः	गुरुः	भूगुः	स्थिरः
			24	25	26	28
			1	2	3	4
29	30	30	1	2	3	5
5	6	7	8	9	10	11
6	7	8	9	10	11	13
12	13	14	15	16	17	18
14	14	15	16	17	19	20
19	20	21	22	23	24	25
20	21	22	23	24		
26	27	28	29	30		

References

- *Algorithm for the Panchangam calculations is referred from Karanam Ramkumar's guidelines below:*
<https://fdocuments.in/document/panchangam-calculations.html>
- *Sample reference to SwissEph library for getting Longitude & Latitude for Ravi & Moon and Udhaya Lagnam:*
<http://th-mack.de/download/contrib/VedicHouses.java>
- *Github link to VedicCalendar Implementation:*
https://github.com/gkmhcreations/gkmhc/blob/main/Nithya_Panchangam/app/src/main/java/com/gkmhc/utils/VedicCalendar.java
- *Github link to sample UT file for reference:*
https://github.com/gkmhcreations/gkmhc/blob/main/Nithya_Panchangam/app/src/androidTest/java/com/gkmhc/vedanta/nithya_panchangam/VedicCalendarUnitTest.java
- *Github link to MainActivity.java (to refer to sample implementation of buildVedicCalendarLocaleList()):*
https://github.com/gkmhcreations/gkmhc/blob/main/Nithya_Panchangam/app/src/main/java/com/gkmhc/vedanta/nithya_panchangam/MainActivity.java
- *Google Android Playstore store link to download “Nithya Panchangam” App:*
https://play.google.com/store/apps/details?id=com.gkmhc.vedanta.nithya_panchangam&hl=en_IN&gl=US
- *Note: “Nithya Panchangam” is distributed under GNU GPL:*
<http://www.gnu.org/licenses/old-licenses/gpl-2.0.html>

Thank you
