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Global Islamic Calendar Digital Information Mapping

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Abstract

The Global Islamic Calendar doesn't yet exist because it cannot be applied in some Muslim countries in the world. The criteria for Global Islamic Calendar still debated because it's difficult to apply throughout the world. The development of information technology encouraged astronomers to digitize the site-based global Islamic calendar. Some websites that we have researched have not yet used the integrated calendar criteria set in Turkey Congress 2016. Therefore it is necessary to maping a website that presents a global Islamic calendar so that it can be used as a reference recommendation for Muslim community.

Keywords: ***Global Islamic Calendar, Digitization, Website Mapping.***

Abstrak

Kalender Islam Global belum ada karena tidak dapat diterapkan di beberapa negara Muslim di dunia. Kriteria untuk Kalender Islam Global masih diperdebatkan karena sulit untuk diterapkan di seluruh dunia. Perkembangan teknologi informasi mendorong para astronom untuk mendigitalkan kalender Islam global berbasis situs. Beberapa situs web yang kami teliti belum menggunakan kriteria kalender terintegrasi yang ditetapkan dalam Kongres Turki 2016. Karena itu perlu memetakan situs web yang menyajikan kalender Islam global sehingga dapat digunakan sebagai rekomendasi referensi untuk komunitas Muslim.

Kata kunci: Kalender Islam Global, Digitalisasi, Pemetaan Situs Web.

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A. Introduction

The development of information and communication technology is presented as a phenomenon in the digital era in society. This phenomenon has implications for the birth of a generation known as Digital Native, this generation tends to be more aware of the media and likes to group on social media, sharing idea on the homepage is also common among this generation.

The gadget freak behavior is positive if the gadget is used to search for information that has implications for daily life, such as accessing websites that provide religious information, especially time keeping so that it can easily find out about Islamic holidays. Along with the development of existing technology and HR, the process of delivering information switches from analog to digital. Transfer of media can accelerate the delivery of information and data and facilitate services to the community. One example of digitization that has occurred is digitizing the calendar, especially the Global Islamic Calendar.

Digitizing information on the Global Islamic calendar is marked by the presence of Falak Science activists websites that convert analog form calendars into digital calendars. By digitizing information on the calendar, data archiving is easier to do and it can be last for a long-term reference material. Unlike the analog calendar, it only presents dates with days marked when there are celebration or historic days, weeks, months of the year, the digital calendar website presents more information about astronomy, one of which is visualization of the possibility of hilal visibility, weather forecast, etc. With the digitization of Islamic calendar information, recorded phenomena can be stored and managed using information technology and used as long-term references.

The focus in this paper is on digital information mapping on the Global Islamic calendar, the meaning of which is the form of website presentation on the Global Islamic Calendar. In this paper the researchers want to getinformation related to the use of concepts, as well as changes that occur in the visualization of the Global Islamic calendar.

In the Syamsul Anwar's article explains that Islam should have a calendar with one date one day in the

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whole world. The efforts of scientists and scholars of the Unification Islamic calendar were hampered by the people's thinking under the shadow of the rukyat concept which in practice Muslims now apply the local calendar so that it occurs one day with several dates. The problems that occur in the Global Islamic Calendar are more on the side of jurisprudence not on the technical aspects, so the concept of the Global Islamic calendar has not fully received positive appreciation among Muslims. We will discuss the digitalization of the Global Islamic calendar, but this study is not discussed so that it is different from that research.

The purpose of this study is to know the criteria used so that we can maping the digital information on the Global Islamic calendar in websites, to make a positive contribution especially to academics and society in an effort to understand the development of the Global Islamic calendar and to provide recommendations for websites that present the Global Islamic calendar.

B. Metodology

The type of this research used qualitative research and library research. The subjects are four Islamic calendar websites, namely ICOP, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia. This study uses a case study approach that examines the characteristics of digitizing information related to the Global Islamic calendar in ICOP, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia.Informants in this research were ICOP administrators, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia.

Data collection techniques are through observation, literature study and interviews. Observations were made by observing ICOP, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia. Literature studies were obtained from print and online media documents.[1] The interview method was conducted to obtain information through question and answer with the ICOP administrator, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia by e-mail.[2] Data analysis in this study are

[1]Sanapiah Faisal, Format-Format Penelitian Sosial (Edisi 8) (Jakarta: PT.Raja Grafindo Persada, 2007), h. 53.

[2] M. Burhan Bungin, Penelitian Kualitatif (Edisi 1), cet. 3, (Jakarta: PT. Fajar Interpratama Offset, 2009), h. 108.

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follows: Data reduction in this study was carried out by sorting and selecting the address of the official website that provides Islamic calendar information to get the data to be mapped as the main data. Researchers have selected four websites that present the Global Islamic calendar, namely ICOP, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia. The process of displaying data is done to draw conclusions. The last stage is Verification & Withdrawal of Conclusions, we note the pattern of presentation of ICOP, Time and Date, Moonsighting and Persatuan Falak Syar'i Malaysia based on sources, figures, countries, and formulated concepts (calendar criteria). Then from the results of data analysis, grouped into a Global Islamic calendar website from the most comprehensive and recommended level and so on.

C. Overview

3.1 Definition of Hijri Calendar

The Hijri Calendar is a calendar used by Muslims based on the phases of the moon against the earth to determine the date, time of worship, or other important days.[3] The Hijri calendar consists of twelve months of Qamariah, each month lasting from the appearance of the first crescent moon to the next sighting and the most readable calendar through natural phenomena.[4]

In pre-Islamic times, it did not recognize the numbering of years. Every year is marked by events that occured, such as the Fil / Elephant year. After the Prophet Muhammadmigrated to Medina the Prophet began to fix the dating problem. The year started from the month of Muharram and the name of the year is taken from the event that occurred. This habit continued until the Prophet died and had stopped at the time of the Caliph Abu Bakr.[5] During the Caliph Umar bin Khattab, the Islamic calendar was formed with the name of the Hijri Calendar and it was determined from the year of migration of Prophet Muhammad saw. 1 H coincided with July 15 622 AD, and at

[3] Ahmad Adib Rofiuddin, "PenentuanHari dalam Sistem Kalender Hijriah," *Al-Ahkam* 26, no. 1 (2016): 117–36.

[4] Indraswati, "Studi Analisis Pemikiran Susiknan Azhari Tentang Konsep Mutakammil Al-Hilal Sebagai Upaya Unifikasi Kalender Hijriah di Indonesia" (2017).

[5] (Hambali, 2011)

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the time of its issuance the decision was immediately established as 17 H.[6]

3.2 Definition of Digitization

According to Marilyn Deegan, digitization is the process of converting from all forms of printed documents into digital forms. The stages that must be passed include: the formulation of mechanisms, technical formulation in the form of hardware and software, human resources, time of implementation as well as funds needed.[7] In Putu Laxman Pendit's book citing Kenneth Downlin's statement describing digitization criteria including: using computer devices to manage data sources, using electronic channels to connect information providers to information users, utilizing electronic transactions, and utilize electronic means to store, manage and deliver information to information users.[8] The purpose of digitization includes: making digital form document archives, making copies of documents, making digital collections.[9] Digitization observed in this study is the method of presenting criteria for Islamic Global calendars presented on a website basis. Website presentation aims to attract digital natives and make it easier for Muslims to know things related to the time of worship. Although many Hijri calendars are presented in digital form in the form of dates, days and months, not all websites cover the concepts and criteria of the global Islamic calendar.

D. Result

4.1 CalendarInformation Digital

The rapid development of information and communication technology has caused many media to be converted from analogous media to online media known as the digitalization process.[10] The process of digitizing information can convert and combine all forms of information in the form of numbers, images, sounds, words, images and motion into various forms that can be read automatically by the system so that they can be perform audio visual and computing functions.[11]

[6] Jayusman, "Wacana Takwim Urfi dalam Penanggalan Islam," Jurnal *Hukum Islam* 7, no. 2 (2009): 18–30.

[7] Bermansyah and Yoyok Antoni, "Digitalisasi Naskah Kuno DalamUpaya Pelestarian dan Menarik Generasi Muda," *Ganec Swara* 10, no. 1 (2016): 120–27.

[8] (Saleh, 2013)

[9] (Sukmana, 2016)

[10] (kbbi.web.id, no date)

[11] AG.Eka Wenats Wuryantai, "Digitalisasi Masyarakat: Menilik Kekuatan

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Based on the National Library of Australia, digitalization is carried out on something that has historical and cultural urgency.[12] So that by digitizing can preserve the historical and cultural valuesthat are stored. Its existence is not real in front of humans, but benefits can be felt for its presence in human life.

Digitalization is applied to the Global Islamic calendar by changing the calendar visualization in the form of analog or print media into a website-based calendar. The website also presents data and information, such as articles on general astronomy and astronomy relating to the timing of worship, weather and estimation of weather, temperature, satellites and world clocks. Some websites present visualizations of the new moon in the months that have been observed. The menus on the website depend on the tendency of the website.

4.2 The Mapping Global Islamic Calendar Website

Below is the official website of several countries that presents the Global Islamic calendar:

4.2.1 ICOP

Figure 1. Main View of ICOP

ICOP website with the address http://www.icoproject.org/.ICOP is a group consisting of observers and scientist in the field of astronomy related to Islam. ICOP was established in 1419 H or 1998 M under the supervision of the International Astronomical Center (IAC). IAC is the official scientific study center based in Abu Dhabi. ICOP is a main activity of IAC. ICOP was founded in the form of Mohammad Odeh's anxiety towards the existence of some people who

Dan Kelemahan Dinamika Era Informasi Digital Dan Masyarakat Informasi," Jurnal Ilmu Komunikasi 1, no. 2 (2013): 131–42.

[12] Muhammad Teguh Dwi Putranto, "'Proses Digitalisasi Koleksi Deposit Di UPT Perpustakaan Daerah Jawa Tengah,'" Ilmu Perpustakaan 4, no. 3 (2015): 7 .

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commented on the inaccuracy of contemporary *hisab*.[13]

This website uses Mohammad Odeh's concept of visibility criteria, namely the bizonal calendar concept which divides the world into two zones, namely: the East and West zones. The East Zone extends from longitude 180 E to longitude 20 W covering Africa, Europe, Asia and Australia. The West Zone extends from 20W longitude to the western part of the Americas. Based on this calendar, the beginning of Hijri month in each country will not begin on the same day, but begins within the same 24 hours.The excellence of the concept of the calendar offered by Odeh is to use a combination of *hisab* and *rukyah*.[14]This concept can also be applied throughout Islamic countries. However, the weakness of this website does not display the new criteria of the Global Islamic Calendar.

4.2.1.1 Menu of ICOP

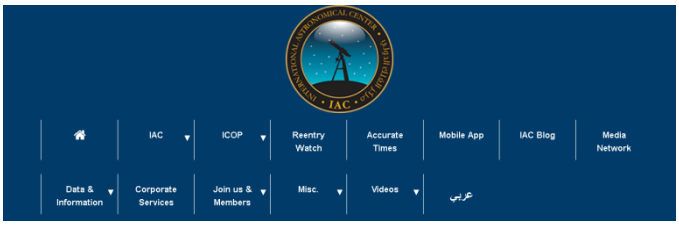

Figure 2 Menus of ICOP

There are several main menus of ICOP website, including home, International Astronomical Center (IAC), International Crescents Obeservation Project (ICOP), reentry watch, Accurate times, mobile App, IAC blog, network, data and information media, join us and members , misc, vidoes and language choices.

On the IAC menu, there are specifications regarding IAC, namely starting from the IAC management structure, achievements, conferences, upcoming and past activities, the establishment of holidays related to worship and phenomena such as eclipses, the latest news on astronomy and related with ICOP.

The next menu is ICOP which contains specifications on ICOP profiles, hilal observations that have been carried out several years back, descriptions and visualization of observations from the beginning of the

[13] Muh. Nashirudin, "Sistem Penanggalan Hijriah Mohammad Shawkat Odeh," Ijtihad : Jurnal Wacana Hukum Islam dan Kemanusiaan 11, no. 2 (2011): 199.

[14] Muh. Nashirudin, "Sistem Penanggalan Hijriah *Mohammad* Shawkat Odeh," *Ijtihad : Jurnal Wacana Hukum Islam dan* Kemanusiaan 11, no. 2 (2011): 199.

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month, and documentation of world hilal observations carried out using the naked eye or optical instruments and observations during the day along with them.

The next menu is Accurate Time by Mohammad Odeh. Accurate Time is official software that operates under windows used to calculate prayer times. Accurate Time does not only provide prayer time calculations, but can also be used to find Qibla direction, conversion of the Hijri and Christian calendar, alternative prayer times, maps of the visibility of the new moon, telescopes, etc.

ICOP provides a paid application for smartphone users named Astronomy Events With Push that presents important astronomical events along with notifications of current events such as moon phases, solar eclipses and moons, the farthest and closest points of the moon from the earth, meteor showers, lunar tracks near planets or bright stars, etc.

The most crucial menu is the menu that presents data and information, including: scientific works on the new moon and prayer times, the IslamicGlobal public calendar, prayer times in high latitudes or areas with moderate or high climates. This menu also presents methods for calculating dawn and isha in some areas where the signs are missing at certain times of the year. The last menu is the Saudi calendar system which starts from the old criteria (1419 H) to the new criteria (1423 H).

4.2.2 Time and Date

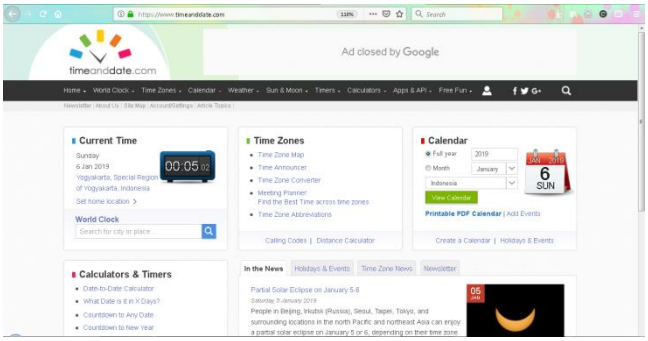

Figure 3. Main View of Time and Date

This website is from Norwegia with the address https://www.timeanddate.com/. Time and Date is a United States multicultural team. Time and Date was initiated by Steffen Thorsen. This company is registered in Norway with the number NO 988 375 713 MVA. The story of Time and Date with Steffen Thorsen began when he was interested in time and calendar and his interest in programming. So he started to develop calendar and online clocks. Time and

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Date started their website by usingthe domain and hosting of a university where Steffen Thorsen studied.

Based on the website in the Calendar Frequently Asked Questions (FAQ) section and interview, it can be known that the calendar in Time and Date uses the Gregorian Calendar concept. According to the administrator of Time and Date, most of the Time and Date calendars use the Gregorian calendar, but they also present a selection of Julian calendar.Time and Date uses the concept of the Gregorian and Julian calendar.

The Julian calendar is the first solar calendar conceptualized by Julius Caesar.[15] Leap years on the Julian calendar occur every 4 years due to rounding up of the aforementioned days of 365 days.

Gregorian is a calendar system designed by Pope Gregory XIII.[16] This system is a improvement of the Julian calendar system and now is a civil calendar that is accepted internationally as the Western calendar or Christian calendar. The Gregorian calendar system uses a pure solar system. The number of days in the leap year in the Gregorian calendar is 366 days, while the number of days in the common year is 365 days with many months, namely 12 months.[17]

This website does not present a Global Islamic calendar but presents articles about the Islamic calendar. The article explain that the Islamic calendar based on astronomical observations. The new moon can only be seen after Waxing Crescent Moon is observed shortly after sunset. The Waxing Crescent Moon is the Moon phase that starts right after the New Moon. The Islamic calendar is not influenced by the astronomical season. The Islam year consistently falls around 11 days from the solar year. For this reason, the Islamic calendar cannot be used for agriculture or other activities which are usually associated with the seasons, and most Muslim countries officially use the Gregorian calendar as their civil calendar along with the Hijri system.

[15] SlametHambali, *Almanak Sepanjang Masa*, ed. Abu Rokhmad, 1st ed. (Semarang: Program Pascasarjana IAIN Walisongo, *2011*).

[16] Slamet Hambali, *Almanak Sepanjang Masa*, ed. Abu Rokhmad, 1st ed. (Semarang: Program Pascasarjana IAIN Walisongo, 2011).

[17] (Nashirudin, 2013)

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4.2.2.1 Menu of Time and Date

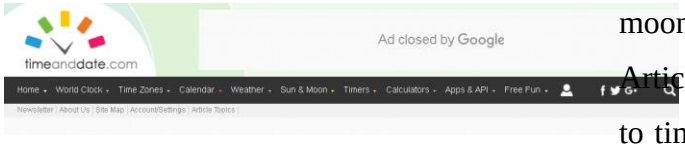

Figure 4 Menus of Time and Date

Time and Date generally presents information about time, which is presented in the form of hours and calendars. Not limited to just a matter of time, the website also provides information related to astronomy, articles and other information on each menu that has been provided. The following will be elaborated on the menus presented on the website Time and Date.

The first menu is Home which displays topic article sub menus, etc. The Time and Date article library sub menu presents articles about time, astronomy, calendar development and more. The second menu is World Clock. The first sub menu at the World Clock is Main World Clock, where in this sub menu the user can enter the desired city name and Time and Date will display data about local time, temperature and weather, time zone, DST, and moon and sun data. The data of the Moon and the Sun in question is the length of daylight, the height, the time of sunrise and sunset and the moon. The last sub menu is Time Articles which presents articles related to timekeeping. One of many articles is an explanation of the use of time limits am and pm.

The most crucial menu is Calendar. The first sub menu regarding calendar info. The types of calendars provided on this website include: Gregorian Calendar, Julian Calendar, Roman Calendar, Chinese Calendar and Maya Calendar. The next sub menu is Calendar 2018. In this sub menu, a calendar is presented with a visualization of the date and month of the year and the phases of the moon that occur each month. The calendar is equipped with markers of holidays and public holidays with red as in the analog calendar located at the bottom of the calendar. Phase of the month, holidays and information depends on the country chosen. The next sub menu is Calendar 2019, the visualization is the same as 2018 Calendar, just different on years. The fourth sub menu is Monthly Calendar, which displays a visual calendar per month along with its statements. The next sub menu is Create Printable Calendar (PDF), users can

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create their own calendars with the advantage of being able to enter private events. More details about calendar events can be accessed on the next menu Add Your Own Event Calendar. Furthermore, namely the Calender Creator sub menu, users can design a calendar from the base according to their wishes and tastes. The next sub menu is still related to the creation and design of the calendar according to the wishes of the user, but this sub menu provides several more detailed options, namely the Advanced Calendar Creator sub menu. The last sub menu is Calendar Articles, which presents a lot of atricles related to plants, months, years, leap years, etc.

4.2.3 Moonsighting

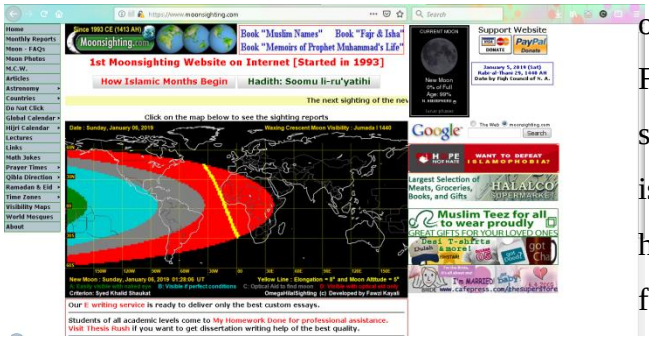

Figure 5. Main View of Moonsighting

Thewebsite address is https://www.moonsighting.com/comes from North America. Moonsighting was pioneered by Khalid Shaukat. When he came to the United States to continued his studies and wanted to pray, he did not know the certainty of the prayer time in there. So he created a computer program for personal prayer times.Until 1980 there was a chaos about dating and the period of personal computers when the computer began to be marketed. So Khalid Shaukat began his business created a computer program to calculate the position of the moon and other factors regarding the appearance of the moon. Around 2001 ISNA (Islamic Society of North America) believed in the credibility of Khalid Shaukat's calculations.

Moonsighting uses two calendar concepts, namely Gregorian and Hijri.Moonsighting uses the Hijri calendar according to the Fiqh Council of North American calendar. The FCNA criterion is that at sunset somewhere, the extension of the moon is approximately 5 degrees above the horizon. If this condition has been fulfilled, it can begin as the next day. In arranging Ramadhan and Eid al-Adha FCNA follows the Ummul-Qura calendar used by Saudi Arabian Authority. The new day started if the conjunction appears before sunset in

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Mecca and the moon appears on the horizon after sunset.

4.2.3.1 Menu of Moonsighting

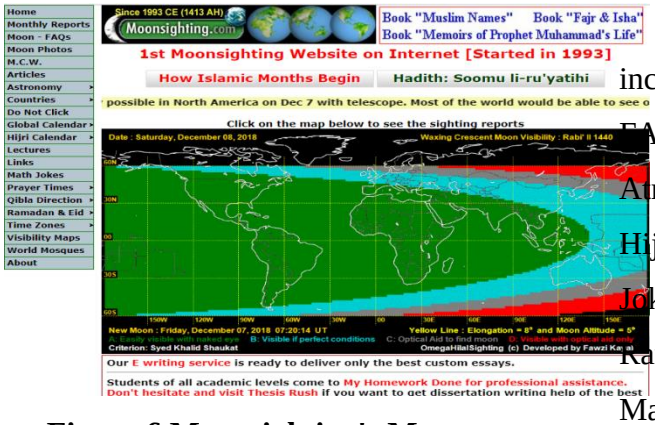

Figure 6 Moonsighting's Menus

The Moonsighting Administrator through the Worldwide Independence Information Committee (MCW) collects and publishes reports from its members around the world every month in the first days of the crescent consistently in accordance with the Visibility Curve displayed on a world map every month since 1993, specifically to distinguish areas which shows visibility using the naked eye and tools (binoculars, telescopes, etc.). In this website they present prayer times, Qibla direction and the Hijri calendar and try to reach the Global Hijri calendar.

On the home page of their website presents a visualization of the appearance of the moon by giving a color difference to the map which will show which areas can see the moon easily, must use optical devices or areas that do not see the visibility of the moon.

Moonsighting has several menus, including: Monthly Reports, Moon-FAQs, Moon Photos, MCW, Articles, Astronomy, Countries, Global Calendar, Hijri Calender, Lectures, Links, Math Jokes, Prayer Times, Qibla Direction, Ramadan & Eid, Time Zones, Visibility Maps, World Mosques. On each menu there is the latest updated.

Monthly Reports presents visibility of the hijri months from several hijri years. Each month is explained by visualizing the appearance of the moon and photographs of the shape of the moon from the old moon, the end of the month to the beginning of the month obtained from Moonsighting members. Moonsighting Committee Worldwide (MCW) has members from various parts of the world who report each of their discoveries to this website. The latest MWC members are 173 members from 61 countries.

In Eclipes, they present solar and lunar eclipse data based on NASA predictions and to see eclipse data around the world for the next 10 years can be seen in the link that connects

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directly with the timeanddate website where there we can see each phase and when the lunar eclipse occurs.

Equinox & Solstice Calculator is a calculator that is used to calculate a particular year, can be in years forward or backward. We can calculate the closest point (perigee) of the moon from the earth and its longest point (apoge) by using calculatorLunar Perigee and Apogee Calculator.

Global Calendar presents links to efforts to formulate the Global Hijri calendar and several global Islamic calendar formulation meetings, meetings of Morocco 2006 and Turkey 2010. In an article entitled "Islamic scholars agree on a shared lunar calendar for Muslim world" the Global Hijri calendar congress is held in Turkey 30 May 2016, this important step is very much related to the celebration of Muslim holidays in order to celebrate a sacred day on one day. In the writings of Khalid Shaukat "Evolution of Calender" the evolution of the calendar starts from the Ancient Calendar, Babylonian Calendar, Hindu Calendar, Chinese Calendar, Egyptian Calendar, Greek Calendar, Hebrew Calendar, Julian Calendar, 13 Month Calendar, to the Gregorian Calendar.

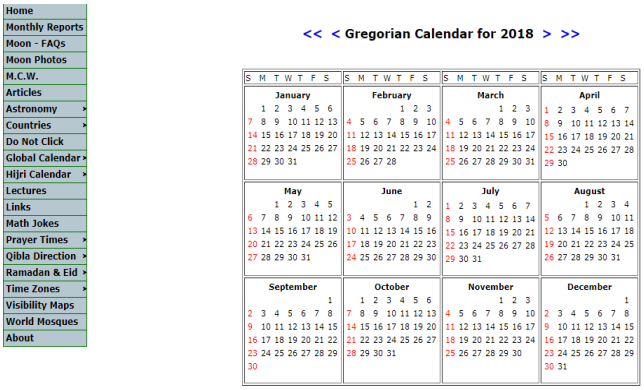

Figure 7 Moonsighting Gregorian Calendar

The next menu is Hijri Calender, in the Qur'an (2: 189) Allah commands his ummat to make a calendar for Muslims. Moonsighting has also held several conferences including in the United Kingdom on October 31, 2010 and in Canada 2012 relating to the importance of the Global Hijri calendar for Muslims. In this menu a calendar of important days is presented in Islam, such as Isra'Mi'raj, Ramadhan, Araf Day and so on. The calendar used by Moonsighting is in accordance with the calendar used by the North American Fiqh Board. Moonsighting also presents the Gregorian calendar and the Hijri calendar for North America from 2018 to 2020. There is also a Hijri calendar accompanied by the Christian calendar

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of North American Fiqh experts (FCNA) from 1439 H to 1441 H.

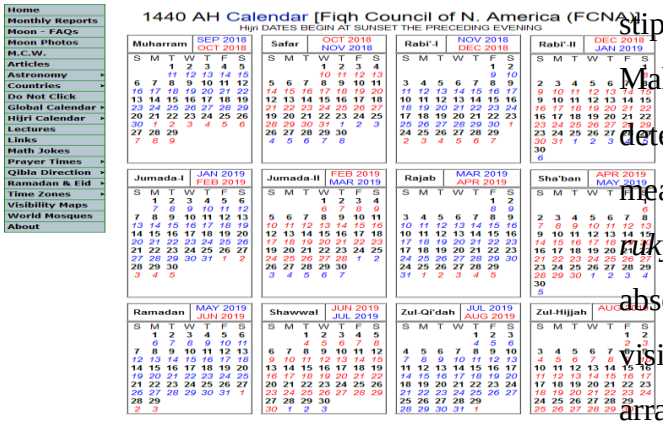

Figure 8 Moonsighting Hijri Calendar

4.2.4 Persatuan Falak Syar'i Malaysia

Figure 9. Main View of Falak Syar'i Malaysia

The website with the address http://www.falaksyari.org/comes from Malaysia. Calendar or taqwim Hijri presented using the Imkanu *rukyat* and *hisab* criteria. The purpose of Imkanu rukyat is the visibility of the moon or physical moon. Persatuan Falak Syar'i Malaysia states that *hisab* is a science that is uncertain in nature so it cannot be used as a main reference in the initial stipulation of the month in the calendar. Making *hisab* as the main reference in determining the beginning of the month means rejecting the scientific aspects of *rukyat* and making an uncertain science absolute. Imkanu rukyat can predict the visibility of the hilal and takwim can be arranged well for upcoming year.The main calendar visualization using the Christian calendar, but also includes an Islamic calendar.Calendarpresents some information, around: prayer times, moon phases, Islamic history that occurs, age of the month, ijtima, altitude, and holidays. The calendar can be downloaded at the link at the bottom of the website.

Tabel 1. Website Mapping

Website name (country)	Global calendar criteria	Website menu
ICOP (Abu Dhabi)	Mohammad Odeh	UHJ (Universal Hijrie Calendar), no visualization
Time and Date (Norwegia)	Gregorian and Julian	Calendar (2018, 2019, Monthly)
Moonsighting (Amerika Utara)	Gregorian and Ummul-Qura	Global Calendar, Hijri Calendar

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Persatuan FalakSyar'i Malaysia	*Hisab* and *Imkanu rukyat*	All Articles

E. Conclusion

Digitizing of the Global Islamic Calendar is mapped according to the trends of the website. Not all websites provide the Global Islamic Calendar. The difference in calendar visualization can be seen in the way the website presents a calendar along with other information contained in the calendar. Digitizing the calendar makes it easy for users to find out information about astronomy, Islamic holidays, the beginning of the month and prayer times and other Islamic articles.

Every websites above has its own excelence and weakness. Digitally ICOP and Time and Date have a modern design and present information on the Global Islamic calendar but do not present the visualization. Whereas Moonsighting and Falak Syar'i Malaysia Association presents a visualization of the Global and local Islamic calendars but does not present information regarding the concepts used. But the design of the Persatuan FalakSyar'i Malaysia is more modern than Moonsighting. From the four websites, only ICOP and Moonsighting provide visualization and projections of hilal visibility.

The good website of the Global Islamic calendar in our thought is a website with criteria: *first*, it presents a visualization of the Global Islamic calendar, *second*, presents information related to the concepts used in the preparation of the Global Islamic calendar. *Third*, provide the visibility and projections of hilal visibility in the form of applications, moon calculators, sun calculators, etc. *Fourth*, namely a website thatpresents information related to the history and activities of institutions and website management so that visitors can acses whether the website being visited can be used as a reference. *Fifth*, modern website design that attracts digital natives.Finally, this paper recommends the Persatuan Falak Syar'iMalaysiawebsite to be used as a reference for the Islamic calendar.

4.2.4.1 Menu of Persatuan Falak Syar'i Malaysia

Figure 10 Menus of Persatuan Falak Syar'i Malaysia

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Persatuan Falak Syar'i Malaysia presents six menus including: Home, Contact Us, All Articles, Telescope Dr. Kassim, KKA, My Muwaqqit. The main display of the website displays the headlines and Taqwim. In general, the All Articles menu presents a new article on the discovery of Persatuan Falak Syar'i Malaysia, Falak Syar'i Malaysia activities, how to join Persatuan Falak Syar'i Malaysia, articles in newspapers, etc. Astronomical events and phenomena that occur accompanied by images are presented on the Telescope menu Dr. Kassim. In the KKA menu, the official Kembara Angkasa blog is presented which contains observations of natural phenomena and news of activities. The website also provides Muslim Muirqqit My Muwaqqit applications on the My Muwaqqit menu. The website also presents the website version of My Muwaqqit Advisor for Musafir Muslim. The application will present a visualization of maps of domestic and international aircraft trips, the duration of the flight along with prayer times during the flight.

However this website does not present the history of the website and website management.

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