

## IS THERE A NEED FOR THE CHURCH TO OFFICIALLY ASSUME MOBILE APPLICATIONS? CASE STUDY: ROMANIAN ORTHODOX CHURCH AND ANGLICAN CHURCH

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**ABSTRACT.** Over the past years, there has been a significant increase in mobile applications with religious content. Whether we are talking about Holy Scriptures or the Quran, about liturgical or theological content, digital resources are made available by many interesting applications. The question is, are these applications accurate? How many of them are affiliated with Church institutions? How important would such an affiliation be? What is the situation in Romania, in the Romanian Orthodox Church? In the Romanian-Orthodox digital space there is an abundance of mobile applications, over 20, of which only one is institutionally affiliated. The presence in Romania of many mobile applications developed by private individuals that do not display the source of the liturgical and biblical text is a major concern for the accuracy and authenticity of the information presented. In the first study of this kind in the Romanian literature, we will analyze different examples in order to better understand the functionalities of these applications, but especially to confirm or reject our hypothesis that in the religious environment, an institutionally assumed application is more valuable for keeping the Church teaching unaltered, compared to an application which is the result of a private initiative or even a commercial project. Therefore, we compare the Romanian Orthodox applications with similar applications belonging to a Church that currently has the most complete panel of mobile applications. These are not only fully functional and officially assumed by the Anglican Church, but are constantly updated and maintained.

**Keywords:** mobile applications, Christian apps, digital media, Romanian Orthodox Church, Anglican Church

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## Introduction

The recent years are characterized by communication, big data, speed and *multitasking*, in short, by *software* products empowering complex hardware devices. Their goal is to make everything more efficient, attractive and captivating through dissemination of data and accessibility. The political, economic and educational sectors are experiencing cascading revolutions due to the implementation of new technologies, facing a digital culture with a real impact on the consumers' behaviour<sup>3</sup>. However, the current era is not only an era of *homo economicus* or *homo politicus*, but also of *homo religiosus*. Therefore, all religions<sup>4</sup>, but especially Christianity<sup>5</sup> try to adapt to this trend<sup>6</sup> by designing solutions for the new model of preaching the gospel<sup>7</sup>, learning from failures, returning to older options, hoping that it will address a need of the younger generations, known as digital natives<sup>8</sup>. The efforts materialized in the form of sacred writings in digital format, websites which promote the life and the teaching of the Church, and especially in the form of mobile applications.

Whether we are talking about Holy Scriptures or the Quran, about liturgical or theological content, digital resources are made available by many interesting applications. The question is, are these applications accurate? How many of them are affiliated with Church institutions? How important would such an affiliation be? What is the situation in Romania, in the Romanian Orthodox Church, compared to one of the most "digitized" Christian Churches, the Anglican Church?

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<sup>3</sup> See the most important studies related to the digital culture: Charlie Gere, *Digital Culture* (London: Reaktion Books, 2008); Luke Tredinnick, *Digital Information Culture: The individual and society in the digital age* (Oxford England: Chandos Publishing, 2008).

<sup>4</sup> Heidi A. Campbell, ed. *Digital religion. Understanding Religious Practice in New Media Worlds*, (London and New York: Routledge, 2012), 1–21.

<sup>5</sup> Tim Hutchings, "Christianity and Digital Media," in *The Changing World Religion Map. Sacred places, Identities, Practices and Politics*, ed. Stanley D. Brunn (New York: Springer, 2015), 3811–3830.

<sup>6</sup> Renaud Laby, "Internet et la communication évangélique," in *Recherches 18.2* (Louvain-la-Neuve-Québec-Paris: Cahiers Internationaux de Théologie Pratique, 2017): 5–10.

<sup>7</sup> Liviu Vidican-Manci, *Propovăduirea Evangheliei în Era Digitală. Impactul catehezei și al prediciei asupra „generației digitale” prin utilizarea noilor tehnologii ale informației și comunicării* (Cluj-Napoca: Presa Universitară Clujeană, 2020).

<sup>8</sup> See Mark Prensky, "Digital natives, digital immigrants," *On the Horizon* 9, no. 5 (2001): 1–6; Mark Prensky "Listen to the natives," *Educational Leadership* 63, no. 4 (2005): 8–13.

## The objective of the study and methodology

The present study aims to carry out a technical-theological investigation of the most important applications for mobile devices, both in the Anglican Church and in the Romanian Orthodox Church. Based on this assessment, we intend: (i) to underline the importance of promoting Christian mobile applications at a Church institutional level; (ii) to compare the content and usability between the applications belonging to the two Churches mentioned earlier; (iii) to make an introductory step towards designing a metric for evaluating Christian mobile applications. In our approach we started from the critical analysis of Heidi A. Campbell<sup>9</sup> and the team of researchers from Texas A&M University, who provided a platform to evaluate how mobile application developers integrate religious content and make it available to end users. It is important to specify that in Romania, but also at international level, it appears that there is little interest for the organization and management of religious mobile applications. Consequently, the literature on the subject is not very rich. We want to make here a comparison with the applications of a Church that currently has the most complete panel of applications for young people<sup>10</sup>. These are not only fully functional and officially assumed by the Anglican Church, but are constantly updated and maintained. Related to this topic, in other two ongoing studies we try to compare the applications in the Romanian Orthodox, Protestant and Catholic digital space.

We will use the methodology validated through a pioneering doctoral research in this field, *net-theology*<sup>11</sup> but also the methodology proposed by the team led by Heidi Campbell for analyzing mobile applications<sup>12</sup>. Each application will be briefly described, then relevant data will be analyzed, i.e., the number of downloads, price, rating, etc. The technical description will help us understand the degree of attractiveness of these applications but also their purpose. This

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<sup>9</sup> Heidi A. Campbell, Brian Altenhofen, Wendi Bellar, and Kyong James Cho, "There's a Religious App for That! A Framework for Studying Religious Mobile Applications," *Mobile Media & Communication* 2, no. 2 (May 2014): 154–72, <https://doi.org/10.1177/2050157914520846>.

<sup>10</sup> See the full list of applications available on the official website, Church House Publishing, accessed September 20, 2020, <https://www.chpublishing.co.uk/apps>.

<sup>11</sup> A mix of research methods based on quantitative and qualitative analysis. See Liviu Vidican-Manci, *Propovăduirea Evangheliei în Era Digitală. Impactul catehezei și al predicii asupra „generației digitale” prin utilizarea noilor tehnologii ale informației și comunicării*, (Cluj-Napoca: Presa Universitară Clujeană, 2020): 166-171.

<sup>12</sup> See the sampling strategy that was adopted in our study, Heidi A. Campbell, Brian Altenhofen, Wendi Bellar, and Kyong James Cho, "There's a Religious App for That! A Framework for Studying Religious Mobile Applications," *Mobile Media & Communication* 2, no. 2 (May 2014): 157–159, <https://doi.org/10.1177/2050157914520846>.

description will be followed by a content analysis, this time focused on Romanian applications. We will analyze different examples to help us to better understand the functionalities of these applications, but especially to confirm or reject our hypothesis that an institutionally assumed application is more valuable for keeping the Church teaching unaltered, compared to an application which is the result of a private initiative or even a commercial project.

The Anglican applications included in this study ( $n = 8$ ) are the following: Time to Pray (A.1), Daily Prayer (A.2), Common Worship Lectionary (A.3), Reflections for Daily Prayer (A.4), Reflections on the Psalms (A.5), Sunday Worship (A.6), Live Lent: Care for God's Creation (A.7), Thy Kingdom come (A.8). The Romanian Orthodox applications ( $n = 7$ ) which were compared with the equivalent Anglican application are the following: *Carte de rugăciuni* (R.1), *Lumea ortodoxiei* (R.2), *Audio Ortodoxia* (R.3), *Viețile Sfinților* (R.4), *Psaltirea proorocului David* (R.5), *Calendar Ortodox* (CrestinOrtodox.ro) (R.6), *Texte Liturgice Ortodoxe* (R.7).

The study will have three parts: the description of the applications from the Anglican environment, the description and analysis of the applications from the Romanian Orthodox environment and conclusions.

### **Anglican applications**

The Church House Publishing of the Anglican Church provides users (free of charge or by subscribing to paid plans) with a series of electronic tools designed to facilitate man's daily encounter with God. The most popular and used tools are the applications for mobile devices, professional and compatible with most existing devices on the market. Some of the applications require the purchase of an annual subscription which can cost between 2 and 13 GBP, but this subscription can be used on several devices and platforms at the same time (maximum 5). Applications can be grouped into two broad categories: general and specific. The general ones are intended to be used throughout the year, and the specific ones are dedicated to a certain liturgical period or to a campaign of the Church of England. Examples of specific applications from 2020 would be: *Live Lent: Care for God's Creation* or *Thy Kingdom Come*. From a technical point of view, the applications are built on a common template, thus contributing to an increasing usability and consistency. All of them have text enlargement options, and navigation is easy, being designed to be used with a minimum of effort. They do not contain advertisements or promotional materials, so that the usage is smooth and intuitive.

In the following section we will present the main mobile applications, specifying the functionalities they provide to end users, their content, as well as technical details regarding compatible devices and tariff plans.

General applications:

### ***Time to Pray*<sup>13</sup> (A.1)**

The *Time to Pray* application is a brief version of the Book of Prayers that includes day and evening prayers from each day of the year, taking into account special liturgical periods. The application is professionally made, the color scheme used is very simple, based on purple, the color assumed by the Anglican Church in its digital projects, the characters used imitate the printed edition of the Book of Prayers, the font size can be enlarged or reduced, which makes it easier to read even in case of visual impairments. The contact section is well highlighted, including both the *credits*, the authorization of the text by the Church of England, the sources of the liturgical text, and the information related to copyright. In addition to the text itself, it also contains a guide for using the application, from both a technical and spiritual-practical perspective, highlighting the ways in which prayer should be prepared, psalms should be recited or daily passages should be chanted. The application is compatible with iPhone / iPad iOS 9.0+ and Android 5.1.1+ devices and it can be downloaded and used free of charge, without the need to pay a subscription.

### ***Daily Prayer*<sup>14</sup> (A.2)**

*Daily Prayer* is a more extensive version of the *Time to Pray* application, which includes morning, evening and night prayers, as well as scripture passages, psalms, liturgical texts and calendar information about the memory of the day<sup>15</sup>. Users are able to listen to prayers online, in the form of a podcast with two episodes per day (prayer during the day and evening prayer), in an average length of 7-9 minutes each. Prayers are said by both men and women and the recordings don't have an exclusive narrator. The application is

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<sup>13</sup> "Time to Pray", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/time-to-pray>.

<sup>14</sup> "Daily Prayer", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/daily-prayer>.

<sup>15</sup> The text used by *Daily Prayer* and *Time to Pray* is taken from three liturgical books of the Anglican Church: Church of England, *Common worship: daily prayer* (London: Church House, 2005); Church of England, *The Book of Common Prayer: 1662 version* (London: David Campbell, 1999); Church of England, *The Book of common prayer with the additions and deviations proposed in 1928* (Cambridge: University Press, 1960).

professionally made, the characters used imitate the printed edition of the Book of Prayers, the font size can be enlarged or reduced, which makes it easier to read even in case of visual impairments. Contact details and the help section can be found, just like in the case of the *Time to Pray*, in a special section of the menu. Using the free version of the application, texts can be accessed up to one month in advance, only online. In order to have offline access to the full text for the next 12 months an annual subscription of GBP 2.99 is required. The application is compatible with iPhone / iPad iOS 9.0+ and Android 5.1.1+ devices.

### ***Common Worship Lectionary*<sup>16</sup> (A.3)**

The *Common Worship Lectionary* is the Church of England's official collection of Bible readings for each day of the year. The lectionary is authorized by the General Synod of the Church of England<sup>17</sup>. It includes pre- and post-Communion prayers, adapted to the respective date, as well as the ability for users to add notes. The font size can be enlarged or reduced, which makes it easier to read even in case of visual impairments. It also includes sharing capabilities, through which the biblical text can be shared with others using existing messaging applications. The application can be downloaded for free, but after an evaluation period of 14 days the user will have to buy an annual subscription to continue using the application. There are two types of subscription available: basic (4.99 GBP, Bible readings are only available online), and full (8.99 GBP, Bible readings are available even when the device is not connected to the Internet). The lectionary is compatible with mobile devices (iPhone or iPad with iOS 8.0+ and Android 5.1.1+) and desktop workstations (Windows 10 or 8.1 and Mac OS X 10.9 or later).

### ***Reflections for Daily Prayer*<sup>18</sup> (A.4)**

*Reflections for Daily Prayer* is an application designed to complement the *Common Worship Lectionary* with the ability to provide daily meditations on Bible readings in text format. Contact details and the help section can be found, just like in the case of *Time to Pray* application, in a special section of the menu. The application can be downloaded for free, but after an evaluation

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<sup>16</sup> "Common Worship Lectionary", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/lectionary>.

<sup>17</sup> The text is approved by the General Synod pursuant to Canon B 2 of the Canons of the Church of England. The Scripture quotations are from The New Revised Standard Version of the Bible, copyright 1995 by the Division of Christian Education of the National Council of the Churches of Christ in the United States of America.

<sup>18</sup> "Reflections for Daily Prayer", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/reflections-for-daily-prayer>.

period of 7 days the user will have to buy an annual (11.99 GBP) or monthly (1.99 GBP) subscription to continue using the application. The application is compatible with iOS / iPad iOS 9.0+, Android 5.1.1+ and Kindle Fire 5.0+ devices. The strong part of the application, from a homiletical point of view, is the collection of texts that focus on the interpretation of Holy Scripture.

### ***Reflections on the Psalms*<sup>19</sup> (A.5)**

The *Reflections on the Psalms* application offers detailed comments on each of the 150 psalms, taken from the writings of contemporary authors and theologians. Each essay is accompanied by the biblical text and ends with a prayer, contributing to the contemplative reading of the psalms, in the spirit of prayer. The application can be downloaded by paying a one-time fee of 8.99 GBP and it is compatible with iPhone / iPad and Android 4.0+ devices. This application is also especially important in a homiletical and catechetical context. The carefully selected commentaries are a proof of the interest of the administrator of this application for the correct education of believers.

### ***Sunday Worship*<sup>20</sup> (A.6)**

The *Sunday Worship* provides users with Bible readings, pre- and post-Communion (variable) prayers for each Sunday and holiday of the year, taking into account special liturgical periods<sup>21</sup>. It is useful, especially for those who have a ministry in the church, but also for all the faithful who want to reflect more deeply on the texts of the liturgical services they attend. The application can be downloaded for free, but after an evaluation period of 14 days the user will have to buy an annual subscription to continue using the application. There are two types of subscription available: basic (0.99 GBP, texts are only available online), and full (1.99 GBP, texts are available even when the device is not connected to the Internet).

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<sup>19</sup> "Reflections on the Psalms", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/reflections-on-the-psalms>.

<sup>20</sup> "Sunday Worship", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/sunday-worship>.

<sup>21</sup> Bible references are to the New Revised Standard Version: *Holy Bible: New Revised Standard Version* (New York: American Bible Society, 1989). References to the Psalms are to the Common Worship psalter, published in Church of England, *Common worship: daily prayer* (London: Church House, 2005).

Specific applications:

***Live Lent: Care for God's Creation*<sup>22</sup> (A.7)**

The *Live Lent application: Care for God's Creation* was designed especially for the period of Lent, as a preparation for the celebration of God's redemption of the world in Christ the Savior. It is available in two versions: for adults and for children, with specific content for each of the 40 days of Lent. The first version contains daily Bible readings (focused on the book of Genesis) and short meditations on those texts. The second option includes a daily game / questionnaire, an interactive content that promotes environmental responsibility, short prayers and Bible readings. In addition to the text version, there are audio recordings for each day containing Bible readings and prayers.

***Thy Kingdom Come*<sup>23</sup> (A.8)**

*Thy Kingdom Come* is a free application that facilitates praying during the period between the Ascension and Pentecost. It includes, for each of those days, morning, day, evening and night prayers in both text and audio format. This aims at an easier approach to prayer, wherever the person is, offering him or her the opportunity to customize the daily text of the service, being able to add prayers and Bible readings from other days. The application also contains reminders and notifications, helping the user to maintain a daily and constant schedule of prayer and reading.

## **The specificity of Romanian-Orthodox applications**

As it can be seen from the above presentation, the Anglican Church has undertaken the mission to create and make available to its faithful a complete panel of applications, most of them in direct connection with the classical forms of living the faith: prayer books or interpretation of the scriptural text.

The *Basilica* application<sup>24</sup>, the only one directly affiliated to the Romanian Patriarchate, was developed by the Basilica News Agency and it represents the version dedicated to mobile devices of the news agency website. Through a friendly interface, the news feed from the basilica.ro website is made available

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<sup>22</sup> "Live Lent: Care for God's Creation", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/features/live-lent>.

<sup>23</sup> "Thy Kingdom Come", Church House Publishing, accessed September 22, 2020, <https://www.chpublishing.co.uk/apps/thy-kingdom-come>.

<sup>24</sup> <https://play.google.com/store/apps/details?id=ro.basilica.android>



to end users, as well as a calendar with the saints of the day. The application is free and it is compatible with Android 4.1+ mobile devices. However, the content of this institutionally affiliated application is very limited and brings nothing more than the institution's website. In fact, it is an application intended for information distribution and not for offering valuable dogmatic content, catechetical or liturgical materials.

In the Romanian Orthosphere there is a complex suite of mobile applications. Among these, the most downloaded application for Android devices is *Biblioteca Orotodoxa - Acatiste Biblia Rugaciuni*, with over 100,000 users. This application is the only one in Romania that also offers a version for iOS devices. All other apps are only available for Android mobile devices. Another example is *Psaltirea Ortodoxă*, the product of BestProjects, which offers the text of the Psalms. The application is free, the drawback is the advertisements. Of course, by exploring the other projects developed by the same software developer<sup>25</sup>, one will find over 45 applications from a wide range, from children's Bible stories, commercial radio stations and online music, to Quranic text and wallpapers from Islamic and Christian tradition. The niche that these developers have found is the religious market, and this shows us once again the urgent need for an institutional affiliation of the main religious mobile applications. For this study, *institutional* does not mean *monopoly*, but it means guaranteeing the quality of the religious message. Private projects and initiatives can be developed in the future.

The present study quantifies and analyzes other applications in Romanian that can be correlated with the functionalities of the applications in the Anglican Church. We will divide them in direct connection with their producer, i.e., applications created with the official support of a church institution (clerical staff) or completely private projects. This indexation led to the following results:

Other Romanian applications that offer similar functionalities to the Anglican ones are the following:

Created with the support of church institutions or clerical staff:

Hieromonk Ștefan Nuțescu, Cell of Annunciation, Lakkou Skete, Mount Athos, Ecumenical Patriarchate of Constantinople:

- Carte de rugăciuni<sup>26</sup>
- Audio Ortodoxia<sup>27</sup>

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<sup>25</sup> BestProjects, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/developer?id=BestProjects>.

<sup>26</sup> 50,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=ro.bocan.cartederugaciuni&hl=en>.

<sup>27</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=ro.bocan.audioortodoxia&hl=en>.

- Viețile Sfinților<sup>28</sup>
- Psaltirea proorocului David<sup>29</sup>
- Acatistier<sup>30</sup>

Hieromonk Petru Pruteanu, Cascais, Portugal, Moscow Patriarchate:

- Texte Liturgice Ortodoxe<sup>31</sup>

Father Ioan-Tănase Chiș, Cluj-Napoca, România, Romanian Patriarchate:

- Rugaciune<sup>32</sup>

Created by private individuals:

- Biblioteca Orotodoxa - Acatiste Biblia Rugaciuni<sup>33</sup>
- Rugăciuni Creștine Ortodoxe<sup>34</sup>
- Rugăciuni puternice ortodoxe<sup>35</sup>
- Rugaciuni AUDIO - Crestin Ortodox<sup>36</sup>
- Rugăciuni<sup>37</sup>
- Orthodox Prayers<sup>38</sup>
- Acatiste si Paraclise<sup>39</sup>

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<sup>28</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=ro.bocan.vietilesfintilor&hl=en>.

<sup>29</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=ro.bocan.psaltireaprooroculuidavid&hl=en>.

<sup>30</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=ro.bocan.acatistier&hl=en>.

<sup>31</sup> 5,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=org.nativescript.tlo2>.

<sup>32</sup> 1,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.rugaciuneaudio.app>.

<sup>33</sup> 100,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=org.geometerplus.zlibrary.ui.android.aplicatii.romanesti>.

<sup>34</sup> 50,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.mobileromania.rugaciuni>.

<sup>35</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.exceda.rugaciuni>.

<sup>36</sup> 1,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.rugaciuni.crestineaudio>.

<sup>37</sup> 1,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=qq.abc4apps.cro>.

<sup>38</sup> 500+ installs, Google Play, accessed September 27, 2020, [https://play.google.com/store/apps/details?id=com.cristian\\_slav.elements.prayersro](https://play.google.com/store/apps/details?id=com.cristian_slav.elements.prayersro).

<sup>39</sup> 5,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=qq.abc4apps.ap>.

- Rugăciuni audio<sup>40</sup>
- Lumea Ortodoxiei - calendar ortodox, Biblia, cărți<sup>41</sup>
- Rugaciuni ortodoxe zilnice<sup>42</sup>
- Rugaciuni Ortodoxe Romane<sup>43</sup>
- Psaltirea Ortodoxă<sup>44</sup>
- Calendar Ortodox<sup>45</sup>
- Calendar Ortodox (CrestinOrtodox.ro)<sup>46</sup>
- Psaltirea Audio<sup>47</sup>
- Psaltirea Ortodoxă<sup>48</sup>

### **Description of similar applications in the Romanian digital space**

In the following section we will select and analyze Romanian applications which are similar (in content) with each of the Anglican applications. There is no total overlap between the two groups of applications, so we will choose several Romanian applications that together manage to provide the same content as the Anglican applications.

#### ***Time to Pray***

There is no equivalent in the Romanian mobile applications market that is so specific like *Time to Pray*. Among the Romanian applications that include most of the functionalities offered by *Time to Pray* are: *Carte de rugăciuni* and *Lumea Ortodoxiei*. Next, we will present a short description of these applications which appear in the Romanian Orthodox-Christian digital space.

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<sup>40</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.RugaciuniAudio.PrediciDuhovnicesti>.

<sup>41</sup> 50,000+ installs, Google Play, accessed September 27, 2020, [https://play.google.com/store/apps/details?id=ro.lumea\\_ortodoxiei.app](https://play.google.com/store/apps/details?id=ro.lumea_ortodoxiei.app).

<sup>42</sup> 10,000+ installs, Google Play, accessed September 27, 2020, [https://play.google.com/store/apps/details?id=com.webradio.hosting\\_rugaciuni.ortodoxe.a001](https://play.google.com/store/apps/details?id=com.webradio.hosting_rugaciuni.ortodoxe.a001).

<sup>43</sup> 1,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.miapsspro.RugaciuniOrtodoxe>.

<sup>44</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.mobileromania.psaltirea>.

<sup>45</sup> 100,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=fusa.calendarortodox>.

<sup>46</sup> 100,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=ro.activesoft.crestinortodox.calendar>.

<sup>47</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.PsaltireaAudio>.

<sup>48</sup> 10,000+ installs, Google Play, accessed September 27, 2020, <https://play.google.com/store/apps/details?id=com.mobileromania.psaltirea>.

### *Carte de rugăciuni (R.1)*

The application includes a collection of prayers in text format, using a friendly user interface, which imitates very well an Orthodox prayer book. Access does not require an Internet connection, and usability is increased due to functionalities like *search*, *bookmark*, *zoom in / out*. The application is compatible with Android 4.1+ devices, it can be downloaded for free, contains no advertisements, and was created with the blessing and support of Hieromonk Ștefan Nuțescu from the Cell of Annunciation, Lakkou Skete, Mount Athos. The source of the text is the Prayer Book edited by the Cell of Annunciation and spelling is greatly improved as the text is not the result of an OCR process.

### *Lumea ortodoxiei (R.2)*

This application brings together a rich collection of Orthodox digital resources. The text module contains, among others, the Orthodox calendar, the text of the Holy Scriptures in several versions, prayers, akathists, lives of the saints (The Synaxarion), liturgical books, textbooks (The Philokalia, The Sayings of the Desert Fathers etc.), writings of the Holy Fathers, information about churches and monasteries. There is also an audio module where one can listen to various audio books and the Holy Scriptures, sermons and Orthodox radio stations. The video module allows watching TV shows, Orthodox films, as well as a live stream of the Romanian television Trinitas TV. Access to basic texts does not require an Internet connection, and the application can be downloaded free of charge, without advertisements. However, in some cases, due to the high complexity, the mix of audio / video / text leads to delays or interference with the other audio / video functions of the mobile device. The application is compatible with Android 4.0.3+ devices.

### **Daily Prayer**

Compared to the previous application, *Daily Prayer* includes information about the memory of the day and daily psalms. In order to bring together all the equivalent functionalities, we will introduce three new applications: *Audio Ortodoxia*, *Viețile Sfinților* and *Psaltirea proorocului David*.

### *Audio Ortodoxia (R.3)*

This mobile application provides users with audio recordings of the following resources: New Testament, Psalms, Children's Bible, The Sayings of the Desert Fathers, Orthodox Catechism, Daily Prayers, The Synaxarion, Parables and Stories. The narrators are clerics, namely: Father Mircea Stoleriu, Hieromonk Ștefan Nuțescu and Father Adrian Mazilița. Unfortunately, the application does not specify the source of the text for any of the audio recordings. It requires Internet access to play audio content, it is compatible with Android 5.0+ and

Android Auto devices and can be downloaded for free. The application contains no advertisements, and was created with the blessing of Hieromonk Ștefan Nuțescu from the Cell of Annunciation, Lakkou Skete, Mount Athos and with the support of Father Mircea Stoleriu from Iași.

*Viețile Sfinților (R.4)*

The application reproduces the text of the 12 volumes of “Viețile Sfinților” (The Lives of the Saints) published between 1991 and 1998 at the Publishing House of the Diocese of Roman and Huși. Access to the text does not require an Internet connection and usability is increased due to the different tools like *search, save, zoom in / out*. The application is compatible with Android 4.1+ devices, can be downloaded for free, contains no ads, and was created with the blessing of Hieromonk Ștefan Nuțescu from the Cell of Annunciation, Lakkou Skete, Mount Athos. The author of the application clearly states that the text has been obtained by OCR scanning of the books and was checked using an automatic spell-checker. However, at a closer look, one could easily identify spelling errors and the use of English quotes instead of Romanian, but the overall quality of the text is good.

*Psaltirea proorocului David (R.5)*

The application contains the text of the psalms from the Orthodox translation of the Bible. It is compatible with Android 4.1+ devices, it can be downloaded for free, requires no internet connection, contains no advertisements, and was created with the blessing and support of Hieromonk Ștefan Nuțescu from the Cell of Annunciation, Lakkou Skete, Mount Athos. The source of the text is not clearly specified, it is not a Romanian translation of the Bible which is approved by the Holy Synod, but a private initiative of improving an existing Romanian text by comparing it with the Septuagint.

***Common Worship Lectionary***

The applications *Lumea Ortodoxiei* and *Calendar Ortodox (CrestinOrtodox.ro)* provide end users with daily Bible readings, adapted to the liturgical period, thus managing to include the equivalent content of the *Common Worship Lectionary*.

*Calendar Ortodox (CrestinOrtodox.ro) (R.6)*

The application provides information about the saints of the day, the memory of the day, the fasts of the year and the Orthodox Christian holidays, as well as the daily Bible readings (Gospel and Apostle). Navigation is easy and the text can be zoomed in or out, which makes it easier to read even in case of visual impairments. It is compatible with Android 2.2+ devices, it can be downloaded for free, requires an Internet connection and contains no advertisements. The

authors of the application are the coordinators of the *crestinortodox.ro* portal, a website which does not provide contact information and does not have any church affiliation. The disadvantages of this application are given by the lack of diacritics in the text, including in the biblical text, which adds a layer of ambiguity, the missing information related to the source of the biblical and patristic text used by the application, and, last but not least, the use of English quotes instead of Romanian.

### ***Reflections for Daily Prayer***

The applications *Lumea Ortodoxiei* and *Calendar Ortodox (CrestinOrtodox.ro)* provide users with daily Bible readings, but daily meditations on the biblical text is not included in any of the Romanian applications.

### ***Reflections on the Psalms***

None of the Romanian applications include daily meditations on psalms.

### ***Sunday Worship***

In order to follow the liturgical text on Sundays and holidays, users can access the following applications: *Lumea Ortodoxiei* and *Texte Liturgice Ortodoxe*.

#### *Texte Liturgice Ortodoxe (R.7)*

The application offers, in addition to the usual daily prayers, the service of Vespers, Matins and the text of the Divine Liturgy. It also contains selected services from Horologion, Menaion, Triodion, Pentecostarion, and texts from the Book of Needs. However, the text is a general one, which does not take into account the celebrations that have special services and prayers. Navigation is difficult because of the lack of search tools, text being available only as a picture. The application is compatible with Android 4.2+ devices, it can be downloaded for free, does not require an Internet connection and does not contain advertisements. The text was reviewed by Hieromonk Petru Pruteanu, but there is no clear affiliation of the application to any church institution. The disadvantages of this application are given by: the lack of specification of the edition of the liturgical book from which the text is used, the presence of spelling errors caused by OCR scanning of the text and the lack of proofreading.

Having the above descriptions of the Anglican applications and of the equivalents from the Romanian-Orthodox digital space, further on, in *Table 1* we will present, in a comparative manner, their most important technical characteristics. The data is public, obtained from the Google Play Store, and refers only to the Android version of these applications.

**Table 1.** Technical characteristics of the mobile applications included in this study

<b>Id</b>	<b>Installs</b>	<b>Rating</b>	<b>Operating system</b>	<b>Updated</b>	<b>Permissions</b>	<b>Price</b>	<b>Contact information</b>
A.1	10,000+	4.6	4.0+	March 16, 2020	Photos / Media / Files Storage	-	Official: <a href="https://aimermedia.com">https://aimermedia.com</a>
R.1	50,000+	4.9	4.1+	August 27, 2020	-	-	Individual developer: vbocan, Timiș
R.2	50,000+	5.0	4.0.3+	September 11, 2020	Location	-	Anonymous website: <a href="http://lumea-ortodoxiei.ro/">http://lumea-ortodoxiei.ro/</a>
R.3	10,000+	4.9	5.0+	August 27, 2020	-	-	Individual developer: vbocan, Timiș
A.2	50,000+	4.7	4.0+	March 27, 2020	Photos / Media / Files Storage	2.99 GBP / year	Official: <a href="https://aimermedia.com">https://aimermedia.com</a>
R.4	10,000+	4.9	4.1+	September 8, 2020	-	-	Individual developer: vbocan, Timiș
R.5	10,000+	5.0	4.1+	August 27, 2020	-	-	Individual developer: vbocan, Timiș
A.3	10,000+	4.0	4.1+	September 9, 2020	Identity Contacts/Photos/ Media / Files	4.99 GBP or 8.99 GBP / year	Official: <a href="https://aimermedia.com">https://aimermedia.com</a>
R.6	100,000+	4.3	2.2+	October 23, 2017	-	-	Anonymous website: <a href="https://www.crestinortodox.ro/">https://www.crestinortodox.ro/</a>
A.6	10,000+	4.5	4.0+	October 2, 2019	Photos / Media / Files Storage	0.99 GBP or 1.99 GBP / year	Official: <a href="https://aimermedia.com">https://aimermedia.com</a>
R.7	5,000+	4.9	4.2+	October 9, 2019	Photos / Media / Files	-	Software company: <a href="http://bitvice.ro/">http://bitvice.ro/</a>

## Conclusions

Our study pointed out that the most downloaded application for Android devices is *Biblioteca Orotodoxa - Acatiste Biblia Rugaciuni*, with over 100,000 installs. A large number of users show interest in prayer and the text of the Holy Scriptures. However, the developers are not very interested in small details. The spelling error in the title *Biblioteca Orotodoxa - Acatiste Biblia Rugaciuni* speaks for itself about the amateurism that underlies many of these applications, as well as the lack of coordination at church institutional level in the field of digital media. Another example is *Psaltirea Ortodoxă*, which includes a section

of advertisements that scrolls automatically while reading the biblical text, which greatly reduces the purpose of such a media initiative, disturbing the users during prayer and meditation.

Through this analysis of mobile applications in the Anglican and Orthodox (Romanian-speaking) environment, this study managed to present for the first time a picture of how the two Churches decided to invest in promoting mobile applications as auxiliary tools in the daily lives of believers. If in the case of the Romanian Orthodox Church, there is a single institutionally affiliated application and in the case of the Church of England, there are 8 different applications that serve the same common goal: facilitating access to biblical and liturgical text, meditations and memory of the day, among believers.

In the Romanian-Orthodox digital space there is an abundance of mobile applications, over 20, of which only one, we repeat, is institutionally affiliated. Most of these are intended to be complex applications, including both liturgical, biblical and patristic texts, commentaries and homilies, text and multimedia content. Consequently, we do not find the same very specific construction as in the Anglican Church, but, moreover, a series of generic and very extensive applications.

In this study we underline that a first disadvantage of the Romanian applications is that a lot of information is duplicated, which led to the repetition of a considerable volume of work, and the effects of the lack of a standardization of the liturgical text are obvious. Online stores that provide such applications do not implement any protocol to ensure the accuracy of theological content, so that some of the applications which are not officially affiliated to the Church have spelling, punctuation and theological errors.

The applications in the Anglican space were implemented with a lot of professionalism, following a common pattern, and they are compatible with most existing mobile devices on the market. They are updated frequently and have a user rating of 4-4.7 / 5. In the Romanian-Orthodox space, the applications were developed through private initiatives that are not officially assumed by the Holy Synod or by any other local or central Church authority. These are appreciated by users with a rating of 4.3-5 / 5, and the permissions required for installation do not raise any concerns regarding the confidentiality and protection of personal data, which is particularly important in this context.

The presence in Romania of many mobile applications developed by private individuals that do not display the source of the liturgical and biblical text is a concern for the accuracy of the information presented, especially knowing that some of these developers create various applications only for commercial purposes, without having a clear religious affiliation. The effects of



the lack of a standardization of the liturgical text are obvious, so that some of the applications have serious spelling and punctuation errors and consequently theological errors, caused by OCR scanning of the text and the lack of proofreading. Many of them use optical character recognition (OCR) methods in order to extract the text from the liturgical books edited and published by the official printing press of the Romanian Orthodox Church. Therefore, it would be a great advantage for the Church to design its own mobile applications in order to guarantee the authenticity of the text and the accuracy of the language.

We noticed that in the Romanian space, compared to the Anglican one, there are no catechetical applications that could provide users with short meditations on the Gospel of the day or on psalms. This lack stems in part from the general missionary agenda of the two Churches. Also, in the Romanian environment there are no specific applications, adapted to different liturgical periods, such as Lent, the period between the Ascension and Pentecost, the Fast of the Dormition of the Mother of God or the Nativity Fast. Through these dedicated applications, users can benefit more from the periods of intense liturgical and spiritual experience in the ecclesiastical year.

Last but not least, we would like to introduce the model of an application that is both technically and theologically attractive and useful. These should be its main characteristics:

- 1) It should be intuitive;
- 2) It should have a well-chosen chromatic;
- 3) It should be part of an institutional brand;
- 4) It should be specific, not general;
- 5) If it is general, it should provide links to specific applications;
- 6) It should be institutionally affiliated in order to guarantee the authenticity of the content.

As a complement to what has been said, the solution for a digital media initiative is not to copy the design of other applications from outside of the Orthodox world. That was not the purpose of the comparison. A valuable application does not imitate, but it borrows the strong technical elements while maintaining the Eastern Orthodox religious and cultural specificity. Being the first study of this kind in the Romanian literature, we hope to help both institutional and private developers from the religious environment in innovating and applying the most intelligent and efficient digital solutions.

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