

LoTW Update—October 2021

Logbook Committee

<i>Logbook of the World Status</i>	
1,421,808,964	QSO records have been entered into the system.
299,321,323	QSL records have resulted.
151,574	Users are registered in the system
217,250	Certificates are active
45,632,247	User files have been processed

Logbook in 2020 showed high growth, as users added almost 164 million QSO records. 2021 seems likely to surpass this rate, with 138+ million QSO records being added so far. The numbers of certificates and users have both increased about 8% so far.

(left—status as of 11/2/21)

Availability

Logbook availability has been excellent, at 99.979% in the last 90 days. Hardware updates have speeded up Logbook operations. The only inaccessibility in the last quarter was due to a network outage by our ISP; Logbook servers did not experience any downtime.

Q3 saw few user difficulties, and user questions continued to be answered through Logbook support and ARRL-LOTW.

2021 Developments to date

TQSL has now been updated to 2.5.9, with various improvements.

The new mode Q65 is supported by TQSL and is accepted by the Logbook database. TQSL now also permits single locations to have up to 4 different grid squares.

It was discovered that new users on the groups.io ARRL-LOTW list had been subject to moderation before their first posts could appear. This has been removed.

A backup has been created for the signing system for Logbook submissions to secure the system against failures. Other IT systems are also being upgraded to current, supported systems, thereby improving reliability and future upgradeability.

The Evolution of Logbook

In a previous report, the Committee explained the need for an evolution of Logbook to a second version. Some have interpreted this to mean that Logbook is currently just fine, and that we could wait until we were good and ready to revise it. In fact, there are current weaknesses in Logbook that demand revision. In [Appendix 1](#), we discuss the factors which make a basic revision much more urgent than some have suggested. This is about much more than making Logbook processing faster.

While the Committee recognizes and agrees that Logbook cannot be upgraded as an isolated system (the update being subsumed under a much larger evolution of ARRL IT systems), recent hijacking of Logbook confirmations (see Awards, below) should be a reminder to the Board of the urgency of beginning meaningful progress towards a more modern, supportable and maintainable system that can easily cooperate with other award issuers.

Other Awards

In August, CQ magazine announced “LoTW May Now Be Used for RAC Awards” (CQ, August 2021, pp. 82-83). Like IOTA, WIA and others, Radio Amateurs of Canada now allows users to scrape screen grabs from Logbook to confirm its awards. This of course results in no support for Logbook, nor revenue to ARRL. The Logbook Committee had been working with RAC to integrate the Canadaward into Logbook, but was unable to provide the needed support since no programming resources were available. A copy of CQ’s article is attached as Appendix 2.

Submitted by,
Greg Widin, KØGW, Chair 2021
for the Logbook Committee

Members: AA7A, K3DGB, K7GM, KØGW, W9JJ, K1MU/4, W5OV, K6WX, Doug Haney

Appendix 1

Why Logbook needs to be re-written now

Appendix 2

“LoTW May Now Be Used for RAC Awards,” CQ Amateur Radio, 77(8), August 2021, pp. 82-83.

Appendix 1

Why Logbook needs to be re-written now

Today, Logbook of the World has over 151 thousand registered users and over 1.4 billion QSOs recorded. So, why does Logbook need to be re-written?

There are four broad problems with Logbook's current implementation. In its current form:

1. It is unmaintainable;
2. It cannot be expanded;
3. It is impossible to improve; and
4. It cannot support modern approaches such as smart phones, tablets and cloud computing.

The value of Logbook increases with the number of users and QSOs it contains. Further acceptance of Logbook demands that it become more reliable and easier to use. In addition, many users find it complicated to get started with Logbook, but the only way these barriers can be removed is to provide improved software.

Maintainability

Though the languages the Logbook program is written in are still supported, it is built using many free libraries which are quite old, no longer supported, and unavailable for new operating systems. The operating system is an older version of CentOS Linux, which is no longer supported. This means that the server cannot be updated, nor new components installed.

The database that drives Logbook is not a modern format, and the version used is not at the supported level. The web interface that users interact with is complicated to use, requires the use of an old version of the now-unsupported Internet Explorer browser for programming, and has severe limitations. In addition to all this, there is virtually no documentation for any of these components of Logbook.

The Logbook web site is a huge compiled program. Thus, making even a simple change to a single Logbook page requires rebuilding the program and redeploying the entire site. It is therefore not possible to make simple changes or to revert changes. This structure is completely unfamiliar to modern web developers, who are unable to understand why such an arcane system is being used. This means that none of the modern web application frameworks can be applied to modernize Logbook unless it is entirely rewritten. As another example of structural problems, any alteration to the structure of the WAS program would be likely to require replacement of all database access interface methods used by log processing and other award programs. When new incoming QSOs are added by users, award credits are processed at the same time as incoming QSLs, resulting in extended, excessive time for processing uploaded logs.

Expansion

Because of the same factors affecting maintainability, it is difficult to impossible to add new award support to Logbook, even for ARRL awards. Meanwhile, other awarding entities (like

QRZ, IOTA, WIA and RAC) scrape confirmations off Logbook screens to authenticate their awards, without contributing to the upkeep of Logbook itself.

Concepts like automatic side loading of contest logs to Logbook cannot be implemented because of inability to expand Logbook's functions. Premium services that would allow re-capture of some costs of maintaining Logbook cannot be implemented. Integration of Logbook with ARRL.org is non-existent.

Obvious extensions, such as allowing logging applications to allow direct QSO uploads, will require significant feature additions to Logbook (QTH detail tracking, for example - what TQSL calls "Station Locations"). Tracking QTH info on Logbook natively would allow users to correct errors easily.

Improvement

Logbook's user interface remains essentially the same as it was when Logbook was introduced in 2003. At that time, people were still using DOS on their computers! Obviously, graphic user interfaces have evolved considerably in nearly 20 years. The current interface is overly complicated, encourages errors, and makes user applications for awards harder. Those errors demonstrate the need for changes that are more than just cosmetic.

Besides improvements to user interaction, Logbook's current configuration constrains updates to the rules associated with awards, wizards to aid award applications, and adding things like premium services.

Help for users is not available in-line, and error reporting is basic and unhelpful. Modern support for the Help Desk is not available, meaning that each request must be answered individually. The current help system is completely unscalable, and is an uncontrollable cost. The Help web pages are also not able to be maintained without excessive effort.

Modern device support

It is impossible to add support for tablets and smart phones to Logbook, something that users have cited in surveys as part of a "non-modern" aspect of ARRL's backward technology. This is why TQSL needs to be eliminated and the entire process of QSO management be handled on Logbook directly. We now have the ability to install user certificates on a browser, allowing strong user authentication. This is a key goal, as if it was browser-based, just about any device could be used with Logbook.

As well, Logbook's current implementation is too fragile, unscalable and unstructured for migration to modern cloud services.

Summary

While Logbook has been successful so far, it continues to rapidly lose ground to other, more friendly approaches to confirming amateur contacts. Still, today it remains the most trusted source of confirmations, and ARRL's #2 cited benefit. Updating it can ensure its continued success.