Introducing FOLIO - An Open Source Library Management System

Openness and open source in library systems: a DE-UK dialogue
A collaborative VBD-RLUK meeting

July 23, 2021
Kirstin Kemner-Heek, VZG Göttingen
Who we are ...

- VZG = Headquarter of the Common Library Network GBV ([https://www.gbv.de/](https://www.gbv.de/)) in Göttingen, Lower Saxony
- One of six regional library service networks in Germany
VZG - Headquarter of the GBV

• Service provider / host (public-service)
  – 72 academic libraries, 400 research libraries
• K10plus = regional union catalogue “OCLC CBS” since 1993, incl. ILL
• LMS “OCLC LBS” since 1993
  – 204 tenants at 30 sites (27 hosted in VZG, 92 SaaS, 3 local)
• LMS “FOLIO” since 2016 (live since 2020)
  – FOLIO platform hosted in VZG for GBV network
  – FOLIO ERM first: 2 live, 4 started, more tbd
  – FOLIO full implementation in evaluation process
• Discovery and digital services
The FOLIO project started in 2016 and is ongoing.
FOLIO is both: software and a community.
Latest international release is Iris (May 3, 2021).
VZG started its first development project (FOLIO ERM) in March 2018.
FOLIO - Introduction

• Goal
  – Development of a Library Service Platform (LSP) to serve as library management system and more ....
  – Open source, sustainable, innovative, flexible, enhanceable

• Target group
  – Academic and research libraries
  – Public libraries and special institutions
FOLIO - Governance

• **Open Library Foundation** (OLF)
  – Serves as roof organization since 2016
  – Each project has its own governance structure: [FOLIO](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model), [GOKb](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model), [ReShare](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model), [VuFind](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model), [ARC](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model), …

• **FOLIO Project**
  – New governance structure since 2021
    [https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model)
  – Based on membership model
    [https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model#FOLIOGovernanceModel-Membership.3](https://wiki.folio.org/display/COMMUNITY/FOLIO+Governance+Model#FOLIOGovernanceModel-Membership.3)
FOLIO - Governance

• Elected committees
  – Community Council: strategy, finances, membership, FOLIO SMLLC
  – Product Council: functionality, roadmap, special interest groups
  – Technical Council: technical architecture + development

• Decision making is based on „lazy consensus“ concept

“Lazy Consensus“ is a form of decision-making that assumes that a stated path forward is acceptable to all in the group unless objections are raised (also known as “yes becomes the default”). Typically this means that someone will state a decision and a plan to act on that decision unless someone objects in a timely fashion (usually 72 hours). Assume best intent. See a description of how Lazy Consensus is used in the Apache OpenOffice project and how it has been applied to library operations.” (Quelle: https://wiki.folio.org/display/PC/FOLIO+Product+Council+Charge)
FOLIO – How we work

• Special Interests Groups (SIGs) + Subgroups
  – Subject matter experts (SMEs)
  – Resource Access, Acquisitions, ERM, Metadata Management, App Interaction, Reporting, Support, SysOps, User Management, Consortia, Privacy, Accessibility, Internationalization, Implementers

• Tech Leads Group
  – Lead developers and technical architects

• Product Owner
  – Responsibility for assigned apps / areas of development
FOLIO – Development Circle

- SIGs = Special Interest Groups
- UX = User Experience Designer
- DEV = Developer
- PO = Product Owner
FOLIO – Architecture

**UI Toolkit - Stripes**
React, Redux,
Use default or create new

**Core FOLIO ILS Apps**
OS apps, e.g. e-resource management, circ, cat, acq...

**Other Apps**
Extend existing or develop new apps,
OS or commercial

**FOLIO Gateway - OKAPI**
APIs, "Switchboard",
Tenant separation
FOLIO – Plattform (Kubernetes)
FOLIO – Technical Concept

• Horizontal scalability and load balancing
• High availability
• Multi-tenancy ability
• Microservice architecture and strictly API-based development
  — Freedom of choice of programming language
  — Independent development
  — Independent choice of modules
FOLIO – Functional Scope
FOLIO – Free choice of business model

• SaaS (Cloud) from commercial service provider
  – Hardware and software by cloud provider (e.g. EBSCO, Index Data, …)

• Local implementation
  – Institutional self-service
  – With additional services from commercial service providers (Knowledge Integration, Index Data, EBSCO, …)

• Hosting and/or SaaS by public-service service provider
  – „Cloud“ in public-service domain
  – With additional services from commercial service providers (Knowledge Integration, Index Data, EBSCO, …)
FOLIO – Free Choice of Services

• Hosting (incl. release management and testing)
• Modul-based, individual services
  – Hard- and software maintenance either in public service or commercial cloud
  – Library responsible for settings, browser-based system control and API maintenance
    → active maintenance of the system / in the community
• Full service (Saas)
  – Library has access to its own part of the system and receives training → system “out of
    the box” – just usage
  – Full implementation
  – “Modul by modul” implementation
  – Individual modul choice, e. g. ERM → choice of knowledge bases with different workflow
    options
• tbd - FOLIO is in development
FOLIO – External Data Management Options

• Connection of various data sources
  – Standard metadata sources, e. g. union catalogues (GBV K10plus)
  – Knowledge bases
    • commercial (EBSCO KB, 360°)
    • cooperative (www.gokb.org)
  – …
FOLIO – Reasons

- Integration in higher education structures, e.g. eLearning, ERP, IDM
- Possibility of „step by step“ implementation of single modules
  => less fractions, less risk
- Systems architecture strictly open APIs
  - Platform internal between the apps
  - External to 3rd party systems
- Enhanceable by localization and extra services, e.g. 3rd party services, local
devolved apps (self check app, open access app, …)
- Integration of future requirements, e.g. APC
FOLIO … is open!

• Open Source
  – Open APIs: quick, non proprietary add-ons possible
  – No vendor lock-in

• Cooperative, transparent participation and development – community owned

• „Save haven“ of code (Apache 2.0 license) under the Open Library Foundation

• Data security, data safety, data ownership => data sovereignty

• Self determination in information supply
  – Public service hosting possible

• Library networks - proven, strong, collaborative partners in international cooperation
FOLIO – Risks

• Achievement and maintenance of implementable version(s)
• Definition, prioritization and realization of requirements
• Reliable and timely delivery of
  – Funding
  – Staff: developer and functional experts
  – Product owner, project manager / leadership
• Planned software in scope and quality
• Consideration and management of increased efforts in coordination and communication
• Security for sustainable development continuation
FOLIO – Community is key

• Cooperative development
  – „from libraries for libraries“
    • Comprehensive functional and technical knowledge
    • Knowledge about recent and future requirements
    • Only a strong, responsible community secures sustainable development and maintenance
      o FOLIO is time and resource consuming
      o FOLIO needs people and money
      o FOLIO needs leadership

• In cooperation with commercial partners
  – Financial and management support
  – „Outcome oriented“ target settings → Return of Investment
FOLIO – Summary

• Openness as well-introduced concept in higher education (Open Data, Open Science, Open Source)
  – Open source software as one aspect of it
  – Academic and research libraires are used to cooperational projects
  – German funding agencies and ministries foster/expect Open … Access/Data/Science
  – Transparency with regard to functional scope, sustainability and funding
  – Innovational potential driven by the libraries themselves
  – Building new services for areas in development now and in future = “more than a library management system“, e.g. open access services (APC) and eUsage App
  – Follow up and realization of libraries requirements independently from commercial interests
FOLIO – Summary

• FOLIO is in development ↔ FOLIO is live with broad functionality!
• Development and implementation in parallel is a challenge and a chance
• Self-determined and sustainable access to innovations
• Cooperational options in “public-private partnership”
• Cooperations of networks, institutions and consortia

= Providing libraries sustainable development options for required functionality and services in an innovative, self contained, consolidated environment!
FOLIO learn more

- FOLIO Wiki
  https://wiki.folio.org/
- Open Library Foundation
  http://www.openlibraryfoundation.org/
- FOLIO
  https://www.folio.org/
- Code on GitHub
  https://github.com/folio-org
- Demo installation
  https://folio-demo.gbv.de/ (diku_admin / admin)
- German FOLIO web side
  https://www.folio-bib.org/?page_id=63
Thank you.

kirstin.kemner@gbv.de

#RLUKDSF
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Decisive for this presentation is the spoken word.