DSpace Development and Release Plan Recommendation

November 21, 2019

Executive Summary

The following recommendation to the DSpace Leadership Group proposes a plan for achieving the features, goals and aspirations identified for DSpace version 7.0 by the community. The plan put forward consists of a series of 4-5 Beta "Managed" Releases culminating in a feature complete, production ready version 7.0 midsummer 2020, with remaining follow on features deemed non-critical included in minor 7.X releases by end of the year 2020. This recommendation assumes paid labor will be used for all critical elements to provide a predictable road map and schedule. The total cost estimate (with no volunteer or in-kind contributions) is approximately **$311,000**. Five funding strategies are discussed in this proposal, none of which address the immediate need for funding to begin paid work in January 2020. To alleviate this, LYRASIS would propose supplying a line-of-credit arrangement where funds would be paid back as they come into the program. However, three key decisions must be made by the Leadership/Steering Group.

Three Key Decisions to be confirmed by leadership:

1. 7.0 schedule be decided based on the priority of critical features amenable to a June 2020, (OR2020 conference) Release date.
2. Configurable Entities and OpenAIREv4 functionality will be included in the 7.0 Release, with a decision point to delay these features to a 7.1 release pending a progress review milestone in March 2020.
3. Confirmation that consensus items deemed "non-critical" are not part of the planned 7.0 release and only addressed if schedule or budget exists.

The development effort will require a roughly estimated **4,020 development hours** and **1,206 code review, QA and testing hours** over the course of **11 to 12 months** through a series of 4 to 7 incremental scoped beta releases of functionality starting in February 2020. This series of staged releases will allow thorough testing and feedback from community users who chose to evaluate the new version features incrementally. It will facilitate community familiarity with the new interfaces, and features. It will enable more timely and manageable testing and feedback from the community during the course of development and refinement. It will also allow for time to raise funds in a cohesive manner.

Assumptions

For planning and evaluation, we make the following assumptions:
- Contract Developer cost ($75/person hour)
- Code review, QA and Testing is 30% of development time. This work is done concurrently with development in terms of schedule.
- Schedule is determined by 35-hour week assuming one developer

- Assume plan start 1 Jan 2020, to facilitate the wind down of Entities sub-working group and holiday schedule. Subsequent beta releases can be developed in parallel to compress schedule as needed.

High Level Plan

Financial Resources: Development resource cost for the entire plan are estimated to be about **$301,500** of development, **$90,450** code review, QA and test. LYRASIS is willing to consider financing the proposed work upfront in order ensure a reliable schedule and priority of effort. Additionally, LYRASIS has identified certain features for independent sponsorship and fundraising given that they are less defined at this time or have non-contract based commitment e.g. Configurable Entities and Statistical Reporting.

Contribution: QA and Test environments will be needed. This will be provided by LYRASIS. OpenAIRE.eu has committed via MOU 2 FTEs toward development.

Fundraising: While LYRASIS can finance upfront the activity, the community can pursue fund raising to reimburse this upfront advance by LYRASIS. There are at least 5 areas of potential fundraising activity that can be pursued; governance can determine and prioritize any of the ideas proposed below.
a.   *Community Sponsorship of certain features*. This would include "adopt-a-feature". The understanding would be that the tech roadmap might not follow or align with the funding stream.
b.   *A concerted outreach to the current members.* The challenge here is the timing of when the dollars come in might not align with the proposed schedule.
c.   *An end-of-the year campaign* where the membership is encouraged to place unused funds from their budgets into a LYRASIS fiscal agent bucket that can be used to pay for services. Again, the risk is timing and actual dollars raised.
d.   *Accelerated volunteer code contribution*. The risk here is the right skills might not be available when needed.

Beta feature releases allow us to not only accelerate our schedule, but also focus our fundraising activities around certain components or features. This will help map priorities for new features, namely Configurable Entities and Statistical Reporting. It will also help target relevant interest groups for community-based underwriting and sponsorship.

Recommended 7.0 Release Schedule

If the first four betas are completed as predicted, then the 5th Beta will be added to Release 7.0. If the first four Betas are not on schedule, Beta 5 features will be added to Release 7.1.

- **Start Jan 1, 2020**
- **Includes everything in "Critical Features" tab, and ONLY the Entities and OpenAIRE features from "Features to Discuss" tab.**
- Total Hours: **2,723** development hours, **817** code review, QA and testing hours
- Scheduled Beta Releases (roughly 600 dev hours each)
    - Beta 1 (602 hours) release February 2020

- Security, Performance, Browse (includes updates to Java, Spring Boot and Angular)
  - Beta 2 (598 hours) release March 2020
    - AuthN/Z, Editing, Versioning
  - Beta 3 (573 hours) release April 2020
    - Admin, Account, Submission/Workflow
  - **April Milestone Beta 5 Decision: Tech Lead Reviews existing progress and schedule**
  - Beta 4 (466 hours) release May 2020
    - GDPR compliance, Statistics, UI, SEO, Batch Import/Export
  - (*Optional*) Beta 5 (484 or less hours) release June 2020
    - Entities, OpenAIRE compliance
  - Version 7.0 Stable Release