1. Introduction

NC State University’s enterprise Learning Technology (LT) environment (the Learning Management System (LMS), Synchronous Learning Management System (SLMS), lecture capture, etc.) will inevitably evolve with the rapid growth of new technologies within the open-source community and beyond. This SOP addresses the issue of adding, modifying, or removing additional features to WolfWare, the NC State suite of enterprise-level LT tools.

2. Definitions

**Feature**: Functionality or modification requested as part of NC State University’s enterprise-level suite of LT tools.

**Existing or non-existing feature**: In the context of this SOP, functionality either is present in NC State University’s current suite of LT tools (existing) or is not currently present in our suite of LT tools (non-existing).

**WolfWare Governance Coordinators**: DELTA staff members designated to coordinate WolfWare governance activities and serve as the LMS Steering Committee and Content Capture Steering Committee chairs. These individuals are referred to as “Coordinators” in this SOP.

3. Feature Requests

The feature might be:
- Already developed, needing integration only;
- Already developed, needing rewrite or modification; or
- Not developed, requiring planning, development and integration resources.

- Anyone with a valid Unity ID can request a feature using the feature request form found on the web at: https://wolfware.ncsu.edu by clicking on “Feedback” at the bottom of the page. Access to the form is controlled with campus web authentication and requires requester information.
- A timestamp will indicate when the feature request was submitted.
- Requests, and the status of the requests, will be maintained in a repository and made publically available.
- After a feature request is submitted, the committee chairs will receive automated email notification.
2.1 If clarifications of the feature request are needed, the Coordinator will initially contact the requester within 5 business days, so the request can be appropriately reviewed and edited for thorough consideration. No evaluation of the feature request will be made at this stage. The Coordinator will ensure that the feature request provides adequate information to be subsequently reviewed by the WW committees as needed. There will be two cut off dates for consideration (September 15th and January 20th) at which time the batch of feature requests that have been received up to that point will be reviewed.

2.2 The Coordinator’s responsibility is to advance only valid feature requests (help calls, etc., will be responded to via other channels as determined by the Coordinator). Once the Coordinator ensures the clarity and validity of the request, it will be evaluated by an internal committee consisting of all DELTA committee chairs to determine which committee will begin a feature request review and/or if the feature request is a DELTA operational decision that could be acted on with DELTA management approval (example: support/educational opportunity, DELTA grant needs integration or plugin, work with external vendor requires some development). This evaluation process will occur twice annually by September 30th and January 31st for the respective cut off periods for consideration.

2.2.1 In the originating committee review of the feature request, if the request can potentially be met by something that already exists within our LT toolkit, this committee will inform the appropriate Steering Committee chair, who will provide a detailed description, possibly including a knowledge base reference, to the user for consideration. Additionally, the Steering Committee chair will facilitate a conversation between the requester and the LearnTech staff (learntech@ncsu.edu) who will help the user consider tools that exist within our LT suite that may be used in a way to meet their request, if appropriate. If the user is satisfied with the solution presented, further consideration will not be necessary, and the request will be considered resolved.

2.2.1.1 The requester will have opportunity to respond if the requester feels the solution offered still does not meet their request. Correspondence with the user will be fully documented in the Feature Request System to ensure that subsequent review by other committees will be informed.

2.2.2 Further review is necessary if one of the following two conditions applies:

2.2.2.1 The originating committee members consider the feature request to provide functionality that is not and
cannot be accommodated by the current state of the LT toolkit.

2.2.2.2 If, after correspondence with the originating committee, the user considers the existing LT functionality to not meet his/her objectives, a review by the other WW committees is required.

2.2.3 The WW Best Practices and Support Committee will provide written clarification based on five standards:

2.2.3.1 Confirmation and documentation that the feature as requested does not exist and alternative solutions cannot meet the requestor’s needs.

2.2.3.2 Appraisal of the proposed feature’s value (or, conversely, their concerns about a feature that may preclude a recommendation) based on how significantly the feature would add to or enhance existing functionality, including their insight into how broadly the feature would be used. This evaluation would include a differentiation from similar existing features by clarifying why this feature does not provide duplication of existing features.

2.2.3.3 General commentary on the usability and accessibility of this feature from the WW Best Practices and Support Committee’s perspective.

2.2.3.4 Estimation, if possible, to what extent this feature would require campus technical and instructional support.

2.2.3.5 Feature requests will be rated on a scale of high, medium or low impact to NC State University based on a feature request’s ability to foster teaching and engagement in terms of both breadth (how many faculty and students would benefit) and depth (impact on specific courses, programs, departments, etc…) as well as an appraisal of the support burden.

2.2.4 After review by the WW Best Practices and Support Committee, electronic notifications that a feature request has been reviewed will be sent to the Coordinators and the chairs of all the WW Committees.

2.3 WW Technical Committee will review based on the following criteria. A review by this committee includes the consideration of technical feasibility, an estimation of the time and methods required for testing, and a determination of whether additional information is necessary from the initial requester or the other committees. As with the other committees, the comments of an initial review will be documented to facilitate evaluation by the other committees.
2.4 Feature requests will be rated on a scale of easy to difficult based on the anticipated cost in terms of resources required to complete and maintain the request.

2.5 If the WW Technical Committee needs additional clarification from the initial requester in order to evaluate the feature request, the appropriate Coordinator will serve as a liaison by contacting the initial requester directly, relaying and interpreting the WW Technical Committee’s questions, and facilitating sufficient discussion on behalf of both the customer and service providers.

2.6 After review by the Technical Committee, electronic notifications that a feature request has been reviewed will be sent to the Coordinators and the chairs of all the WW Committees.

2.7 The WW Customer Needs and Policy Committee will review the feature request based on its impact on college needs and its relative priority based on college needs.

2.7.1 WW Customer Needs and Policy Committee representatives are responsible for checking with their college regarding the need, where additional information is needed, of requested features or modification using the appropriate channels internal to the college, department, program or unit for the addition of the feature (e.g. program directors, IT directors, academic deans, unit leaders, etc.). It is the responsibility of the assigned representative on the committee to use the appropriate college and/or unit channels for this discussion, and this information gathering will be documented in the WW Customer Needs and Policy Committee minutes related to relevant feature requests. Based on the information provided by the representative assigned to follow up on the request, the committee will then discuss the impacts of the request using the following guidelines:

2.7.1.1 Based on college and unit needs, what is the priority of this request compared to other priorities for LT development and implementation? To what extent is this feature needed to provide unique functionality?

2.7.1.2 If this feature does not exist, what are possible recommendations around who should develop it (if this might require new development), or, who/how we should pay for it (if this is a feature/tool that exists elsewhere)? Who should provide technical support for this feature? Do we have the resources to implement, purchase, or consider this feature? If not, can we get the resources, and if so, when?
2.7.1.3 Who will serve as the feature “owner?” If the feature-owner is outside of DELTA, the college or unit affiliate must ensure that the feature remains compatible with LT upgrades. If the feature owner leaves the university and a replacement owner is not identified, the feature will be disabled. We would need a memorandum of understanding to document that someone outside of DELTA would take ownership of a feature.

2.7.1.4 Feature requests will be rated on a scale of high, medium and low organizational impact based on number of prospective users and importance to particular programs.

2.7.2 After review by the WW Customer Needs and Policy Committee, electronic notifications that a feature request has been reviewed will be sent to the chairs of all the WW Committees and the Coordinators.

2.8 Final Evaluation: LMS or CC Steering Committee: The Steering Committee serves as the final arbiter for the committees. All recommendations must consider the prioritization of development of features, and/or retiring of features if a new feature is going to replace an older version or if a feature outlives its usefulness. All feature implementations must be voted upon by the Steering Committee. The Coordinator is responsible for representing the decisions of the Steering committee to the individual requesting the feature implementation.

2.8.1 In some circumstances, additional layers of complexity emerge in which the Steering Committee would ask for the Coordinator to seek consultation with other university agencies (Provost’s Office, Registration and Records, Legal, etc.). The Coordinator will then report back directly to the Steering Committee with clarification, and the evaluation process will continue.

2.8.2 The feature request must meet current NC State web accessibility regulations: http://www.ncsu.edu/policies/campus_environ/non-discrimination/REG04.25.5.php as well as be compliant with other university policies such as FERPA regulations.

2.8.3 The feature must not create LT technical issues such as security holes, server crashes, etc.

2.8.4 Consultation: DELTA technical staff – Upon request by the Steering Committee, DELTA technical staff will conduct a THOROUGH evaluation of the feature request. This process involves installation on a test server for an extended evaluation period. The length of evaluation depends on the nature of the feature.
2.8.5 After testing the proposed feature within the existing LT environment, findings will be reported to the Steering Committee for final consideration (which may include further development/implementation beyond the testing environment to implement the feature now, consider the feature for a later date, etc.). The Steering Committee will provide a final recommendation, and the outcome of this discussion will be noted in both committee meeting minutes and in the feature request repository, where the feature request status will change from “Review” to “Scheduled for Implementation,” or other status (e.g. “Implemented”, “Will Not be Implemented”), etc. The committee will provide comments on why a feature is either implemented or not implemented.

2.8.6 Final committee recommendations then go to the appropriate DELTA leadership for a discussion on the implementation timeline/feasibility, etc.

4. Implementation:
   Unless the Steering Committee considers implementation to be pressing, implementation and versioning of all approved feature requests will take place during the regularly scheduled maintenance windows (https://wolfware.ncsu.edu/updates-maintenance/) according to regularly scheduled software updates, and based on the priority of the request as recommended by the Steering Committee.

5. Feature removal:
   In an evolving technical environment, specific LT features may become obsolete. To optimize the LT architecture and functions, changes in features will accordingly require review and approval through the standard WW committee channels. The following circumstances will mean that an LT feature will be reviewed again through the governance structure, in the same manner that the feature request was initially reviewed (e.g. anyone within the user community brings attention to the potential need to change/remove a feature, then the Coordinator works with WW Best Practices for an initial review, etc., through the process), with consideration by each of the committees utilizing their particular role and expertise.
   a. The equivalent functionality of an LT feature is included in an upgrade of the existing software.
   b. The functionality of a newly requested LT feature overlaps with an existing LT feature.
   c. An LT feature is no longer technically supported or maintained by the LT community and/or the LT feature owner.
   d. An LT feature is no longer being used or there is minimal use of the feature (e.g. no activation or use of tool during an academic year cycle).
   e. An LT feature causes instability, security and/or support issues as the system evolves.
f. An LT feature requires any type of overhaul/upgrade/additional work or programming to continue to work with the evolving overall academic enterprise technology toolset.
g. Other cases where an LT features ongoing maintenance is questioned.

After consideration by the committees, a feature may be upgraded, modified or removed from the LT. In the case of a feature (or integration) that causes security or other problems, or is a result of work with a vendor that requires the removal and/or change of a feature, DELTA management will make these decisions and inform LMS governance.

Once per year, the WW Best Practices committee will undertake a full LT feature review and propose, if applicable, that certain features be reconsidered through the governance review process.