DTLab Challenge Rack

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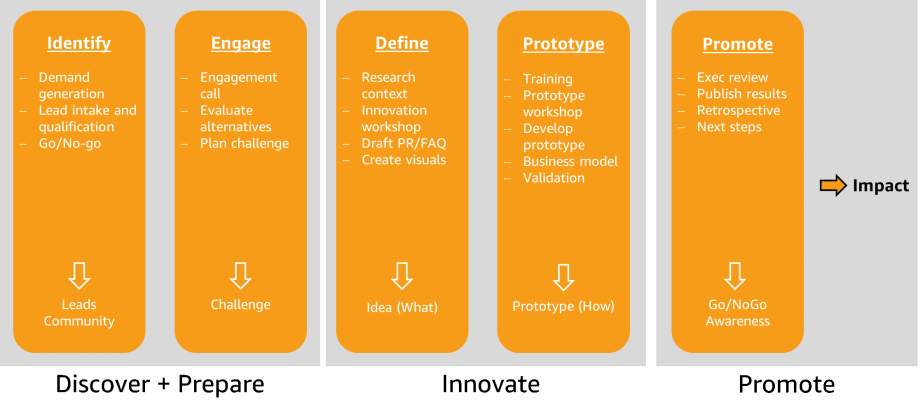
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# Idea

The [Digital Transformation Lab](https://hm.edu/sites/dt_lab/) (DTLab) currently works with a PDF based [intake form](https://w3-mediapool.hm.edu/mediapool/media/baukasten/img_2/dtlab_1/dtl_dokumente_1/2020-11_DTLab_Challenge_Intake_Form.pdf) to capture the most relevant information from a challenge sponsor and with different Excel files (challenge pipeline, challenge overview per semester) to manage the lifecycle. This approach is laborious, error-prone and intransparent. Therefore, the idea is to capture challenge proposals via an online form and store all relevant data in a central database. This allows an easier management of challenges and closer collaboration with all personas involved (challenge sponsor, coordinator, and professor).

As [Cloud Innovation Centers](https://aws.amazon.com/government-education/cloud-innovation-centers/) (CICs) globally are facing a similar challenge, the goal is to develop a solution that can be reused or at least adapted

# Challenge Lifecycle



# Persona

**Challenge sponsor** – the representative of a public sector organization submitting a challenge to the DTLab.

**DTLab coordinator** – an assigned coordinator at the DTLab who manages a challenge along its lifecycle (qualification, matching etc.)

**Challenge taker** – a person representing a team that takes on a challenge, e.g. a teacher or a startup lead.

# Backlog

See Challenge Metadata for details on the data actually used to describe a challenge along its lifecycle.

|  |  |  |
| --- | --- | --- |
| **Prio** | **User Story** | **Comment** |
| High | As a challenge sponsor I want to submit a challenge proposal to the DTLab. |  |
| Low | As a challenge sponsor I want to update my challenge proposal. |  |
| Medium | As a challenge sponsor I want to see the plan for my challenge. |  |
|  |  |  |
| High | As a DTLab coordinator I want to get an overview of all current challenge proposals. | Use filters for phase, organization, tag, date range etc. |
| High | As a DTLab coordinator I want to review and qualify a challenge proposal | This includes giving it a title and flag it with tags |
| High | As a DTLab coordinator I want to score a challenge proposal |  |
| High | As a DTLab coordinator I want to set the type of a challenge | We have predefined types of challenges, e.g. student challenge, student project or startup challenge |
| High | As a DTLab coordinator I want to assign a proposal to a challenge taker and capture key information for the execution. | There might multiple takers |
| High | As a DTLab coordinator I want to get an overview of all challenges/of a cohort |  |
| Medium | As a DTLab coordinator I want to schedule key milestones for a challenge. | Predefined set of milestone types, e.g. |
| Medium | As a DTLab coordinator I want to update the phase of a challenge. |  |
| High | As a DTLab coordinator I want to delete a challenge (proposal). |  |
| Medium | As a DTLab coordinator I want to capture the publication of a challenge. |  |
|  |  |  |
| High | As a challenge taker I want to get an overview of all current challenge proposals. |  |
| Medium | As a challenge taker I want to express my interest to take on a challenge or project. | Initially we will work with emails. |

# Other Requirements

* Challenge intake needs to be integrated into DTLab website (embedded or link)
* Support for multiple languages (at least German and English)
* User management
* Results will be published under an Open Source license
* Prepare for reuse by other CICs

# Screens

|  |  |  |
| --- | --- | --- |
| **Name** | **Persona** | **Description** |
| Intake **Survey** | Challenge Sponsor | Step-by-step survey with intro at the beginning and a summary to review proposal before submission |
|  |  |  |
| **Login** | CIC Coordinator | Login dialog |
| Challenge **Overview** | CIC Coordinator | Overview of all challenges with filters (phase, org, date etc.) |
| Challenge **Details** | CIC Coordinator | Challenge profile with details. Allows update of challenge data as well as deletion of challenge. |
|  |  |  |
| Proposal **Gallery** | Challenge Taker | Gallery of revisited challenge proposals. Allows challenge takers to view and like proposals. Provides very limited information about a challenge. |
| Challenge **Popup** | Challenge Taker | Popup for the gallery to display key information about a challenge |
|  |  |  |
| Challenge **Plan** | All | Printable, read-only overview of a challenge. Serves as a single source of truth for challenge execution. Includes key information like title, statement, contact details and milestones. |

# Flow of a challenge

Proposal Overview

Review Proposal

Notify CIC Coordinator

Score Proposal

Set Challenge Type

Submit Proposal

Match Challenge

Proposal Gallergy

Plan Challenge

Challenge Overview

DTLab Community

Publish Challenge

Challenge Plan

Publication Overview

Update Challenge

Mark favorites

**Qualify**

**Plan**

**Execute**

# Appendix 1: Q&A

**Q: What are the phases of a challenge?**

**In alignment with the CIC program, we will use the phases Identify, Engage, Define, Build and Realize Value.**

**Q: What are the statuses of a challenge? Do we need that on top of the phase?**

**The phases are rather coarse, so we add a field to further describe the current status of our work. E.g. for phase Identify, it makes a big difference if we are just exploring with a PS org or if that org has submitted a proposal. See** Appendix 3: Challenge Phase and Status **for details.**

**Q: What are the challenge types (what is our portfolio)?**

**For now student projects and student challenges. We might add startup challenges later (SCE).**

**Q: Do challenge sponsors need to login to submit a challenge proposal?**

**No, we want to make it as easy as possible to submit challenge proposals.**

**Q: How do we prevent from spam proposals?**

**We will captchas against bots. Each proposal will be flagged as new so that the DTLab coordinator can review the new proposals and delete spam.**

**Q: Do challenge takers have to log in to review proposals?**

**No, we will present a read-only gallery of challenge proposals with reduced information (e.g. no contact information and scoring). A challenge taker expresses interest by sending an email to the DTLab coordinator (email alias). The coordinator than follows up to further explore.**

**Q: What logins are needed to manage users?**

**For the first version, we will only have logins for DTLab coordinators. They can read, update and delete challenges. At a future stage, we might introduce logins for challenge sponsors and challenge takers as well to improve the interaction with the DTLab.**

**Q: How many DTLab coordinators are there?**

**DTLab coordinator is a role and we will have multiple users with this role to create redundancy. We will use an email alias for interaction with challenge sponsors and takers.**

**Q: How do we capture multiple faculties and/or teams per challenge?**

**We capture multiple entries in case there are multiple faculties/professors involved. Likewise for multiple teams per challenge.**

**Q: Which tags do we want to use?**

**We will use tags to describe 1) the theme of a challenge (e.g. health, sustainability) and 2) the technology that is used (e.g. IoT, ML). We need to create a list of initial tags to make this a usable feture.**

**Q: How do coordinators find challenges in the overview?**

**We will use a search bar and add further UI elements if necessary.**

# Appendix 2: Challenge Metadata

The following list contains the necessary metadata to manage a challenge along its lifecycle. Please note: The sections reflect a logical, but not necessarily a chronological order.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Title** | **Variable-name** | **Description** | **Survey** | **Overview** | **Details** | **Gallery** | **Popup** | **Plan** |
|  |  |  |  |  |  |  |  |  |
| **General** |  |  |  |  |  |  |  |  |
| ID | id | Unique identifier for challenge. Auto-generated. Should be self-speaking, we need to define a syntax |  | X | X |  |  | X |
| Phase | phase | Phase of the challenge, e.g. Identify or Engage, see Challenge Lifecycle |  | X | X |  |  | X |
| Status | status | Status of the challenge, e.g. qualified, matched, planned, assigned, started and published |  | X | X |  |  | X |
|  |  |  |  |  |  |  |  |  |
| **Contact** |  |  |  |  |  |  |  |  |
| Contact Name | coName | Name of the central POC. | X |  | X |  |  | X |
| Contact Title | coTitle |  | X |  | X |  |  | X |
| Contact Email | coEmail |  | X |  | X |  |  | X |
| Contact Phone | coPhone |  | X |  | X |  |  | X |
| Contact Opt-In | coOptIn | Opt-in for further communication, e.g. DTLab newsletter | X |  | X |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Organization** |  |  |  |  |  |  |  |  |
| Organization Title | orgaTitle | An Organization might have multiple POCs and challenges | X | X | X | X | X | X |
| Organization City | orgaLocat |  | X | X | X | X | X | X |
| Organization Mission | orgaMission |  | X |  | X |  |  |  |
| Organization Website | orgaWebsite |  | X |  | X |  |  |  |
| Submission Date | orgaDate | The date the challenge proposal was submitted |  |  | X | X | X |  |
|  |  |  |  |  |  |  |  |  |
| **Challenge** |  |  |  |  |  |  |  |  |
| Challenge Statement | chaStatem | In the format “How might we … for … so that …” | X |  | X |  | X | X |
| Challenge Description | chaDes |  | X |  | X |  | X | X |
| Challenge Stakeholders | chaStak | Who are the key stakeholders? Do the support the challenge? | X |  | X |  | X |  |
| Challenge Background | chaBac | What has the challenge sponsor already done to solve the challenge? | X |  | X |  | X |  |
| Challenge Support | chaSup | How does the challenge sponsor plan to support the challenge (people, knowledge, data etc.)? | X |  | X |  | X |  |
| Leadership Support | leadSup | Does the challenge have leadership support? | X |  | X |  | X |  |
| Criteria of Success | critOfSuc | When would a challenge be successful for the sponsor? | X |  | X |  | X |  |
| Next Steps | nextStep | How does the challenge sponsor intend to turn results to life? | X |  | X |  | X |  |
| Publish check | publCheck | Are we have the permission to publish the challenge? | X |  | X |  |  |  |
| **Review** |  |  |  |  |  |  |  |  |
| Challenge Title | chatitle | To be filled out by CIC coordinator. |  | X | X | X | X | X |
| Challenge Image |  | Representative image |  | X | X | X | X | X |
| Theme | theme | List of tags to describe the theme of a challenge, e.g. healthcare, sustainability. To be filled out by CIC coordinator. We should work with a taxonomy |  | X | X | X | X | X |
| Technology | technology | List of tags to describe technology, e.g. IoT, ML. To be filled out by CIC coordinator. We should work with a taxonomy |  | X | X | X | X | X |
|  |  |  |  |  |  |  |  |  |
| **Scoring** |  |  |  |  |  |  |  |  |
| Reputation | repu | Reputation of the PS org (lighthouse customer) |  |  | X |  |  |  |
| Feasibility | feasibil | Intention and capability of PS org to turn ideas to life |  |  | X |  |  |  |
| Impact | impact | societal impact |  |  | X |  |  |  |
| Scalability | scalabil | Reproducible ideas that can be applied globally |  |  | X |  |  |  |
| Alignment | aligment | Strategic alignment with DTLab goals. |  |  | X |  |  |  |
| Prototype | prototype | 1 for demonstrator, 3 for technical prototype and 5 for pilot |  |  | X |  |  |  |
| Score | score | Calculated sum, no weights |  | X | X |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Type** |  |  |  |  |  |  |  |  |
| Challenge Type | type | Type, e.g. student project, capstone project or student challenge |  | X | X | X |  | X |
| Comment | comment | Free text for comments from DTLab Coordinator |  |  | X |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Matching** |  |  |  |  |  |  |  |  |
| Faculty | faculty | Note that multiple professors might collaborate with their students. In that case we need a primary POC but also want to capture the other students |  |  | X |  |  | X |
| Professor | prof |  |  |  | X |  |  | X |
| Email | matchEmail |  |  |  | X |  |  | X |
| Number of Teams | numberOfT |  |  |  | X |  |  | X |
| Number of Students | numberOfS |  |  |  | X |  |  | X |
|  |  |  |  |  |  |  |  |  |
| **Plan** |  |  |  |  |  |  |  |  |
| Start Date | startDate |  |  |  | X |  |  | X |
| End Date | endDate |  |  |  | X |  |  | X |
| Cohort | cohort | Eg. Winter Semester 21/22 |  |  | X |  |  | X |
| Milestones | milestone | List of key milestones, e.g. workshops or final presentation |  |  | X |  |  | X |
|  |  |  |  |  |  |  |  |  |
| **Result** |  |  |  |  |  |  |  |  |
| Publication URL | publURL |  |  |  | X |  |  |  |
| GitHub URL | gitHubURL |  |  |  | X |  |  |  |
| Publication Date | publDate |  |  |  | X |  |  |  |
|  |  |  |  |  |  |  |  |  |

# Appendix 3: Challenge Phase and Status

|  |  |  |
| --- | --- | --- |
| **Phase** | **Status** | **Description** |
| Identify | Exploring | We are reaching out and exploring |
|  | Applied | A challenge sponsor has submitted a proposal |
|  | Qualified/Disqualified | The proposal has been qualified / disqualified as a challenge. In case of disqualification it may still be listed in the proposal gallery. |
| Engage | Matched | A proposal has been matched to a challenge giver. |
|  | Planned | A challenge has been fully planned and is ready for execution |
| Define | Executing |  |
| Build | Executing |  |
| Realize Value | Presented | The exec presentation has taken place |
|  | Published | The challenge results are published |