Improving The Definition of Software Development Projects Through Design Thinking Led Collaboration Workshops

Extended Abstract

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Software development projects need clear agreed goals, a provable value proposition and key stakeholder commitment. Employing Design Thinking methods to focus the expertise of workshop participants can uncover and support these needs.

"Design thinking refers to creative strategies designers use during the process of designing. It is also an approach to resolve issues outside of professional design practice, such as in business and social contexts. Design thinking in business uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity."
- Wikipedia 2017

"Thinking like a designer can transform the way organizations develop products, services, processes, and strategy. This approach, which IDEO calls design thinking, brings together what is desirable from a human point of view with what is technologically feasible and economically viable." - Ideo 2018

"Throughout history, good designers have applied a human-centric creative process to build meaningful and effective solutions….Jakob Nielsen says "a wonderful interface solving the wrong problem will fail." Design thinking unfetters creative energies and focuses them on the right problem." - Sarah Gibbons, NNGroup July 2016

This presentation will cover how the workshops were designed, using initial trials of a proposed workshop approach and ongoing review of workshops and design sprints.

The Data61 User Experience and Design team lead Design Thinking collaboration workshops as professional practice with cross-functional groups during engagements with clients and product teams on data/digital platforms for delivery to clients or an offering going to market.

These workshops have also brought about a significant positive cultural change in our organization, affecting how projects travel from business initiation to delivery, where we have moved from "feature led" to "experience led" approaches, reducing the reliance on prescriptive requests of design and development and supporting realistic delivery expectations. The result is business is better connected with design and engineering and all organizational disciplines are supported by:

- **Momentum:** Early delivery to demonstrate value
- **Collaboration:** Clients, operational users, business leads, engineer, researcher and designer discuss the opportunity and agree on an outcome together, in the same space and time frame.
- **Delivery:** Outline clear steps towards delivering something of real value to the operational users through problem definition and reframing of the

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opportunity from the operational user's point of view.

This talk will present findings from a total of 54 Design Thinking workshops and 5x5 day co-design sprints run from Sept 2016 - Oct 2017 and will explain the 4 goals achieved:

- **Innovation:** Better exploration of user needs (pull) in the early stage of a project in sympathy with an innovation proposition (push).
- **Rabbit Holes:** Appropriately surface unknowns around technology, data and business needs.
- **Scope:** Use objective facilitation to focus on problem definition and to set agreed outcomes.
- **Speed:** Achieve some level of reliable repeatability without being "cookie cutter".

The use of this approach will be illustrated using three short case studies from three different application domains: Investment decision support via geospatial data, innovation opportunities in agricultural tech, and large volume document analytics in infrastructure compliance.

The presentation will look at the standard formats we have developed for user and stakeholder needs, co-innovation partnership opportunities and 5 day co-design sprints (adapted from the Google Ventures 5 Day Sprint). It will look in detail at the framework that places the people who will ultimately operate these systems as the centre, working outwards to understand their needs, how to introduce the technology innovations to shake up conventional thinking and finally moving towards mapping use cases from which first stage deliverables can be set. This framework is comprised of:

- "Who, Why, How and What"
- The value of planning and pre-work
- How to manage stakeholder expectations
- Using technology demos to accelerate possibilities
- Having the "right" people in the room
- Avoiding group think

Key learnings from our approach include getting internal stakeholder support for workshops, the characteristics of a good format and how to balance domain expertise with user centred design practices.

Lastly, the talk will also cover the kinds of skills needed for facilitation and when a workshop isn't right for every project.