Mastek approach to applying Design Thinking for Requirement Analysis in the Digital Era
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Agenda

• Why Design Thinking?

• Mastek’s approach for applying Design Thinking to Requirements Analysis

• Case Study
Key Takeaways

• A step by step approach for applying Design Thinking principles to Requirements Analysis

• Techniques and tips for applying this approach to your projects

• How to use this approach in Agile projects too
The Digital Disruption

- 10X the innovators
- 1/10 the cost
- 100X the power

Source: “The Digital Disruptor’s Handbook” Forrester
How do we Bridge the Gap?

Existing Approaches
• Process Centric
• Real end user needs missed
• Limited Scope for Innovation

Customer Expectations
• Simple
• Convenient
• Frictionless

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The Realisation: An Unified Approach

- Technology
- Automation

- Emotion
- Empathy
- Creativity
D(Req)$^T$ way out!!

D(Req)$^T$

/dɪˈɛkt/, /dərˈɛkt/, /dəˈɛkt/

D - Design Thinking

(Req)$^T$ - Requirements Analysis in a time bound manner.

A Requirements Analysis approach for the digital era that applies principles of design thinking to best practices of requirements analysis to create user centric & innovative solutions and systems.(leveraging Stanford's design thinking templates)
Design Thinking and the D(Req)T Approach

Empathize  Define  Ideate  Prototype  Test

Business Foundation

1. Clarify Context
2. Understand and Empathize
3. Ideate Innovate and Prototype
4. Build & Test

The D(Req)T Approach

* Courtesy: Stanford Design School
Apprenticeship funding

1000+ Colleges

4 Billion GBP pa

2 million apprenticeships

50% increase by 2020

High Quality

Right Skills

“Digital First” for Employer Ownership

The Challenge

• Understand diverse Employer needs and attitudes

• Encourage participation and Ownership amongst the employers
D(Req)T Step 1. Clarify the context

Visioning Workshop : Create Vision Board

• What is the Vision of the project?
• Who are my target users?
• What are the needs?
• What are the top features of the application?
• How will it meet business value?
• How will I measure the success?

<table>
<thead>
<tr>
<th>Vision Statement</th>
<th>To give employers greater ownership of apprenticeships and apprenticeship funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Group</strong></td>
<td><strong>Needs</strong></td>
</tr>
<tr>
<td>Primary</td>
<td>Single portal to take employer from initial interest through to apprenticeship completion</td>
</tr>
<tr>
<td>• Micro employers</td>
<td>Easy-to-use system with minimal bureaucracy</td>
</tr>
<tr>
<td>• Small employers</td>
<td>Clear and simple information about:</td>
</tr>
<tr>
<td>• Medium employers</td>
<td>apprenticeship standards</td>
</tr>
<tr>
<td>• Large employers</td>
<td>funding available and the amount employers will need to contribute</td>
</tr>
<tr>
<td>Secondary</td>
<td>training providers including services, price, geography and quality</td>
</tr>
<tr>
<td>• Training providers</td>
<td>Help to find, compare, select and contract with training providers and assessment organisations</td>
</tr>
<tr>
<td>• Assessment organisations</td>
<td>Awareness and control of apprenticeship funding including:</td>
</tr>
<tr>
<td>• Direct grant employers</td>
<td>• initial purchasing decision</td>
</tr>
<tr>
<td>Not in Scope</td>
<td>• payments and release of funding to providers</td>
</tr>
<tr>
<td>• Apprentices although the service will interact with other services such as Find an Apprenticeship</td>
<td>• tracking funding and payments</td>
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<td></td>
<td>• Greater transparency about government investment and the role of providers</td>
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<td></td>
<td>• Ability to save relevant information</td>
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</tbody>
</table>

Vision Board Snap Shot
D(Req)\textsuperscript{T} Step 1. The Output : Vision Board

- Articulate features
- Clarity on target users
- Articulated Value
  - Better quality, responsive apprentices
  - Improved employer satisfaction and engagement
  - More employers take on apprenticeships

**Tips**
- Keep it Simple
- Use the Whiteboard/ Wall
- Simple Diagrams and mock ups
- Display the Vision Board in a prominent place in the Design thinking room
D(Req)$^T$ Step 2. Understand and Empathize

2.1. Collect Data
2.2. Group Data
2.3. Define Persona
2.4. Refine Personas
2.1 Collecting Data

- Capture Behaviors, Assumptions & Expectations
- Capture Pictures of work place
- Interview with Empathy (Empathy Maps)

Empathy Map Template

* Courtesy: Stanford design School

*Courtesy: Stanford design School*
2.2 Group the Data

Tips

- Identifying Focus vs Accuracy
- Perspective of Differences
- If in doubt: Refer Target users on Vision board

• Groups based on Goals, Needs, Problems, Thinking

• Demography, type of user, technology they use, how comfortable they are etc.

• Separate the fluff from relevant information.
2.3 Create Personas

- Classify, Name, Relate
- Identify characteristics
- Relate to target users
- Keep it real

Personas (Overview)

Low Volume

<table>
<thead>
<tr>
<th>Assertive collaborator</th>
<th>Happy passenger</th>
<th>Cautious controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susan</td>
<td>Clark</td>
<td>Rudy</td>
</tr>
<tr>
<td>Law firm</td>
<td>Hairdresser</td>
<td>Mechanic</td>
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</tbody>
</table>

High Volume

<table>
<thead>
<tr>
<th>Autonomous leader</th>
<th>Autonomous leader</th>
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</thead>
<tbody>
<tr>
<td>Lisa</td>
<td>Sean</td>
</tr>
<tr>
<td>Training manager</td>
<td>Data Manager (Direct Grant)</td>
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</tbody>
</table>

I want to be in control, but I am too busy to do everything myself.

My college do everything. Simple Right?

The college was a nightmare last time, I’d rather do it myself.

Apprenticeships are essential for us to meet our high recruitment needs.

We want to be a leader for apprenticeships in our sector.
2.4 Refine the Personas

- Brainstorm to refine understanding
- Create & display posters
- Share with as many colleagues
- Bring them to life

Susan

“I want to be in control, but I am too busy to do everything myself”

Susan is the founding partner in a law firm. She sees her business as unique and has a strong vision for its direction. Susan cares about her firm the same way she cares about herself – image and perception are everything. She wants her firm to bring something different than its competitors and she works hard to achieve this.

Although her firm has not had an apprentice before she feels one would help her stand out from the crowd – she wants someone to mould in her image. She will pay to get the best for her firm, and wants to bring in someone that will make a difference. She has a clear vision of the person they recruit but is far too busy to take the task on fully herself.

<table>
<thead>
<tr>
<th>Behaviours</th>
<th>I need</th>
<th>Entry points</th>
<th>Pain points</th>
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<tbody>
<tr>
<td>Will look for a provider who offers more services</td>
<td>• to be involved throughout recruitment so I know the right steps are being taken to find me the right person</td>
<td>Advertising</td>
<td>• Needs an understanding of funding if she is able to successfully negotiate with provider.</td>
</tr>
<tr>
<td>Will pay the provider to manage recruitment</td>
<td>• to find the right person who fits my business so that I can help it to grow</td>
<td>Google</td>
<td>• Complexity around funding and hidden costs would make this difficult.</td>
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<tr>
<td>Works with HR and finance to manage the process</td>
<td>• to have a flexible approach to recruitment so I can delegate to others at my firm, or to the provider</td>
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<tr>
<td>Will recruit 19+ to get the best person</td>
<td>• clear and transparent information in plain English, so that I can make decisions and be fully informed</td>
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<tr>
<td>Will target high profile providers &amp; candidates</td>
<td>• an understanding of the process so I know what affects me</td>
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<td></td>
<td>• a simple fast online service where everything is in one place so that I can find relevant information around recruitment/funding as &amp; when I need it</td>
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<td>• easy access to help as &amp; when I need it, so I can seek reassurance, clarify &amp; feel confident making decisions</td>
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<td>• a timely recruitment process so that I can find someone as &amp; when I need them</td>
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<td>• to understand the options around provider selection so I can choose the right one for me</td>
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<td>• to know what apprenticeship suits my business and where the training is held so that I can find the right fit</td>
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<td>• to understand the personality of the candidates ahead of the their academic skills so I can find the right fit</td>
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<td>• to understand what candidates are available in the marketplace so I can target quality people</td>
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<td>• to understand the costs involved so I can plan my budget</td>
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<td>• to understand what funding I am eligible for so that I can minimise my cost</td>
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<td>• to negotiate the cost with the provider so I get the best value for money</td>
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<td>• to know how my apprentice is getting on so I can check they are on target</td>
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### D(Req)ᵀ Step 2: The Output

#### Activities owned by employer Yes/No

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<thead>
<tr>
<th></th>
<th>Choose standard or framework</th>
<th>Choose provider</th>
<th>Register business with SFA</th>
<th>Write advert</th>
<th>Sift applicants</th>
<th>Interview applicants</th>
<th>Make the job offer</th>
<th>Reject unsuccessful</th>
<th>Register the Apprentice</th>
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- **Refined Personas**
- **User needs based on personas**
- **Persona based prioritization**
- **Key User Needs emerged**
  - Easy Access
  - Understanding the funding
  - Clarity about the actual costs

**High Volume group Deprioritized**

**Mapping to Agile**
“Epics will emerge to create and Prioritize Product Back Log.”
D(Req)$^T$ Step 3. Ideate, Innovate and Prototype

- Brainstorm to ideate on each persona and needs
- Create User Journeys
- Encourage innovative ideas
- Prototypes with just enough details for feedback
- Seek Feedback “I like, I wish, What if..?” (Stanford approach)

I Like that “I am able to see the fund split”

I Wish “I could get easy help to resolve funding queries”

What If ” I could compare provider costs
D(Req)ᵀ Step 3: The Outputs

User Journey

Prototype

Training Providers

- Oldhaven Squires College
- Malvernion College
- Yfowedya Kings College

Apprenticeship standard

Professional Accounting Technician
Individuals in the role of a Professional Accounting Technician will have responsibility for creating, and/or verifying and reviewing...

Estimated cost £8000
Add a standard

Your funding explained

- Estimated cost £8000
- Government: 75% £6000
- Employe: 25% £2000

1. Costs vary between training providers
2. Government funding available up to £6000

Mapping to Agile
“Collaborative refinement of user stories for emerging clarity.”

INNOVATION • THOUGHT LEADERSHIP • SHARING
D(Req)\textsuperscript{T} Step 4. Build and Test

- Enhance prototype
- Continuous interaction with user groups for feedback
- Testing from User perspective and not “Tester” perspective
- “Real Feedback” and buy in
D(Req)^T helps bridge the gap!

- Understand Real End User Needs
- Capture User Centric requirements
- Create Opportunities for Innovation
- Requirement Approach for the Digital Era

D(Req)^T
Any Questions?

Thank You