“Methodology of a socio-technical approach to sharing knowledge and promoting dialogue on energy efficiency via use of a Knowledge and Communication Platform across six communities”  
(ENTRUST)
Content

• IES
• IES R&D background
• ENTRUST
• Knowledge and Communication platform
• Smartphone application / dynamic website
  • Knowledge content
  • Knowledge base
  • Community feed
  • Gamification
• Future work
IES
(Integrated Environmental Solutions)
Background (IES Ltd)

• Integrated Environmental Solutions (IES Ltd)
  • [http://www.iesve.com](http://www.iesve.com)

• Founded in 1994 (University of Strathclyde)

• 80 countries

• Headquartered in Glasgow

• 180 staff around the world – majority Glasgow-based

• 20 years experience

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Background (IES Ltd)

• Key International clients

BDP.
SKM
Hyder
Foster + Partners
WSP
Buro Happold
Ramboll
ARUP
Mott MacDonald
Stantec
AECOM
SOM
IES

www.iesve.com

UNited Kingdom | Ireland | United States of America
Background (IES Ltd)

- Over 20 years IES has grown global recognition in creating early-stage to detailed building performance analysis tools

- IESVE tools for different levels of users:
  - IESVE for Engineers
  - IESVE for Architects
  - VE-Toolkits
  - VE-Ware

http://www.iesve.com/

YouTube channel
https://www.youtube.com/user/IESVE
Background (IES Ltd)

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Background (IES Ltd)

• IESVE for Engineers http://www.iesve.com/software/ve-for-engineers
IES R&D background
Background (R&D)

- IES Research and Development (R&D)
  - [https://www.iesve.com/research](https://www.iesve.com/research)

- Funding from both National and European bodies:
  - Scottish Enterprise
  - UK Technology Strategy Board (TSB)
  - European Framework Programme 7 (FP7)
  - European Competitiveness and Innovation (CIP) Framework Programme
  - Horizon 2020

- Areas of R&D:
  - Masterplanning
  - Retrofit
  - Building operation
  - Smart cities
  - ENTRUST
  - CitySums
  - GFC
  - iUrban
  - INDICATE
ENTRUST
ENTRUST - background

https://www.iesve.com/research/smart-cities/entrust

• Energy System Transition Through Stakeholder Activation, Education and Skills Development (ENTRUST)

• New understandings of energy related practices and an intersectional approach to the socio-demographic factors in energy use will be deployed to enhance stakeholder engagement in Europe’s energy transition.

• A key concept informing the research is that of energy citizenship, with a goal of ENTRUST being to enable individuals to overcome barriers of gender, age and socio-economic status to become active participants in their own energy transitions

• European Union’s Horizon 2020 research and innovation programme under grant agreement No 657998
Knowledge and Communication Platform (KCP)
KCP

• Socio-technical approach to sharing knowledge and promoting dialogue on energy efficiency via use of a Knowledge and Communication Platform (KCP) across six communities

• Disseminate and share knowledge.

• Facilitate and promote dialogue on energy efficiency and transitioning to low carbon system.

• Complementary to the ENTRUST project website
Knowledge and Communication Platform (KCP)

Non-expert user

- Tour
- Knowledge base
- Community feed

Non-expert user dynamic website

- Web API (IES)
- STAM DB API

Professional user

- Results viewer (Dashboard)
- Building level simulation (interventions)

KCP website – all users

- Web API (IES)
- STAM DB API

ENTRUST website

- ENTRUST website (OUT OF SCOPE OF WP7, refer to D8.3)

Knowledge platform content (UCC)

- KB CMS API (STAM)
- STAM CMS website (STAM)
- STAM website (STAM)

Out of scope

ICS
Smartphone app / dynamic website
(non-expert user)
Knowledge content

- Communities of practise
  - 6 communities across Europe
  - Interviews
  - Workshops
  - Mini publics

- Public domain
  - Policy
  - Regulation
  - News articles
  - Peer reviewed journals
  - Websites
  - Etc.
<table>
<thead>
<tr>
<th>Article Title</th>
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<tbody>
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User profile

Badge collection.
Graphic shows last badge awarded

User display name

Leaderboard pop-up
Number is current rank

User profile picture

Bar serves progress visualisation:
Shows progress between levels.
Example here, level 4: 234 / 1000 pts.

[current total score] / [score necessary to reach next lv.]
Gamification

• Points system

  • Facilitate and promote dialogue on energy efficiency and transitioning to low carbon system.
  • Points received by a user for in-application activities within KB/CF

<table>
<thead>
<tr>
<th>Activities</th>
<th>Points</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>500</td>
<td>One-off</td>
</tr>
<tr>
<td>Receive points for commenting on an article (KB)</td>
<td>50</td>
<td>Users initial comment</td>
</tr>
<tr>
<td>Receive points for replying to an article post (KB)</td>
<td>50</td>
<td>Per reply</td>
</tr>
<tr>
<td>Receive points for sharing an article (KB)</td>
<td>50</td>
<td>Per share</td>
</tr>
<tr>
<td>Receive points if your comment is up-voted by others (KB)</td>
<td>10</td>
<td>Per up-vote</td>
</tr>
<tr>
<td>Lose points if your comment is down-voted by others (KB)</td>
<td>-10</td>
<td>Per down-vote</td>
</tr>
<tr>
<td>Receive points for creating a new post (CF)</td>
<td>250</td>
<td>One-off</td>
</tr>
<tr>
<td>Receive points for replying to a post (CF)</td>
<td>50</td>
<td>Per reply</td>
</tr>
<tr>
<td>Receive points if your comment is up-voted by others (CF)</td>
<td>10</td>
<td>Per up-vote</td>
</tr>
<tr>
<td>Lose points if your comment is down-voted by others (CF)</td>
<td>-10</td>
<td>Per down-vote</td>
</tr>
</tbody>
</table>

KB = Knowledge base, CF = Community feed
Gamification

• Badge system

  • Registration badge is a one-off award
  • Level badges are given at discrete intervals in relation to a user’s points-score tally.

<table>
<thead>
<tr>
<th>Levels</th>
<th>0</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>...</th>
<th>10</th>
<th>11</th>
<th>...</th>
<th>15</th>
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</thead>
<tbody>
<tr>
<td>Points</td>
<td>0</td>
<td>500</td>
<td>1000</td>
<td>2000</td>
<td>...</td>
<td>10,000</td>
<td>20,000</td>
<td>...</td>
<td>60,000</td>
</tr>
<tr>
<td>Registration</td>
<td>-</td>
<td>✨</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Level badges</td>
<td>-</td>
<td>-</td>
<td>I</td>
<td>II</td>
<td>...</td>
<td>X</td>
<td>XI</td>
<td>...</td>
<td>XV</td>
</tr>
</tbody>
</table>
• **Badge system**

• **Repeated in-application activities within KB/CF**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Beginner award (Occurrence)</th>
<th>Novice award (Occurrence)</th>
<th>Intermediate award (Occurrence)</th>
<th>Expert award (Occurrence)</th>
<th>Champion award (Occurrence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive points for commenting on an article (KB)</td>
<td>1</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Receive points for replying to an article post (KB)</td>
<td>1</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Receive points for sharing an article (KB)</td>
<td>1</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Receive points for creating a new post (KB)</td>
<td>1</td>
<td>10</td>
<td>30</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Receive points for replying to a post (CF)</td>
<td>1</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Up-votes (received by other users) (KB/CF)</td>
<td>1</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

*KB = Knowledge base, CF = Community feed*
Smartphone app / dynamic website

- Future works

  - Agile software development
  - Sprint planning
  - Prototype testing/iterative feedback
    - Front/back-end integration
  - Development deadline September 2017
  - Integrate with final KCP January 2017
Thank you!

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