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“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

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- 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>
- Founded in 1994 (University of Strathclyde)
- 80 countries
- Headquartered in Glasgow
- 180 staff around the world – majority Glasgow-based
- 20 years experience

# Background (IES Ltd)



- Key International clients



# Background (IES Ltd)



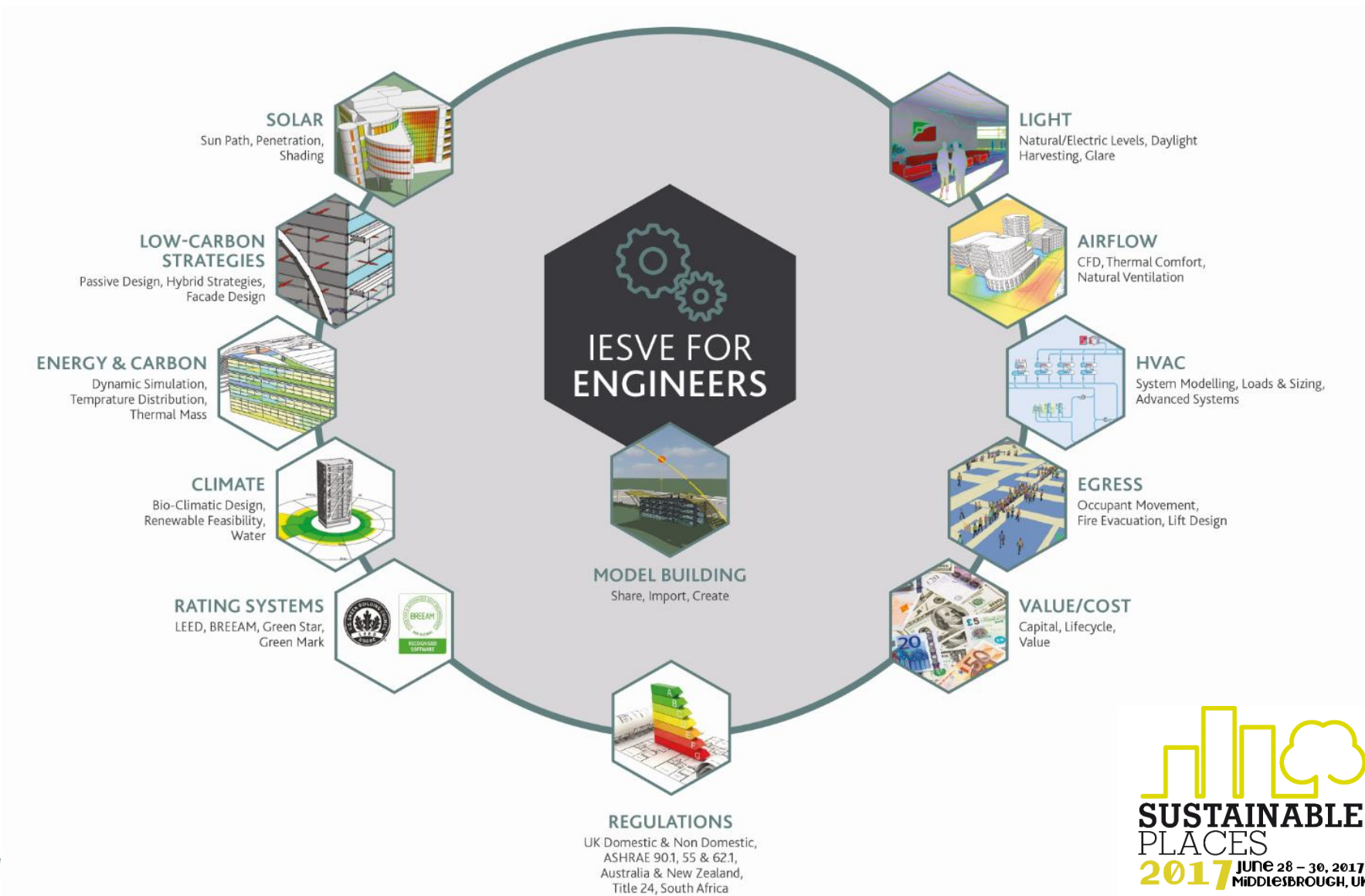
- Over 20 years IES has grown global recognition in creating early-stage to detailed building performance analysis tools
- IESVE tools for different levels of users:
  - IESVE for Engineers
  - IESVE for Architects
  - VE-Toolkits
  - VE-Ware

<http://www.iesve.com/>

YouTube channel

<https://www.youtube.com/user/IESVE>

# Background (IES Ltd)

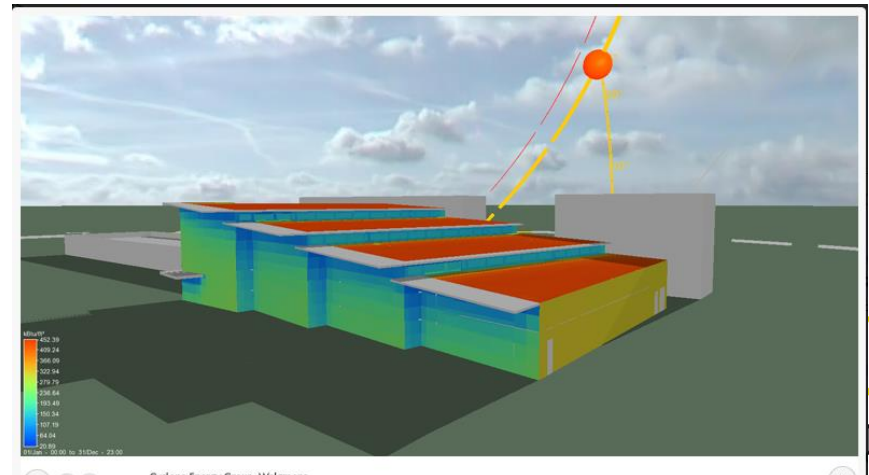
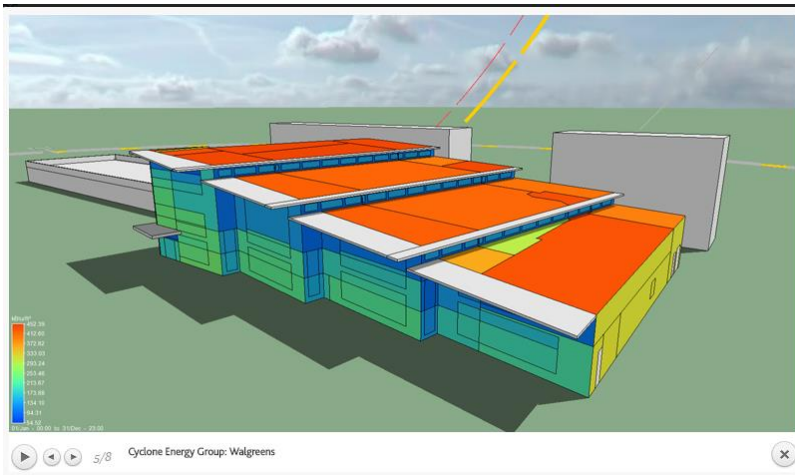




# Background (IES Ltd)



- 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>
- 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

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- **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

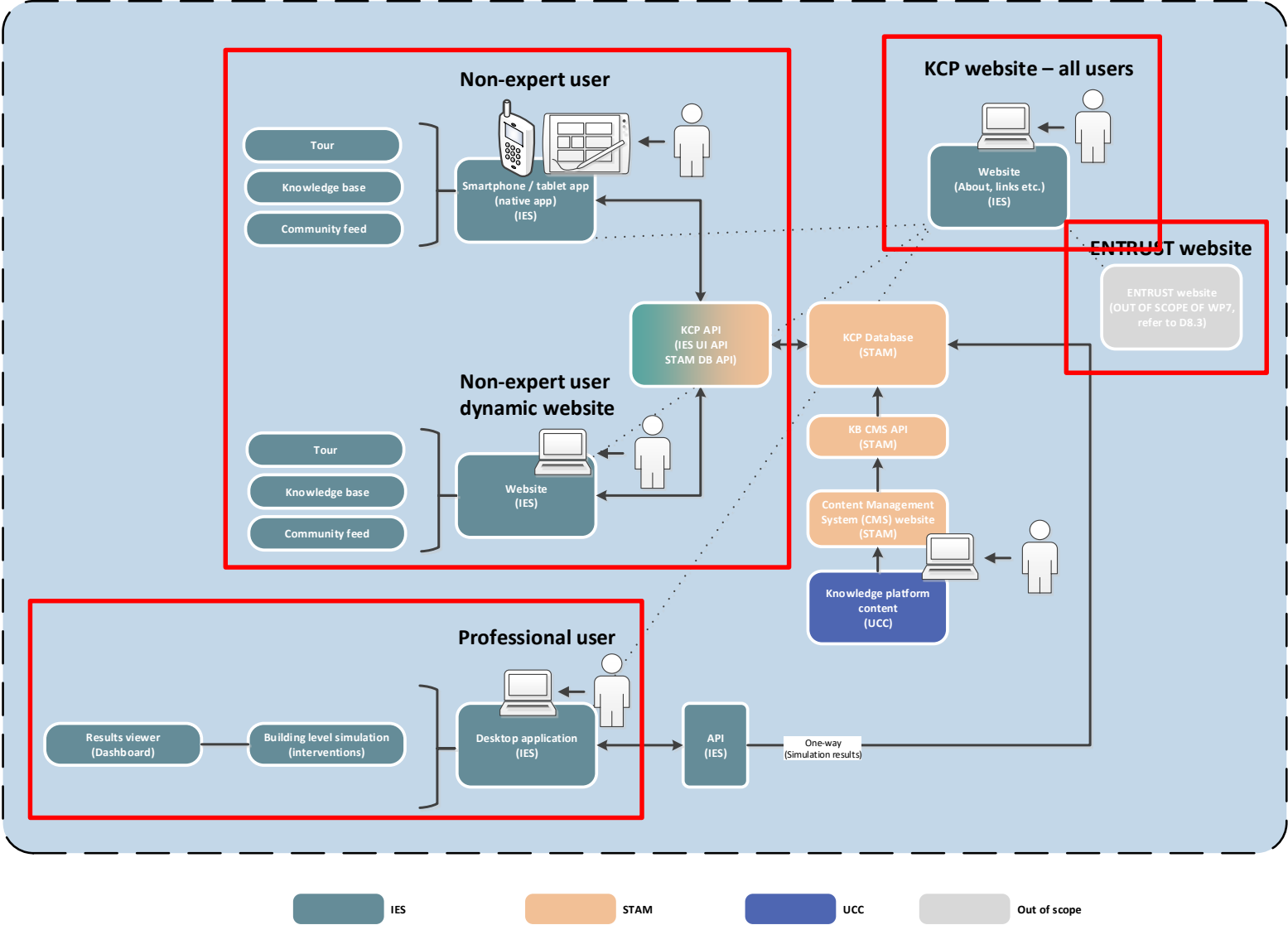


- Socio-technical approach to sharing knowledge and promoting dialogue on energy efficiency via use of a Knowledge and Communication Platform (KCP) across six communities
- Disseminate and share knowledge.
- Facilitate and promote dialogue on energy efficiency and transitioning to low carbon system.
- Complementary to the ENTRUST project website

# KCP



## Knowledge and Communication Platform (KCP)



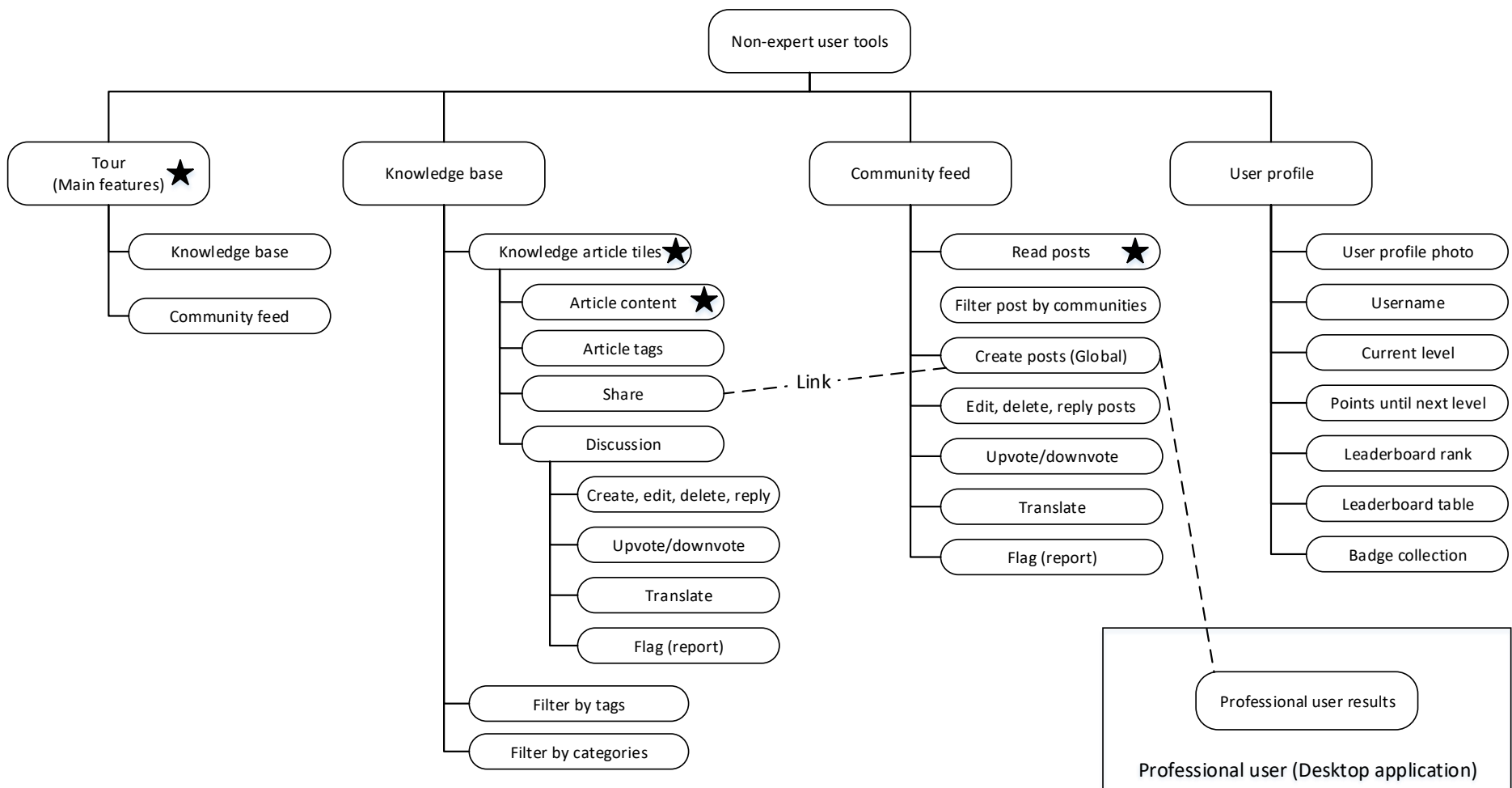




# Smartphone app / dynamic website (non-expert user)



# Overview



# Knowledge content



- Communities of practise
  - 6 communities across Europe
  - Interviews
  - Workshops
  - Mini publics
- Public domain
  - Policy
  - Regulation
  - News articles
  - Peer reviewed journals
  - Websites
  - Etc.



# Knowledge base

The image displays three sequential wireframe versions of a website, illustrating a user registration flow. The first wireframe shows the homepage layout, including a header with a 'Not registered? Sign up!' link, a navigation bar with 'Knowledge base' and 'Community' tabs, and a filter section with 'FILTER BY CATEGORY' (category 1, category 2, category 3) and 'SUB-FILTER BY TAG' (tag A, tag B, tag C, tag D). Below the filters are two article teasers: 'Samsung just got approval to start testing a self-driving car' and 'Best Credit Cards for 2017'. The second wireframe shows the same layout, but with a blue arrow pointing to the 'Sign up!' button in the header. The third wireframe shows the same layout, but with a blue arrow pointing to a 'Sign up!' modal that is open. The modal contains a registration form with fields for 'Email', 'Nickname', 'UCC Ireland' (a dropdown menu), and 'password', followed by a 'Register' button. The flow is indicated by blue arrows: from the 'Sign up!' button in the first wireframe to the 'Sign up!' modal in the third wireframe, and from the 'View full article' button in the second wireframe to the 'View full article' button in the third wireframe.

# Knowledge base



Michael Close #3  
1500pts / 4000pts



## Knowledge base

## Community

FILTER BY CATEGORY

- Category 1
- Category 2
- Category 3
- Category 4

FILTER BY TAG

- Tag 1
- Tag 2
- Tag 3
- Tag 4

### Article 1 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

View full article

### Article 2 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

View full article

### Article 3 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

View full article

### Article 4 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

View full article

### Article 5 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

View full article

### Article 6 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

View full article

### Article 7 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

### Article 8 Title

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...

### Article 9 Title

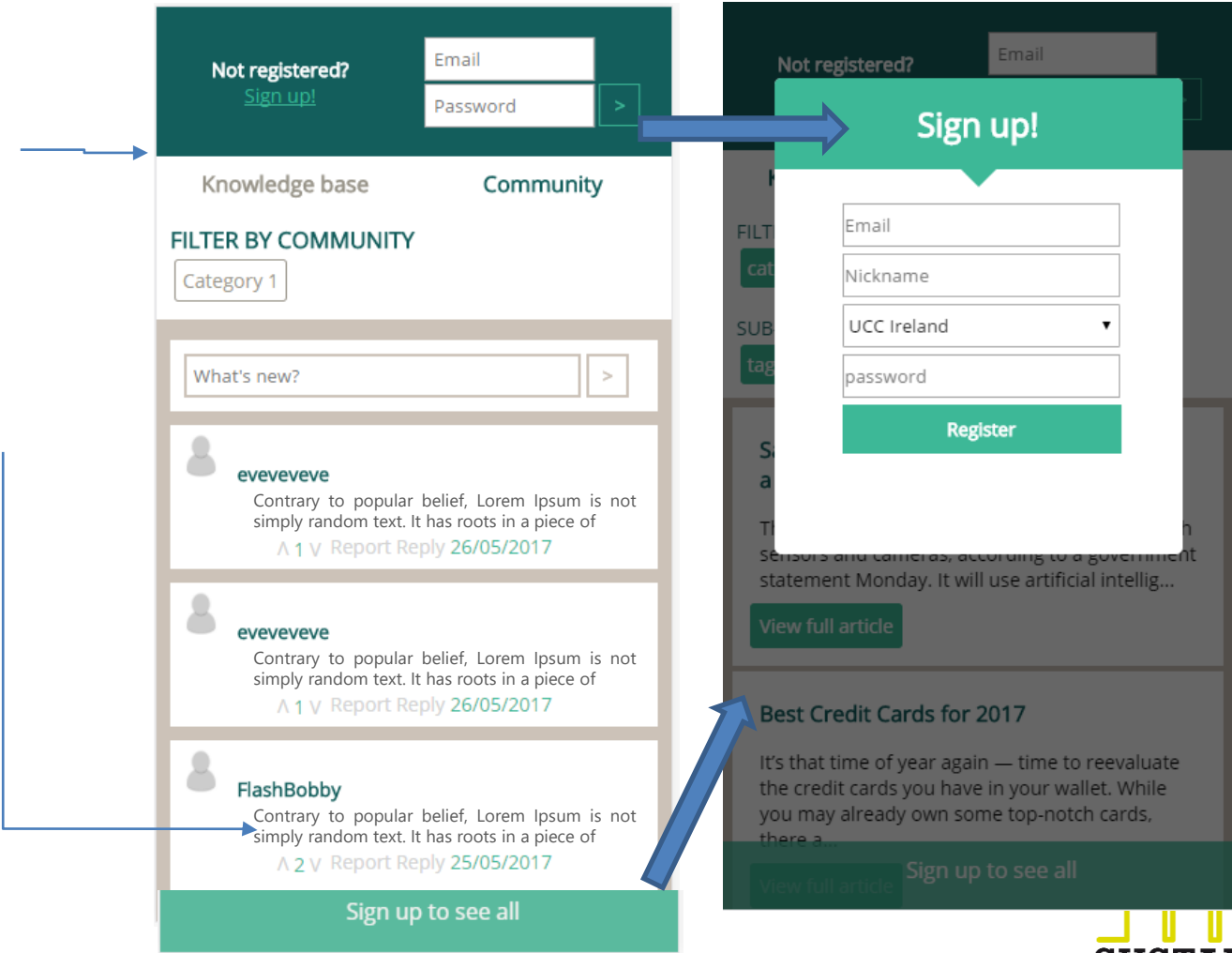
Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 20...



# Community feed

GUI translated  
<English, French,  
Italian, Spanish>

Post translated  
<English, French,  
Italian, Spanish>





# User profile

Badge collection.  
Graphic shows last badge awarded

Leaderboard pop-up  
Number is current rank

User display  
name

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.]

The image shows a mobile app interface for a user profile. It features a dark green background with a black header bar at the top. The header bar contains a status bar with signal strength, battery, and time (7:01). Below the header, the user's name is displayed as '<User name>'. To the right of the name is a small icon of a badge and a rank indicator '#3'. Below the name is a progress bar with a green fill, showing the current score '1500pts' out of the total '4000pts'. To the right of the progress bar is a circular placeholder for a user profile picture. A vertical menu icon is visible on the far right. Blue arrows point from text labels to these specific UI elements.





# 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






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

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.

Levels	0	0	1	2	...	10	11	...	15
Points	0	500	1000	2000	...	10,000	20,000	...	60,000
Registration	-		-	-	-	-	-	-	-
Level badges	-	-			...			...	

# Gamification

- Badge system
  - Repeated in-application activities within KB/CF

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

# Smartphone app / dynamic website

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- 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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