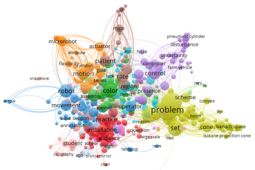
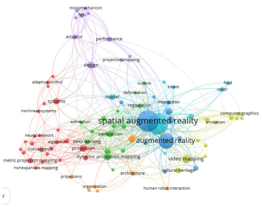
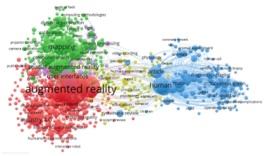
SPATIUM:

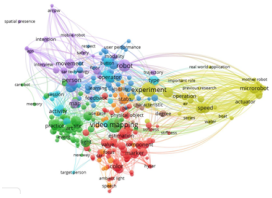
Article title:

SPATIAL VIDEO PROJECTION AND PUBLIC OPEN SPACES: A DISTINCT BIBLIOMETRIC STUDY APPROACH

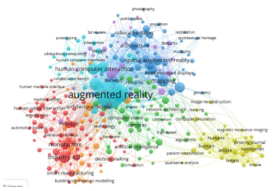
Supportive analysis document:

Table-3: *Displays the database bibliometric map layouts that were generated by VOSviewer using text and bibliographic data analysis for each group of words, and summarizes the main observations related to these maps.*

<table>
<tr><td colspan="4">Group 1 searched: "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*"</td></tr>
<tr><td colspan="2">WOS</td><td colspan="2">Scopus</td></tr>
<tr><td>Text-data-based bibliometric map</td><td>Bibliographic-data-based bibliometric map</td><td>Text-data-based bibliometric map</td><td>Bibliographic-data-based bibliometric map</td></tr>
<tr><td>  </td><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Main observations:
Dominant words: problems, color, and installations.
Level of dominance: barely noticed *
linkage: None
** Other noticed words expected to be in relation with this study topic: None</td><td>main observations:
Dominant words: Spatial augmented reality, augmented reality, and virtual reality ascendingly.
Level of dominance: noticed * for the three mentioned words.
linkage: None
** Other noticed words expected to be in relation to this study topic: adaptive control, nonexpansive mapping, dynamic projection mapping, video mapping, cultural heritage, architecture, projection mapping, calibration, surface interaction, and animation.</td><td>Text-data-based bibliometric map main observations:
Dominant words: Projector, patient, heritage, and case.
Level of dominance: slightly noticed *
linkage: slightly noticed *
** Other noticed words expected to be in relation with this study topic: None</td><td>main observations:
Dominant words: augmented reality, mapping, spatial augmented reality, and human.
Level of dominance: noticeable *
linkage: noticeable *
** Other noticed words expected to be in relation to this study topic: projector calibration, camera calibration, calibration, mapping, public space, computer vision, dynamic projection, image processing, visual perception, design spaces, extended reality, user interface.</td></tr>
<tr><td colspan="4">Group 2 searched: "public open spaces*" AND "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*"</td></tr>
<tr><td colspan="2">WOS</td><td colspan="2">Scopus</td></tr>
<tr><td>Text-data-based bibliometric map</td><td>Bibliographic-data-based bibliometric map</td><td>Text-data-based bibliometric map</td><td>Bibliographic-data-based bibliometric map</td></tr>
</table>

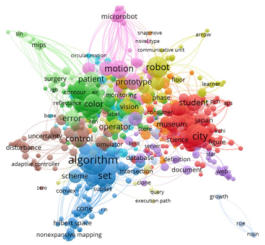
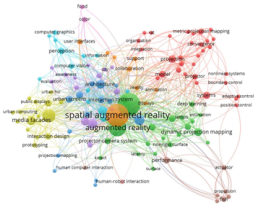
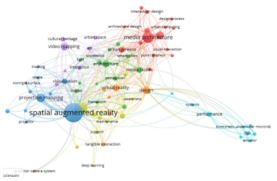
			
main observations: Dominant words: video mapping, practice, and activity. Level of dominance: moderate * linkage: slightly noticed * ** Other noticed words expected to be in relation to this study topic: art, site, event, SAR technology, spatial presence, visibility, operation, speed. Real-world application, important role,	**map main observations:** Dominant words: Spatial augmented reality and augmented reality ascendingly. Level of dominance: noticed * for these mentioned words. linkage: slightly noticed * ** Other noticed words expected to be in relation to this study topic: Video mapping, calibration, visualization, projector-camera system, cultural heritage, architecture, user interfaces, and virtual reality.	**main observations:** Dominant words: none. Level of dominance: None linkage: barely noticed * ** Other noticed words expected to be in relation to this study topic: projection mapping, concept, designer, communication, physical environment, content, digital twin, smart environment, HMD, efficiency.	**main observations:** Dominant words: augmented reality, virtual reality, and mixed reality. Level of dominance: slightly noticeable * linkage: slightly noticed ** Other noticed words expected to be in relation with this study topic: user interface, head-mounted display, helmet-mounted display, spatial augmented reality, visualization, decision making, extended reality.

Group 3 searched: "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*" AND “architecture*” OR “landscape architecture*” OR “urban design*” OR “urban planning*”

WOS		Scopus	
Text-data-based bibliometric map	**Bibliographic-data-based bibliometric map**	**Text-data-based bibliometric map**	**Bibliographic-data-based bibliometric map**
			
main observations: Dominant words: none. Level of dominance: None linkage: barely noticed * ** Other noticed words expected to be in relation to this study topic: ancient building, video mapping, facade, exhibit, museum, city, area, concept, content, projector, device, reality, modality, light form.	**main observations:** Dominant words: very limited words with a total of 6 (projection mapping, augmented reality, spatial augmented reality, architecture, video mapping, cultural heritage) Level of dominance: None linkage: (noticed) words are very interrelated with architecture as a core word that links all words together. ** Other noticed words expected to be in relation to this study topic: None	**main observations:** Dominant words: industry, surface, and robot. Level of dominance: slightly noticeable * linkage: slightly noticed * ** Other noticed words expected to be in relation to this study topic: graffiti, exhibit, viewpoint.	**main observations:** Dominant words: augmented reality, mapping, and human-computer interaction. Level of dominance: moderately noticeable * linkage: moderately noticeable * ** Other noticed words expected to be in relation to this study topic: human-machine interface, interaction, interfaces, public space, cultural heritage, projection, restoration, head-mounted display, image reconstruction, calibration, mapping.

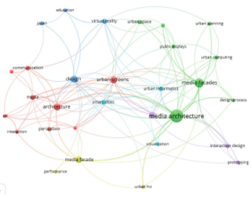
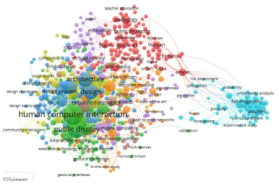
Group 4 searched: "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*" OR "Urban screens*" OR "Media facades*" OR "Media architecture*" OR "Urban media environment*" AND "public open space*"

WOS	Scopus

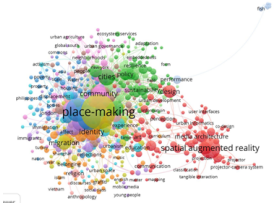
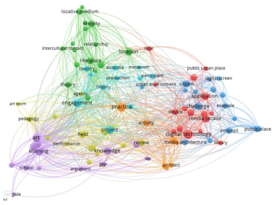
Text-data-based bibliometric map	Bibliographic-data-based bibliometric map	Text-data-based bibliometric map	Bibliographic-data-based bibliometric map
			
main observations: Dominant words: city, and algorithm. Level of dominance: Moderate linkage: slightly noticed * ** Other noticed words expected to be in relation to this study topic: nonexpansive mapping, museum.	**main observations:** Dominant words: Spatial augmented reality and augmented reality Level of dominance: noticed * linkage: noticed moderately * ** Other noticed words expected to be in relation with this study topic: media facade, urban screens, and public displays, urban HCI, perception, architecture, city, interaction design, collaboration, projector-camera system, projection mapping, user interface, human-computer interaction, dynamic projection mapping, non-rigid surface, surface.	**main observations:** Dominant words: very limited words with a total of 5 (place, playful placemaking, city, research, and interaction design). Level of dominance: none. linkage: (noticed *) words are very interrelated with the city as a core word that links all words together. ** Other noticed words expected to be in relation with this study topic: None	**main observations:** Dominant words: very limited words with a total of 4 (tactical urbanism, urban design, public space, and interaction design). Level of dominance: none. linkage: (noticed *) words are very interrelated with (public space) as a core word that links all words together. ** Other noticed words expected to be in relation with this study topic: None
Group 5 searched: "public open space*" AND "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*" OR "Urban screens*" OR "Media facades*" OR "Media architecture*" OR "Urban media environment*"			
WOS		Scopus	
Text-data-based bibliometric map	**Bibliographic-data-based bibliometric map**	**Text-data-based bibliometric map**	**Bibliographic-data-based bibliometric map**
		Same as group 4 above.	Same as group 4 above.
Main observations: Dominant words: projector city, robot, and experiment. Level of dominance: noticed. linkage: noticed moderately * ** Other noticed words expected to be in relation to this study topic: communicative unit, game, viewpoint, spatial, visibility.	**main observations:** Dominant words: Spatial augmented reality, media architecture, and projection mapping. Level of dominance: Moderate * linkage: moderately noticed * ** Other noticed words expected to be in relation to this study topic: interaction design, design process, urban computing, public display, a media facade, awareness, perception, architectural design, visualization, urban	Same as group 4 above.	Same as group 4 above.

	screens, urban space, cultural heritage, video mapping, non-rigid surface, smart cities, virtual reality, projector-camera system.		

Group 6 searched: "Urban screens*" OR "Media facades*" OR "Media architecture*" OR "Urban media environment*"

WOS		Scopus	
Text-data-based bibliometric map	**Bibliographic-data-based bibliometric map**	**Text-data-based bibliometric map**	**Bibliographic-data-based bibliometric map**
			
main observations: Dominant words: system and application. Level of dominance: noticed. linkage: noticed with moderate contrast. ** Other noticed words expected to be in relation to this study topic: communicative unit, museum, play, positioning error.	**main observations:** Dominant words: Spatial augmented reality, media architecture, and media facades. Level of dominance: Moderate * linkage: moderately noticed * ** Other noticed words expected to be in relation to this study topic: urban screen, perception, virtual reality, communication, interaction, architecture, media, public displays, design process, smart cities, urban space, urban planning, urban informatics interaction design, urban computing, visualization, urban HCI.	**main observations:** Dominant words: model, education, and user experience. Level of dominance: slightly noticeable * linkage: slightly noticed * ** Other noticed words expected to be in relation to this study topic: pedagogical space, identity.	**main observations:** Dominant words: human-computer interaction, public display, architecture, and design Level of dominance: moderately noticeable * linkage: moderately noticed * ** Other noticed words expected to be in relation with this study topic: wearable technology, interactive devices, design exploration, design spaces, design challenges, community interaction, interactive display, social spaces, HCI, urban informatics, urban design, space, place, play, public pedagogy, decision making.

Group 7 searched: "place making*" OR "public open space*" AND "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*" OR "Urban screens*" OR "Media facades*" OR "Media architecture*" OR "Urban media environment*"

WOS		Scopus	
Text-data-based bibliometric map	**Bibliographic-data-based bibliometric map**	**Text-data-based bibliometric map**	**Bibliographic-data-based bibliometric map**
			
main observations: Dominant words: system, author, and health. Level of dominance: noticed * linkage: noticed * ** Other noticed words	**main observations:** Dominant words: place-making, Spatial augmented reality, media architecture, and cities. Level of dominance:	**main observations:** Dominant words: None. Level of dominance: None linkage: barely noticed * ** Other noticed words expected to be in relation to	**main observations:** Dominant words: None Level of dominance: None. linkage: barely noticed * ** Other noticed words expected to be in relation to

expected to be in relation to this study topic: Garden.	noticeable * linkage: noticeable * ** Other noticed words expected to be in relation to this study topic: displacement, urban agriculture, belonging, reflections, identity, graffiti, mapping, urbanism, experience, sustainability, neighborhoods, adaptation, urban governance, urban development, perception, communication, urban space, urban informatics, user interface, co-design, projector-camera system, community, mobile-media, activism, young people, meet live.	this study topic: intercultural content, identity, engagement, urban environment, location, public urban place, digital screen digital technology, media facade, digital technology, media architecture, architect, and activity.	this study topic: media façcades digital technologies human-computer interaction participatory design, user experience, place-making, media architecture, urban design, architecture, interaction design, digital placemaking, urban informatics, public space Placemaking, smart city, augmented reality
Group 8 searched: "projection mapping*" OR "spatial augmented reality*" OR "video mapping*" OR "video projection mapping*" OR "spatial video projection*" OR "Urban screens*" OR "Media facades*" OR "Media architecture*" OR "Urban media environment*" AND "place making*" OR "public open space*"			
WOS		Scopus	
Text-data-based bibliometric map	**Bibliographic-data-based bibliometric map**	**Text-data-based bibliometric map**	**Bibliographic-data-based bibliometric map**
		Same as group 7 above.	Same as group 7 above.
main observations: Dominant words: Park, projection mapping, algorithm, and object. Level of dominance: noticeable * linkage: noticeable * ** Other noticed words expected to be in relation to this study topic: park visitation, viewpoint.	**main observations:** Dominant words: Spatial augmented reality, public open space, and built-environment. Level of dominance: noticeable * linkage: noticeable * ** Other noticed words expected to be in relation to this study topic: socio-economic status, perception, access, recreation, urban green space, COVID-19, physical activity, urban parks, equity, land use, urban sprawl, planning public open spaces, quality, play, management, urbanization, cities, public space, landscape, urban planning, climate change, microclimate, outdoor thermal comfort, integration, video mapping, ICT, perception (twice appeared), smart cities, user interface, design process, image processing, media architecture, identity, urban HCI, visualization, recognition, position control, dynamic projection mapping, calibration, parks.	Same as group 7 above.	Same as group 7 above.

*These evaluations are based on the resulting bibliometric maps observations and analysis and based on analyzing the three aspects of words' existence, dominance, and linkage.

These evaluations were ordered descendingly as noticed moderately, noticed slightly, barely noticed, and none (-).

** These words were noted as potential words relevant to this study topic.