

# Zaragoza, Spain

Jess Blanch, Lauren Keene

Digital Mile/Milla Digital



Aerial Photo of Digital Mile area

**T**he Digital Mile in Zaragoza, Spain is a project conceived and developed by the City of Zaragoza in conjunction with faculty and students from the City Design and Development and the Media Laboratory programs at the Massachusetts Institute of Technology.

In preparation for the 2008 International Exhibition to be hosted in Zaragoza, Mayor Juan-Alberto Belloch teamed up with Dennis Frenchman and William J. Mitchell of MIT to conceive of and develop the Milla Digital project in 2005. The resulting plan is for an open source approach to actively engaging the citizens of Zaragoza in shaping the content of the Milla Digital and programming its daily use.

The overall concept of the design is to visually and functionally knit together disparate elements of the city through a network of community and educational facilities, public spaces that serve many uses, and special urban features. The network will be made up of both digital and physical components, layered across the cityscape.

Design Themes include physical features that have endured through the history of Zaragoza; strengths of the city that will be valuable in an information economy including:

- water, connecting to the natural landscape;
- bridges, linking places and ideas;
- towers, providing a unique image and voice;
- walls defining edges inside and out; and
- layers of culture, information and landscape

While the project is not yet complete, Zaragoza has much in common with the North Rainier Town Center. The vision for the Digital Mile is both well developed and bold, and provides a great example of the potential change that can come with such a vision.

## Concepts and General Guidelines

- A gateway to the future
- People-scaled urban fabric
- Responsive public places
- Ubiquitous information access
- Efficient, sustainable landscapes
- Use of water in innovative ways

## *Can technology enhance public use and enjoyment? Can it make space more productive, more meaningful?*

### City Statistics

**City Population:** 682,283

**City Area:** 410.3 mi<sup>2</sup>

**Density Level:** 1,556.9/mi<sup>2</sup>

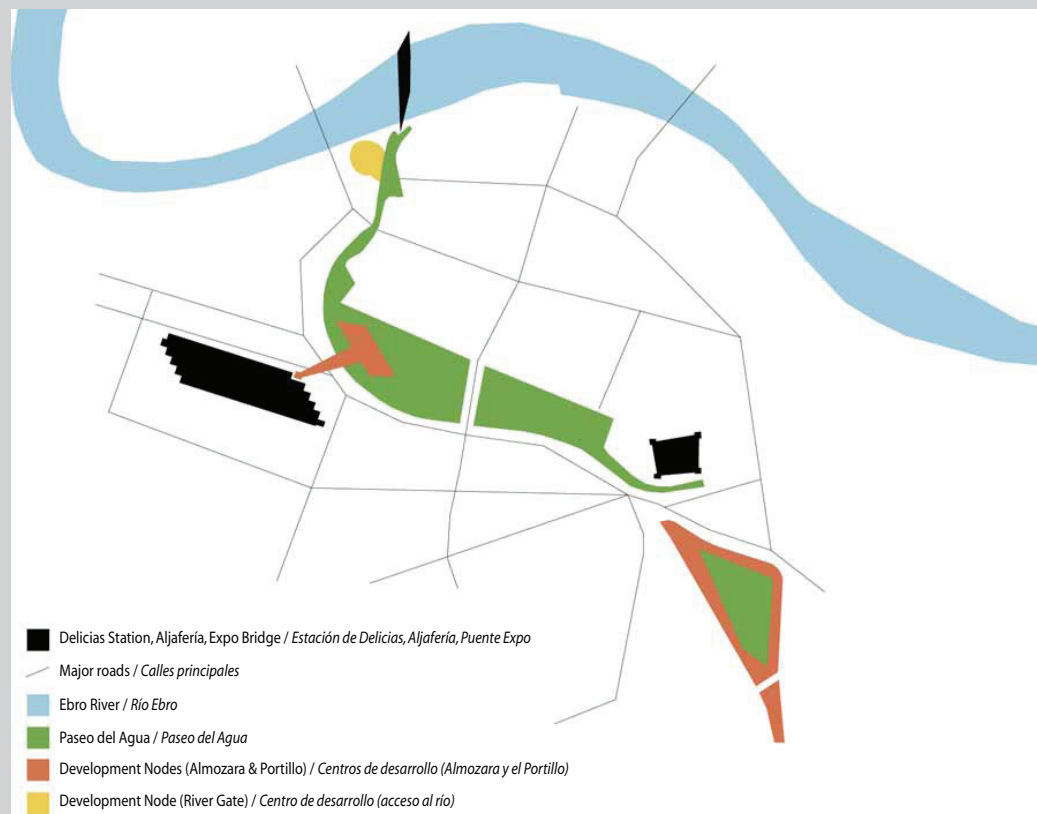
**Governing bodies:**  
**City of Zaragoza**

### Context

Zaragoza, in northeast Spain, is one of the country's oldest cities. It was founded by Caesar Augustus, became a Moor stronghold, then capital of the Christian Kingdom of Aragon. Richly layered in history and culture, Zaragoza is entering a new chapter with the completion of a high-speed rail line that brings Barcelona and Madrid within commuting distance.

In recognition of a shifting economy away from industry and automobiles and toward information and technology, Zaragoza strives to achieve economic and urban development goals with the Milla Digital Project. Goals include asserting Zaragoza as a regional center for technological innovation and building local skills in the use and development of information technology, as well as activating under-utilized urban spaces and expressing the richly layered and ever-evolving history of the city. The result is a plan for advanced communication and media technology in the public realm.

Designed to utilize and invigorate parts of Zaragoza that were formerly occupied by a railway that cut through the city, the Milla Digital knits the fabric of the old city to the new. The existing 19th century railway was demolished and now connects, underground, to the new rail station on the edge of town.



Places on the  
Digital Mile





# The "Open Source" Enviroment

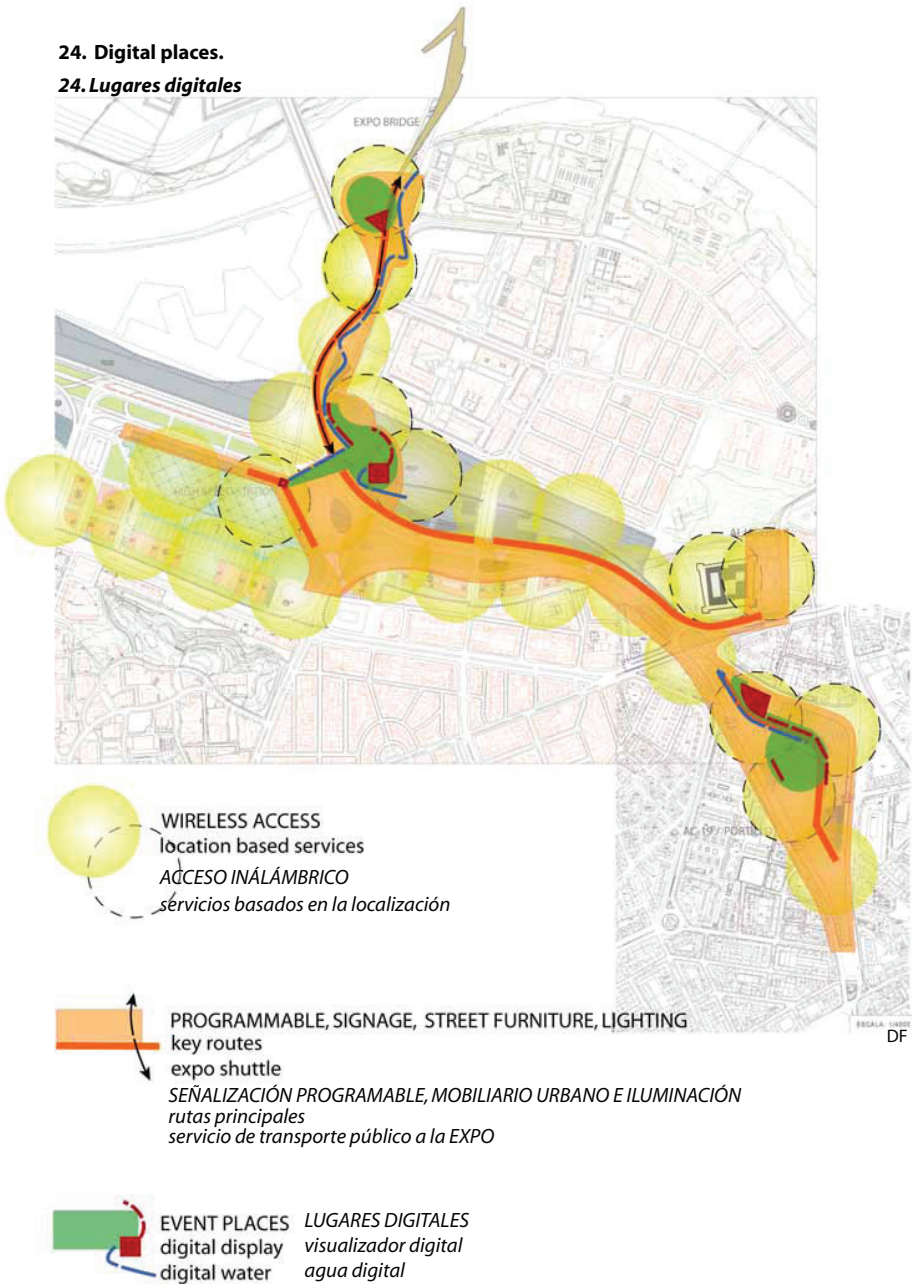
## DIGITAL PLACES

Digital places are intended to support activities and foster a personal association with public spaces by responding to users.

Wireless internet connectivity and digital media in a variety of modes will be available throughout the Digital mile to provide information as well as enable users to access and participate in the kind of responsive features creating an "open source" environment.

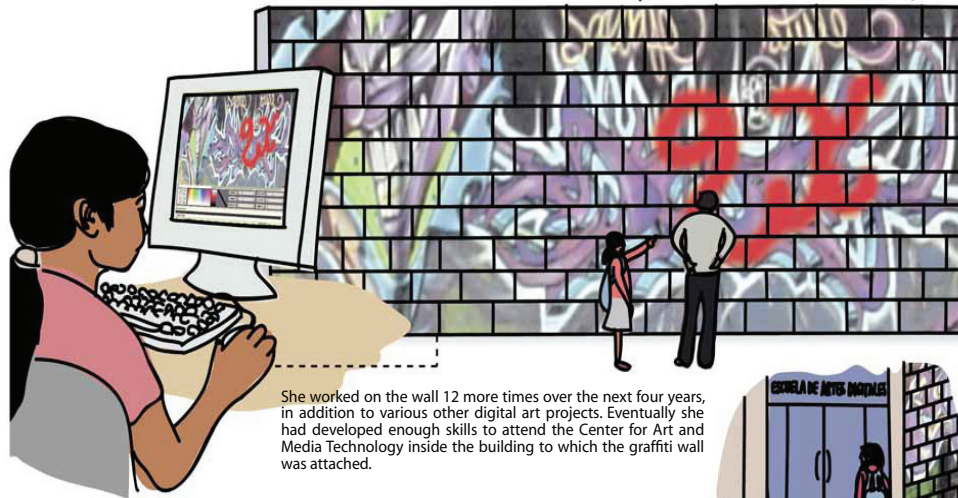
Digital displays integrated with architecture, place-based content available to individuals through cell phones, and multi purpose digital systems incorporated into everyday elements like street furniture and lighting can enhance the usability and experience of the digital mile and a unique environment.

24. Digital places.  
24. Lugares digitales



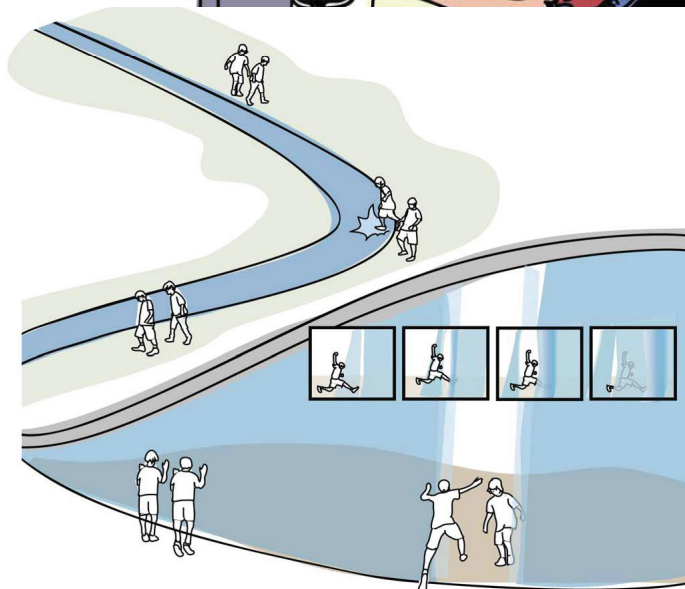
## The Graffiti Gateway *El Grafiti Digital*

Júlia wanted to create art for the digital graffiti wall from the first day she saw it during her walk home. After registering online, she was assigned a three-day period during which she managed and designed the wall in collaboration with three other people from various places around the world. Each day, she would find something changed on the wall. She proudly showed off her work to her father.



She worked on the wall 12 more times over the next four years, in addition to various other digital art projects. Eventually she had developed enough skills to attend the Center for Art and Media Technology inside the building to which the graffiti wall was attached.

After graduation, she was lucky enough to get a job as a web designer for an interior design firm in Zaragoza. She still signs up to work on the graffiti wall from time to time and keeps in touch with other digital graffiti artists from the site.



Digital Graffiti wall that can be affected by people within the city and beyond creating an interactive canvas to express one's self.

Illustrations like this one were used to illustrate how these digital technologies can be incorporated into everyday life and can generate human capital



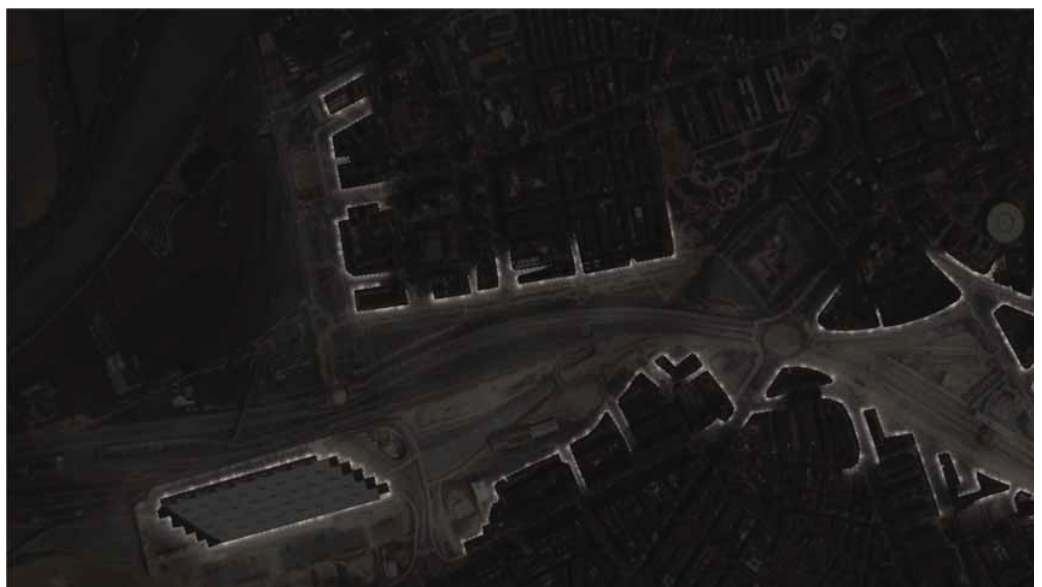
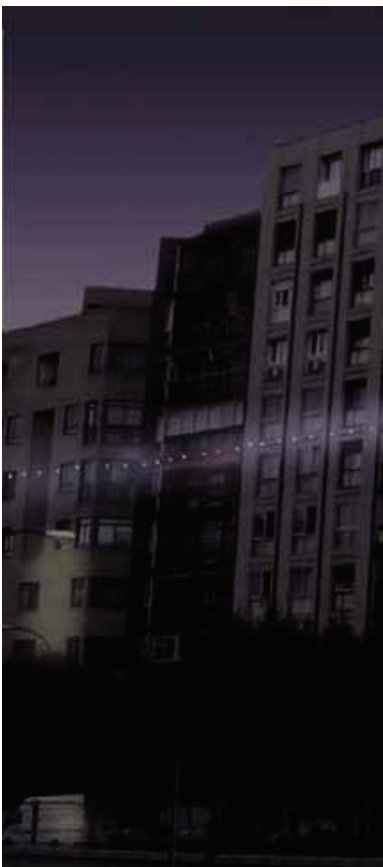


*What types of Urban Forms best accommodate the transmutable qualities of digital media?.....Can it create a public realm that is more flexible and adaptable to different users, activities or moods?*

#### URBAN PIXELS

“How can we identify the zone of the digital mile within Zaragoza?”

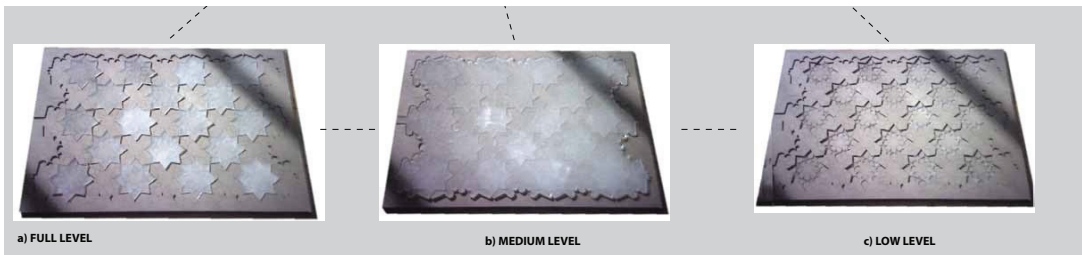
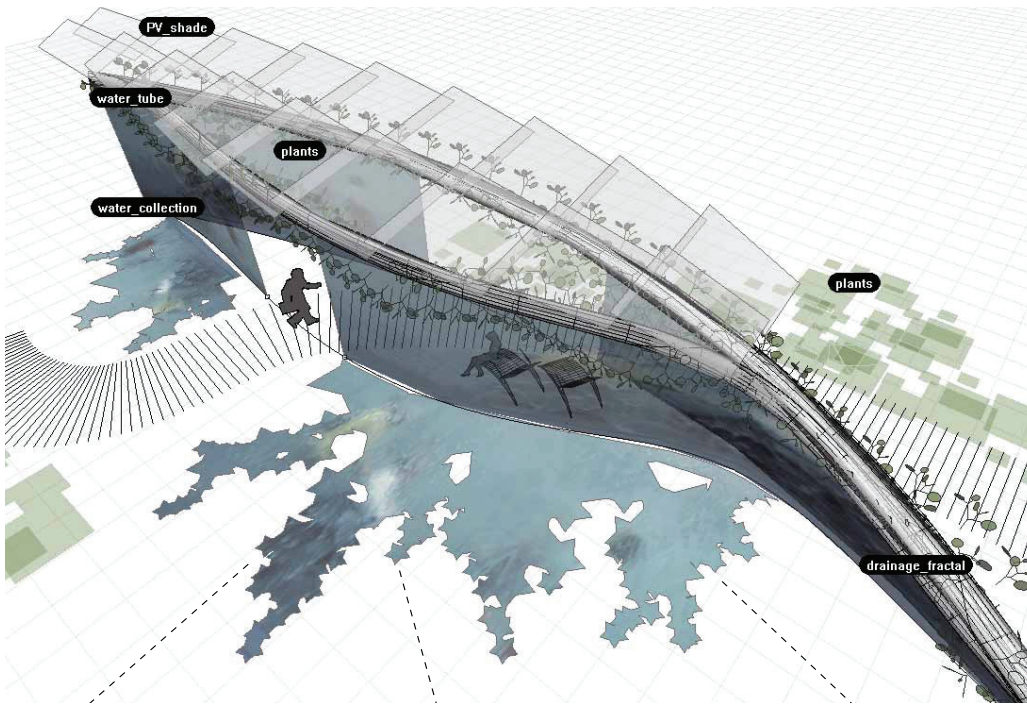
The urban display unit is an autonomous lighting device that can be affixed to existing buildings and temporary structures. Placed along a series of facades, it traces the mile-long zone of the milla Digital in the city and is visible both from the sky and at street level to pedestrians, drivers and train passengers. The “light” footprint intervention can work synchronously or asynchronously to emphasize different moods or zones even while it is under development.



## Digital Mile/ Milla Digital

### WATER within the Digital Mile Paseo del Agua

Event places on the milla digital spine are interspersed with smaller spaces and parks which form the Paseo del Agua. The pathway borders major roadways on one side and park spaces on the other. It is envisioned as an important urban edge, carrying pedestrians, bicyclists and alternative modes of transport to the river. The paseo uses surface drainage and recharge as well as incorporates digitally controlled water walls and fountains.



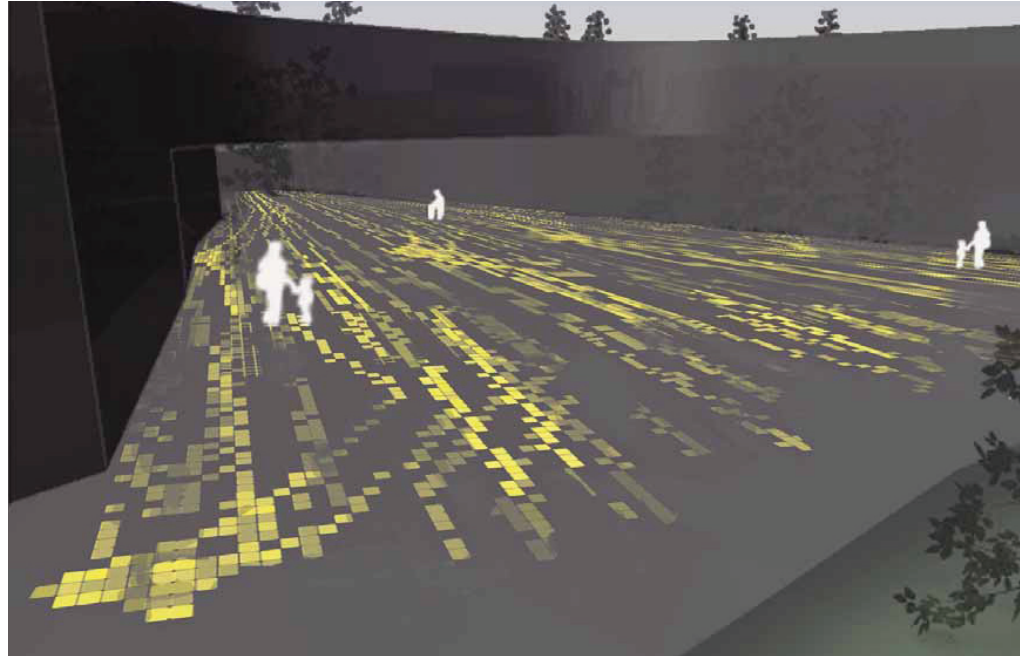


*"Zaragoza's Urban landscape is distinguished by the physical residue of the cultures that have occupied it over the centuries..... the milla digital can be useful in articulating smaller cultural movements, making visible the ways in which residents leave their mark upon the city, simply by travelling through it"*

#### MEMORY PAVING

memory pavement is intended to record pedestrian movement across a given space using digitally responsive pavers. Each step creates an additional increment of light. As time passes and many pedestrians cross the pavement, paths of light form in the most commonly used areas.

Untread areas emit no light. Pedestrians are made to consider the physical impact of their daily travels on the city as well as become aware of typical and atypical paths.



Impact-sensitive flooring technologies have been used in dance clubs and can also be adapted to generate energy based on impact.





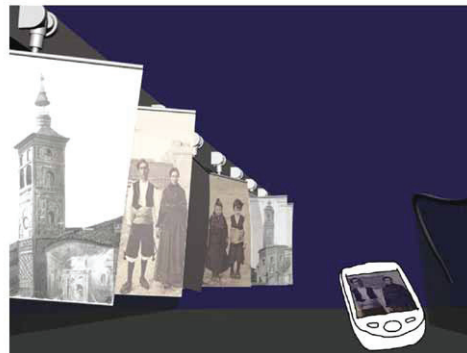
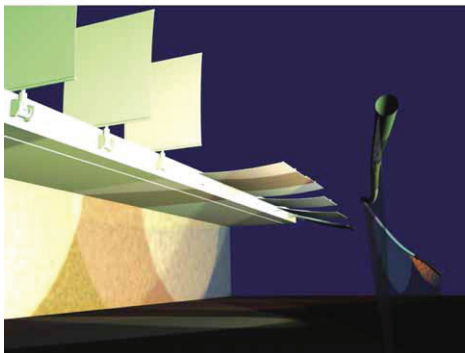
### DIGITAL AWNINGS

Digital awnings are movable fabric screens mounted on buildings. The awnings can be adjusted based on climate, time of day or people's movement. Projectors mounted on nearby buildings project images onto the canopies.

The digital infrastructure will be used for enhancing atmosphere; displaying abstract, impressionistic or integrative content related to events, Zaragoza's history or current events in the city.

The awnings can adapt to:

- Shade pedestrians
- Create a continuous screen for film projections
- form semi-enclosed spaces for interactive learning displays
- provide shelter during events like farmers markets



### Resource:

*Zaragoza\*Milla Digital: Designing a new century public realm*

MIT School of Architecture and Planning  
City Design and Development /  
Urban Studies and Planning /  
Smart Cities /  
Media Laboratory

City of Zaragoza, Spain  
March 2006

<http://www.milladigital.es/ingles/home.php>