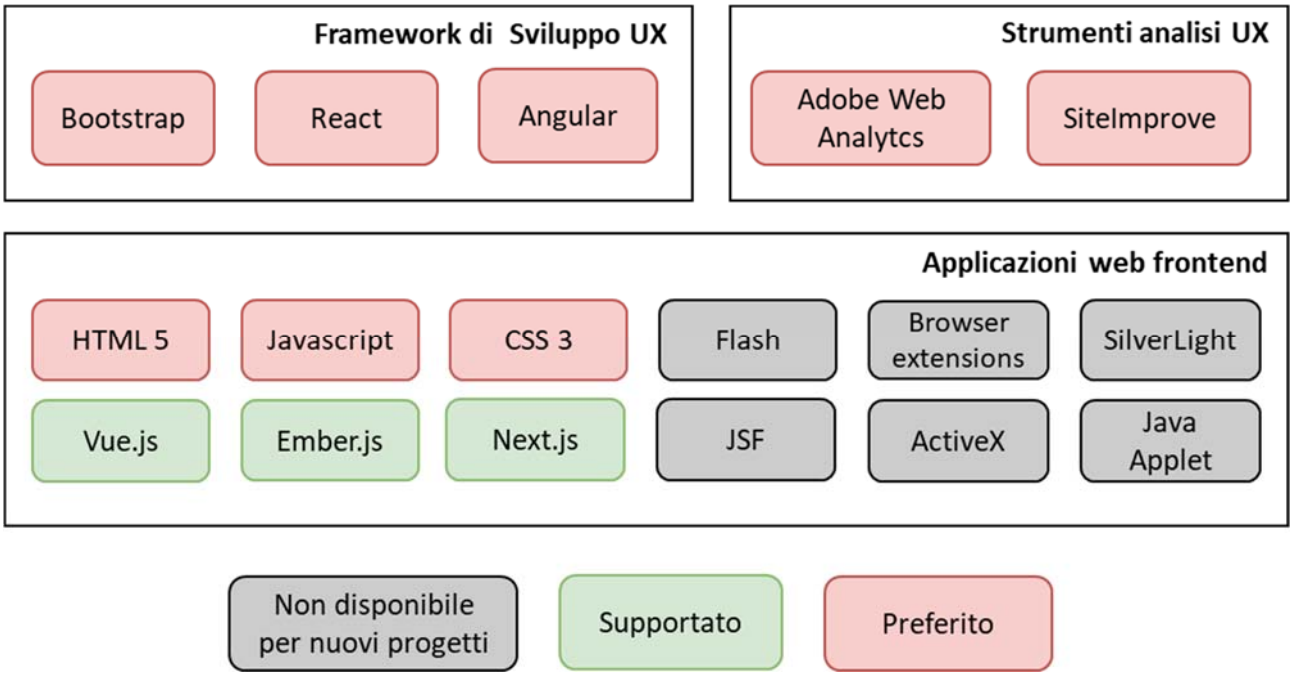
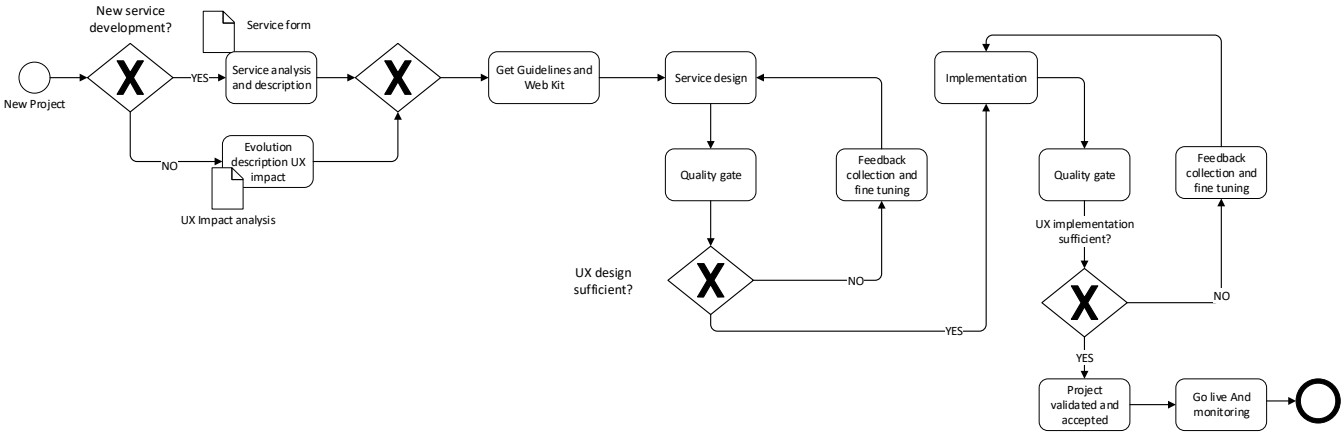
1 Reference technology matrix



New solutions involving technologies categorised as 'not available for new projects' may not be developed. Only adopt technologies that fall under 'Supported' and 'Preferred'. Any exceptions must be validated in advance by ITED Department.

2 Methodology

The development of digital services is divided into a design phase and an implementation phase. In order to align the User Experience design process with the standards required by the Municipality of Milan, the following User Experience co-design process is shared in which the various project stakeholders are called upon to engage the Citizen Experience Specialist Management in order to certify the quality and suitability of the user experience designed in relation to the specific service and the identified target audience.



It is recommended to refer to the AgID guidelines (reference RIF1) right from the design and planning stage for anything not specified in this document.

2.1 User Experience co-design process

The design process of a User Experience envisages two different application scenarios, i.e. in a first scenario the supplier is hired to design a new service to be implemented from scratch, while in a second scenario it is a project that aims to evolve a digital service already present in the Municipality's portfolio.

In the scenario in which it is necessary to develop a new service, the supplier is requested to share with the Citizen Experience Specialist Department a service description sheet in which to describe the type of service to be designed in order to allow the support activity in the definition of the User Experience by the UX Unit of the Municipality. The following elements must be included in this document:

- Brief description of the type of service;

- Target audience (citizens, municipality backoffice operators, both);

- Engagement channel(s) adopted.

In the scenario in which it is instead necessary to evolve an existing service, the provider is required to document the potential or eventual impact of such an evolution in terms of User Experience in order to agree with the Specialised Citizen Experience Department of the Municipality on the possibility of launching an initiative to evolve the design of such a service. In this second case, the supplier, in the phase of describing the impact in terms of UX of the evolution, is required to liaise with the Specialised Citizen Experience Department of the Municipality so that the latter may provide graphic/functional indications in order to be able to design, right from the design phase, the extension of the service in a coherent manner.

The supplier, having seen these guidelines and the web kit for interface design provided by the Municipality, starts the design phase of the service design. Once this phase has been completed, it is necessary to initiate a discussion with the Citizen Experience Specialist Department of the Municipality in a "quality gate" step in which the unit can verify what has been designed by the supplier by providing feedback to align what has been produced and/or validate the transition to the implementation phase. For the design we recommend the use of dedicated kits and tools, where possible evaluating the use of AgID's "UI Kit".

The same check is then carried out through a second "quality gate" aimed at assessing what has been implemented by the supplier with respect to the design shared with the Municipality. This alignment and comparison phase will make it possible to start go live activities only for projects where the User Experience is aligned with the overall vision defined by the Administration (Service & Authority Design).

The monitoring phase, detailed in section 6 with regard to the Web Analytics elements, provides for the sharing of a quarterly report produced by the Specialised Citizen Experience Department in order to share information on the effectiveness and quality of the User Experience available for the specific service so as to be able to plan any improvement and/or evolutionary actions.

3 Design

The relevant legislation is detailed in chapter 2.4 "Legislation" of RIF1.

Analysing and documenting the service being planned with respect to the following areas and evaluating its application in consultation with the citizen experience department:

- Service design: service design principles, stakeholder map, ecosystem map, personas, user journey, co-design workshop. It is essential to initiate prototyping processes that will enable the municipality to start experimentation phases in the design of its services. Each service will have to be developed prioritising the different needs of the engaged stakeholders by defining incremental and self-consistent service evolution cycles.
- Content design: information architecture (users, context and content),
    - identifying and classifying functionalities, language, SEO
    - What information to show, where and how; which information is editable; sources from which data are drawn
- User research: user-centred design, usability, knowing the user, web analytics
    - User involvement in design
    - Predisposition to monitoring user behaviour
- User interface: responsive, mobile-first, graphical style, wireframe UI
    - Adherence to the graphic style of the CoM portal or other channels

3.1 Principles

It is required to use at least the following principles for the design of the digital service (cf. chapter 2.1 of RIF1) which refer to the principles of Enterprise Architecture of the Municipality of Milan (cf. document EA-PRIN- Principles):

- Digital: the preferred channel is digital; contact with users is provided through a single point of contact or one-stop shop and through different channels;
- Once Only avoid asking the user for information already in the PA's possession or requesting
- the same information several times;
- Inclusiveness and accessibility: meeting the needs of different categories of users: elderly
- disabled, young people...;
- Openness and transparency: enabling users to access, check and correct their data, to monitor the administrative processes they are involved in; involving stakeholders in the design and delivery of services;
- Cross-border: Make relevant digital services available across borders by providing
- possible multilingual translation for services where the need is identified;
- Interoperable: services functioning throughout the single market and across organisational boundaries, thanks to the free circulation of data in the EU;
- Trust and security: integrating regulatory compliance, privacy and cybersecurity by design.

3.2 Uniformity of user interfaces

It is recommended to use the same usability rules for homogeneous user classes such as citizens, non-IT staff of the CoM, IT staff of the CoM. The user classes can be further detailed. From the point of view of the technology stack, the guiding requirement provided by the Specialised Citizen Experience Department is to develop responsive interfaces capable of standardising the user experience of web and mobile applications according to a multichannel approach by default.

The reference standard, including requirements and evaluation criteria, is detailed in chapter 2.4 of RIF1

3.3 Accessibility

With regard to access by citizens, it is recommended, and sometimes required by the specific project, to provide facilitated access functions for the following classes of users (non-exhaustive list):

- People with reduced visibility: use a special mode with increased visibility, large fonts and high-contrast colours
- People who do not know Italian or from outside the EU: use clear and simple language and provide access in several languages
- People unfamiliar with computer systems: provide simple and clear user interfaces. It is requested to implement W3C accessibility requirement AA, as stated in RIF14.
- The supplier is also requested to document the accessibility requirements of the digital services developed, sharing the functional technical information necessary for the Municipality to fulfil the requirements of AgID in terms of correct accessibility to PA services. Suppliers are then called upon to make contact with Citizen Experience Specialist Management in order to determine the necessary information set.

The Municipality adopts SiteImprove as a tool for accessibility analysis, using it for crawling activities in order to assess and monitor the level of accessibility and usability of sites.

As a self-assessment model, reference can be made to RIF 7. For further details on accessibility terms see RIF 2.

3.4 Service Access Channels

Identify as a first step in the design phase the channels and methods by which the service is used, e.g:

- Service offered in the public portal of the Municipality
- Service integrated in 'common space'
- Stand-alone service
- Service extending other existing services
- Service available via mobile app
- Integration with the citizen's file

The Specialised Citizen Experience Directorate, adopting the mobile first principle defined by AgID, identifies the citizen's file app as the main mobile channel of citizen engagement; as a first objective it is therefore necessary to pursue mobile and tablet usability, implementing designs adapted to any device, designing,

where necessary, different views for mobile, tablet and desktop.

4 Performance and technical requirements

4.1 Response Time

The application must react promptly to actions requested by the user.

The response time of the application must be as short as possible and comply with the following limits:

	Web	**Mobile**
Navigation between functionalities (pages/screens)	3 sec	2 sec
Execution of remote functionality (via API)	30 sec	30 sec

When the waiting time exceeds 5 seconds, a 'processing in progress' indicator must be displayed.

Depending on the functional requirements of the project, long processes can be executed in the background showing a notification to the user on completion.

4.2 Error Management

Errors displayed by the application must be displayed with clear messages that are understandable to the user and not containing technical information useful only to developers: for example, do not display stack traces.

In order to distinguish the various types of error clearly, it is recommended to use unique error codes by type, shown to the user together with the error message and useful for technical support to identify the type of error and direct the user and/or the development team towards solving the problem.

If the browser used by the user is not among those supported by the WebApp, an error page with a clear message must be displayed.

4.3 Internationalisation

In the event that it is necessary to present the user interface in different languages, there are two approaches:

It is recommended to customise the user interface dynamically according to the language:

- Text
    - Number format
    - Format of dates
    - Error messages

For static pages or information material: resources can be duplicated and prepared in different languages.

4.4 Web Interfaces - Specifications

To obtain updated versions of the kits, please refer to ITED's Citizen Experience department.

5 SEO

For further guidelines on SEO, please refer to chapter "3.2 SEO" of RIF1.

It is necessary to generate the sitemap of the site so that it can be read and stored by the bots.

6 Web Analytics and Accessibility Checks

During the design/evolution phases of digital services, the description of the websites that are to be implemented is functional so that the Specialised Citizen Experience Department can determine which tags are most suitable in order to monitor their state of use and direct their evolutionary path.

For each project initiative that involves changes in terms of the design of the websites where citizens and operators access the services of the Municipality, it is necessary to contact the Specialised Citizen Experience Department so that they can request the correct set of information to optimise tagging and tracking activities carried out through the use of Adobe Analytics.

It is required to implement the tracking guidelines with Adobe Analytics described in RIF13.

For the creation of the Analytics code, please submit a request to the Citizen Experience department.

7 References and Regulatory Guidelines

7.1 General Guidelines

RIF1: AgID: Design Guidelines for Public Administration Web Services

https://docs.italia.it/italia/designers-italia/design-linee-guida-docs/it/stabile/doc/introduzione-linee-guida-design.html

RIF2: AgID: Guidelines on the accessibility of IT tools

https://www.agid.gov.it/it/design-servizi/accessibilita/linee-guida-accessibilita-strumenti-informatici

7.2 Design

RIF3: Community Designers Italia
https://designers.italia.it/

RIF4: AgID: UI Kit, source file
https://github.com/italia/design-ui-kit

RIF5: AgID: UI Kit, online versione
online
https://invis.io/RJFGS2UC3HS

RIF6: AgID: How to add the UI Kit as an external Sketch library
https://github.com/italia/design-ui-kit/wiki/Sketch-Libraries

RIF 7: AgID: Model for self-assessment of accessibility requirements

https://trasparenza.agid.gov.it/moduli/downloadFile.php?file=oggetto_allegati/19356908110O_OAllegato+2+-+Modello+di+autovalutazione.pdf

7.3 Implementation

RIF8: AgID: Web Toolkit with guideline-compliant components
https://github.com/italia/design-web-toolkit

RIF9: AgID: Bootstrap Italia (Ready –to-use Web Toolkit)

https://italia.github.io/bootstrap-italia/

RIF10: AgID: React Kit (Ready –to-use Web Toolkit for React)
https://italia.github.io/design-react-kit/

RIF11: AgID: Angulat Kit (Ready –to-use Web Toolkit for Angular 6)
https://italia.github.io/design-angular-kit

RIF12: Web Toolkit Comune di Milano public site
http://mockup.eustema.it/cdm/webkit_istituzionale_V2/

RIF13: CdM Specifiche tracciatura Adobe Analytics
CdM_Specifiche_Tracciatura_Adobe_Analytics_V02.pdf

RIF14: W3C Web Content Accessibility Guidelines (WCAG) 2.0
https://www.w3.org/Translations/WCAG20-it/

7.4 Laws

Consult § 2.4 “Normativa” in RIF1.

7.5 Mobile design

RIF15: Design for Android
https://developer.android.com/design

RIF16: Android Developers / Docs / Design & Quality / Core app quality
https://developer.android.com/docs/quality-guidelines/core-app-quality

RIF17: Designing for iPhone
https://developer.apple.com/design/

RIF18: Apple App Store Review Guidelines
https://developer.apple.com/app-store/review/guidelines/