

Guidelines for the creation of an IFATCA PWA

Presented by the IFATCA 2030+ Task Force

SUMMARY

In this fast-paced digital era it is imperative for any organisation to use technology to share and update information, while maintaining the connection with its members. This paper seeks the support for the development of a Progressive Web Application (PWA) to increase accessibility, engagement and relevance in an increasingly mobile-centric world. IFATCA can utilise this PWA to streamline communication, provide real-time updates, while fostering a stronger community among air traffic controllers worldwide.

1. INTRODUCTION

- 1.1. The IFATCA website (www.ifatca.org) has been in place since 2005, serving the general need for IFATCA to communicate with all the Member Associations (MAs), while serving as a repository for important documents and training manuals relevant to air traffic controllers. There has been a recent update to the design of the website, with the addition of a “wikiIFATCA” search engine, allowing for members to search for relevant information in the repository.
- 1.2. However, the current platform has its limitations. It does not allow for eg.; individual access for MAs, personalised MA pages, contact details checking, interactive training packages, forums or notice boards.
- 1.3. Through the survey and workshops conducted by the IFATCA 2030+ Task Force during the 62nd Annual Conference held in Montego Bay, Jamaica, it was found that there is a need to improve on the accessibility and communication of information from the website to the MAs. Most members were not aware of the documents available and communication letters being shared with members.
- 1.4. In this digital era, with the proliferation of smartphones and the exponential growth in mobile application usage, it is important for IFATCA to harness the

power of mobile technology to enhance information sharing and accessibility to its members, with the added benefit of being able to provide real time updates. This working paper outlines a comprehensive policy, procedure, and set of requirements for the creation of a mobile app dedicated to facilitating information exchange within the federation.

- 1.5. This paper seeks to address some of the concerns related to accessibility, visibility and updatability, to make the Federation more agile and transparent.

2. DISCUSSION

- 2.1. Vision statement: IFATCA is the global voice of Air Traffic Controllers. It furthers air traffic safety, influences the sustainable evolution of aviation, and embraces all members of its community. The apolitical federation provides guidance, representation, training, and other services to advance the status and professionalism of air traffic control. It collaborates with other international organisations to achieve mutual goals.
- 2.2. The vision statement of IFATCA reflects its commitment to advancing air traffic safety, professionalism, and community engagement on a global scale. A Progressive Web Application (PWA) aligns with this vision by serving as a powerful tool to enhance communication, collaboration, and accessibility among air traffic controllers worldwide.
- 2.3. A PWA is an app that is built using web platform technologies, but that provides a user experience like that of a platform-specific app.
- 2.4. Examples of companies using PWAs include: X (Twitter), The Financial Times (UK), Forbes, Spotify, Trivago, Uber and Pinterest.
- 2.5. Members can feel like a part of IFATCA, through the PWA. It can be personalised and utilised to share information timely, facilitate training for individual and regional MAs, exchange professional discussion on related topics etc.
- 2.6. The advantages include having multiple platform compatibility, does not require an app store approval, is cost effective to develop, easier to maintain and has improved discoverability. However, it should be noted that it has limited ability to integrate into different mobile platforms, is not likely to be available through app stores and security is dependent on the browser used. The features of the PWA are summarised in the table below.

Feature	PWA	Native App	Cross-Platform	Hybrid App	Web App
Able to run on multiple platforms (e.g. iOS/Android)	✓	✗	✓	✓	✓
Supports push notifications	✓	✓	✓	✓	✓
Provides offline functionality	✓	✓	✓	✓	✗
Downloadable	✓	✓	✓	✓	✗
Indexable by search engines such as Google	✓	✗	✗	✗	✓
Pages linkable and shareable online	✓	✗	✗	✗	✓
Instant updates	✓	✗	✗	✗	✓

Table 1:Zudu.co.uk

2.7. Framework for consideration

- 2.7.1. Purpose and Scope: The PWA aims to improve communication, engagement, and collaboration among the Federation's members. It shall prioritise the dissemination of information and resources relevant to the federation's mission and activities in accordance with the required Canadian security protocols.
- 2.7.2. Privacy and Data Security: All data collected by the app must adhere to strict privacy and security protocols. This includes encryption of sensitive information and compliance with relevant data protection regulations.
- 2.7.3. Open Source: Whenever possible, the mobile application's source code should be open for review, fostering transparency, community engagement, and potential contributions.
- 2.7.4. Maintenance and Updates: The Federation commits to providing ongoing support, maintenance, and regular updates to the app, ensuring compatibility with evolving mobile platforms and addressing security vulnerabilities.
- 2.7.5. Recoverability: data can still be retrieved from the database in the event of a system crashing.
- 2.7.6. Sustainability; the ability to maintain the system
- 2.7.7. Auditability; permits the system to be monitored and tested
- 2.7.8. Accountability; responsibility for performance
- 2.7.9. Minimal human intervention; manual functions are the weakest point in any system

- 2.7.11. Cost effectiveness: a cost benefit analysis of the safeguards, including selection, acquisition, placement, maintenance, testing, and repair
- 2.7.12. Scalability (adapting to our dynamic needs),
- 2.7.13. Portability (changing provider), does it cater to all devices and browsers?
- 2.7.14. Completeness and consistency; not too much, nor too little.

2.8. Procedure:

- 2.8.1. Needs Assessment: Conduct a thorough analysis of the federation's requirements for information sharing, involving MAs, Members of the EB, and the Communications Team to identify critical features and functionalities. This can be done through surveys or an outreach group.
- 2.8.2. Design and Planning: Collaborate with the Communications Team to create a detailed design plan, encompassing suitable user interface/user experience (UI/UX) design, user flows, and feature prioritisation.
- 2.8.3. Development: Assemble a skilled development team to build the app according to the design plan, adhering to coding standards and security guidelines. (pros and cons)
- 2.8.4. Testing: Rigorously test the app to identify and rectify any bugs, usability issues, or security vulnerabilities.
- 2.8.5. User Acceptance Testing (UAT): Engage a group of representative users to test the app's functionality, gather feedback, and make necessary adjustments.
- 2.8.6. Deployment: Launch the app on the major mobile platforms (iOS, Android) through their respective app stores, ensuring compliance with their respective submission guidelines.
- 2.8.7. Training and Onboarding: Familiarise the Federation's membership with the app to ensure they can effectively use the app's features.
- 2.8.8. Monitoring and Maintenance: Continuously monitor the app's performance, gather user feedback, and implement updates as needed.

2.9. Requirements:

- 2.9.1. User Authentication: Implement secure login methods, such as email and password, or social media integration, to ensure only authorised members can access the app.

- 2.9.2. Information Sharing: Provide features for posting and sharing various types of content, such as text, images, and documents, with options for public and private sharing.
- 2.9.3. Real-time Updates: Include push notifications to alert users of new posts, messages, or important announcements.
- 2.9.4. Member Directory: Incorporate a searchable member directory with profiles, contact information, and roles within the organisation. (A55)
- 2.9.5. Discussion Forums: Create dedicated spaces for members to engage in discussions, ask questions, and exchange ideas.
- 2.9.6. Events Calendar: Include a calendar to display upcoming events, meetings, workshops, and other important dates.
- 2.9.7. Document Repository: Offer a repository for storing and accessing organisational documents, forms, and resources. Eg. The Controller magazine
- 2.9.8. Accessibility: Differentiated accessibility for general members and Executive Board/Taskforce/Standing Committees/ICAO Panel reps. Ensure the app is accessible to individuals with disabilities, incorporating features like screen reader compatibility and adjustable font sizes.
- 2.9.9. Feedback Mechanism: Integrate a feedback channel for users to suggest improvements and report issues within the app.
- 2.9.10. Analytics: Implement analytics to gather insights into app usage, user engagement, and popular features, guiding future enhancements.
- 2.9.11. Potential future considerations: voting/polling functions for registered members.

2.10. Project Time Scale

2.10.1. The mobile application will be done through the project phases, as follows:

2.10.1.1. Phase 1: Planning and Discovery (1 month)

- to consolidate feedback on need requirements through surveys and small group workshop.
- set deliverables and timeline

2.10.1.2. Phase 2: Design and Development (2 month)

- to come up with beta version for small group user feedback

2.10.1.3. Phase 3: Testing and Launch (1 month)

2.10.1.4. Phase 4: Maintenance and Updates (continuous)

- 2.11. The working group/taskforce should comprise members from different regions ensure that the PWA is developed with optimal consideration of regional concern (Please refer to WP on “Developing the requirement to renew the IFATCA website”).

3. CONCLUSION

- 3.1. The development of a PWA for information sharing within IFATCA is not just a technological upgrade, but more of a strategic imperative. By offering enhanced accessibility, facilitating seamless communication and providing personalised experiences, the PWA will serve as a catalyst for increased engagement and relevance within the community.
- 3.2. The PWA can serve as a platform for IFATCA to provide guidance, representation, and training services to its members, ensuring that they have access to the resources and support needed. By leveraging the power of this technology, IFATCA can strengthen its position as the global voice of air traffic controllers and drive positive change within the aviation industry.
- 3.3. This Paper proposes a policy framework, procedures, and comprehensive requirements. By adhering to this, the Federation can create an effective all encompassing tool to foster collaboration and communication among its members.
- 3.4. Embracing this innovation aligns with IFATCA’s vision and mission statement.

4. DRAFT RECOMMENDATION

- 4.1 This paper is for information.

5. REFERENCES

5.1. *The IFATCA Web Site*

5.3.1. *At its October 1998 meeting, the Executive Board decided to set up an IFATCA internet web site with the objective of becoming an integral tool in the Federation’s communications with information, publications, reports and bulletins that can be easily accessed by members and the public. (Melbourne 05.A.17)*

5.3.2. *The address of the web site is: www.ifatca.org*

5.3.3. *The web site will be comprised of three general areas: - forum, - public, - and restricted. The latter will be for the exclusive access for Federation Members, through a specific password. (Melbourne 05.A.17)*

5.3.4. The passwords for the restricted area can be obtained from the Office Manager by each Member Association's Liaison Officer. (Melbourne 05.A.17)

5.3.5. The Executive Board has appointed a Web Manager. The Web Manager shall be responsible for the design, construction and maintenance of the web site and shall report to the Deputy President in the performance of their duties. Requests for financial expenditure shall be referred to the Executive Vice-President Finance. (Toronto 17.A.5)

5.3.6. The Executive Board and the IFATCA Office shall assist the Web Manager as required to ensure that the web site is properly managed, relevant and up-to-date.

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