

## Conservation and Revival of the Marginalized Jewish Cultural Heritage of Alexandria, Egypt, through Digitization Technology

Manal M. Abdelhamid<sup>1</sup>

### Abstract

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Protecting the cultural heritage has become an important global issue that led many organizations to launch different initiatives for achieving this objective. Alexandria is a Mediterranean city that was founded by Alexander The Great in 331 B.C. and continued as a great port until the modern era, hence owning a rich various cultural heritage. The Jews constituted an essential dynamic portion of the Alexandrian society, they integrated with the others, exercised important economical activities and participated in the urbanization of Alexandria, its streets still bear features of the Jews' existence including great synagogues, schools, hospitals, stores, villas as well as hundreds of documents and ceremonial artifacts. There were about fifteen synagogues in the city, but recently there are only two, the grand synagogue of Eliyaho Hanabi and Menasce temple in addition to the three Jewish cemeteries in Shatby and Azarita and some other buildings, but unfortunately, they are not documented, suffering vandalism and complete negligence because of the complicated political situation in the region that created hatred towards anything Jewish. The study reviews this priceless Jewish heritage of Alexandria, aiming to provide a new technological option to safeguard and revive it through creating a complete digital accessible database with broad customized applications that can be easily used by both researchers and tourists, hopefully that this idea can be adopted by the government to highlight this missing part of Alexandria's cultural identity and hence enriching Alexandria's image and attractiveness as a tourist destination.

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**Keywords:** Alexandria ; Jewish; Heritage; Digitization; Conservation; Revival

### 1. Introduction

Heritage is described in UNESCO documents as "*our legacy from the past, what we live with today, and what we pass on to future generations.*" It is a valued part of the culture that must be preserved either using the traditional ways or the modern digital technologies (Jokilehto, 2005).

The digital technology is widely used in several fields including industry, medical sciences, entertainment, and more recently, cultural heritage. Most of the monuments and also museums all over the world have web pages and accessible online databases, still and moving images, audio and graphics. However, using digital technologies in the preserving of the cultural heritage has many disadvantages, as using these technologies do not allow the true reflection of memory, history and tradition the same way a real monumental places or museums do, besides, these valued digital resources are also at risk of being lost and urgently need to be legally managed and protected from any form of intrusion (Pieraccini, 2011).

In spite of this opposition view of using the digital technology for preserving the cultural heritage, the confusion occurs between Jews and Israel, created anti-Jews sentiments that hence resulted in the negligence of all Jewish heritage specially monuments which are permanently closed or deserted, make the using of digitization technology the best choice for preserving and reviving the neglected Jewish cultural heritage in Alexandria before being lost forever. The issue of preserving the digital heritage has been a source of concern to specialists, therefore in 2003 UNESCO adopted the *Charter on the Preservation of the "Born Digital Heritage"* calling intergovernmental and international non-governmental organizations, civil society and the private sector to join together in elaborating objectives, policies and projects to support the preservation of the digital heritage.

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<sup>1</sup> Associate Professor, Tour Guidance Dep., Faculty of Tourism and Hotels, Alexandria University, Egypt

The UNESCO *Charter on the Preservation of Digital Heritage* is now intricately bound up with the "2015 Recommendation Concerning the Preservation of, and Access to, Documentary Heritage Including in Digital Form". In taking forward both documents, the *Memory of the World (MoW) Programme* is focusing on the importance of software source code, like heritage, for the sustainable development (<https://en.unesco.org/themes/information-preservation/digital-heritage>).

This study aims to shed light on the Jewish heritage in Alexandria, its richness and importance, focusing on the role of the digital technology in safeguarding and revival of this cultural heritage which constitutes a crucial part of the Alexandrian cultural identity.

## 2. The Jews of Alexandria

The Mediterranean city of Alexandria has a great history that extends from the Pharaonic period until the Islamic era. It was founded in 331 B.C. by Alexander The Great who ordered his great architect Dinocrates to build a Greek city fourteen miles west of the Canopic mouth of the Nile around the small village of Rhakotis to be the capital for his new Egyptian Kingdom.

The city was oblong with chess board plan, the Heptastadion connects the island of Pharos with the mainland creating two harbours. The whole city was divided into five districts named after the first five letters of the Greek alphabet A, B, Γ, Δ, and E (Polyzoides, 2014). The magnificent buildings were increased by the Ptolemaic kings who succeeded Alexander the Great, turning Alexandria to the most famous Hellenistic city in the East (Forster,1961).

The history of the Jews of Alexandria dates back to its foundation (Josephus, "Contra Ap." ii. 4; "Ant." xix. 5, § 2), they constituted a very large portion of its population lived in the fourth or "Delta" district Δ ("B. J." ii. 18, § 8), and there were also many Jewish dwellings scattered throughout the city, as Philo mentioned.

According to Josephus, this ancient Jewish district was located in the vicinity of the Royal Palace ("Contra Ap." ii. 4) which was built on the spot of land called Lochias, and the harbor was in proximity to it, west of Lochias. Therefore the Jews must have inhabited that part of the city that extended eastward from the palace.

As regards number and position, the Jews constituted an independent political community, side by side with that of the heathen population. Strabo thus describes their constitution: "*At their head stands an ethnarch, who rules and judges the people; and, like the archon of an independent city, gives special attention to the proper fulfillment of the duties and to the compliance with the various regulations*" ("Ant." xiv. 7, § 2).

Josephus says "*Alexander gave them a place in which to live, and they received the same rights as the Macedonians [Greeks], and up to the present, their race has retained the appellation Macedonians*." ("Contra Ap." ii. 4). In another place ("B. J." ii. 18, § 7) he declares: "*Alexander permitted them the same rights as the Greeks*". They preserved the same privilege under the successors of Alexander, and the Roman emperor Augustus confirmed the rights of the Jews, especially the *gerusia* (council of elders) through a decree that was engraved upon a tablet of brass which was still existed at the time of Josephus ("Contra Ap." ii. 4; "Ant." xiv. 10, § 1).

The Jews not only enjoyed civil rights in Alexandria, but also occupied a more influential position than anywhere else in the ancient world. They did not form the lower classes, as in many other towns, but by their riches and education constituted a large and influential portion of society, possessing the confidence of the ruling powers, they attained also to public offices and posts of honor (Schürer,1901).

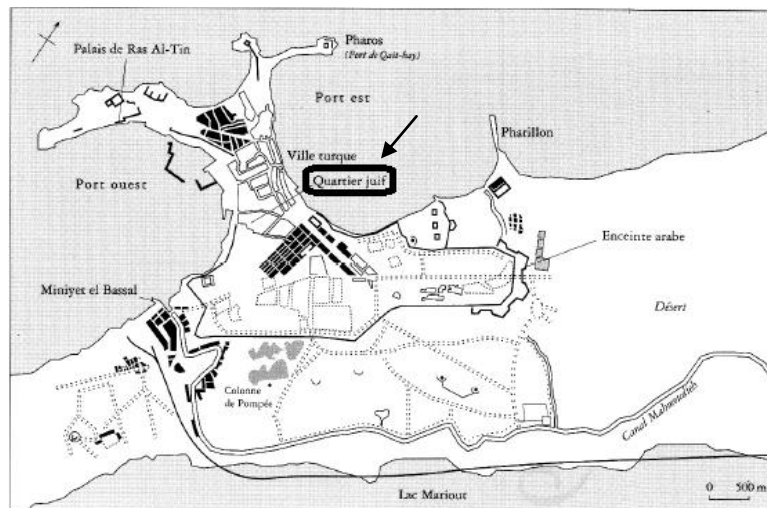
Through the following ancient historical eras of Alexandria, Jews continued as an important part of the Alexandrian society that can't be separated or neglected. At the beginning of the nineteenth century, about 1805, the Jewish community of Alexandria was increased to about one hundred Jews at the appointment of Mohamed Ali who finally opened the old port of Alexandria to the European ships and encouraged generously the arrival of foreigners causing the commercial and industrial development of Egypt and hence the impressive urbanization of Alexandria (Frenkel, 2010).

Many Jews from Morocco, Italy and all other parts of the Ottoman Empire immigrate to Alexandria. In 1847 the Jews of Alexandria (1,200) represented 14% of all Jews in Egypt (8,500), and as early as 1856, the "Hatti Humayun" or The Ottoman Reform Edict is scrupulously applied in Egypt preventing distinction between people because of religion, allowed land acquisition and religious freedom for Muslims and non-Muslims.

During 1860s-1865s, under the Khedive Ismail, Alexandria witnessed a fast growth and economic development that attracted many Jews whose names are still displayed on the famous department stores in the city. In 1872 the total population of Jews of Alexandria reached about (212,000) that represented 60% of that of Cairo (348,000) (Miccoli, 2015).

In 1897, the Jews of Alexandria (9,830) represented 39% of all Jews of Egypt (25,200) and between 1897 and 1907, the difficult economic conditions in other parts of the Ottoman Empire pushed many other Sephardic and Eastern Jews to Egypt (Cabasso, 1984; Hazan, 1901).

**The poor Jews** lived in Haret el Yahoud in Gomrok district near the old fish market and its dependencies Hoch el Gaan (**fig.1**), Hoch el-Nagar and Hoch el-Hanafi, where the oldest synagogues like Zaradel and Azouz were once locate.



**Fig. 1 Map shows the Jewish District in Alexandria in 1855 (Manzoni, 2011)**

Other wealthy Jewish families resided in the district of Moharam Bey where they built the first Israelite hospital, the Green and Castro synagogues, the Le Foyer retirement home at Rassafa street and several schools. There are also rich Jews in the Greek Quarter around the Graeco-Roman Museum, and when the city extended east towards El Raml, the Jews settled at Camp-César, Sporting, and Roushdy (Cabasso, 1984).

Their high level of education and knowledge of languages, in addition to the experience gained in their countries of origin, allowed them to exercise many important activities that were neglected by Muslims like crafts, goldsmith, trade, lenders against interest or on pledges, besides, banking and finance (Menasce, Rollo, Soares), stock market and brokerage (Argy, Levy, Rossano), department stores (Hannaux, Salon Green, Oreco), industries (Arripol, Salama, Toriel), urbanism and transport (Politi, Smouha, Soares), teachers in schools (Forti), doctors (Katz, Coen, Chamla). Jews were also present in the fields of art, music and culture (introduction of cinema by Togo Mizrahi).

The number of Jews of Alexandria increased from 14,475 in 1907 to 24,858 in 1917 representing 41% of all Jews in Egypt. However, starting 1947 the number of the Jews of Alexandria reduced gradually, the establishment of the State of Israel, the Suez crisis and nationalizations had forced the whole population to a new painful and unannounced exodus essentially in 1948 and 1956, resulted in the loss of property and the forced abandonment of their cultural heritage behind (Manzoni, 2011).

### **3. The Jewish Heritage in Alexandria <sup>2</sup>**

In the nineteenth century, the Jews of Alexandria experienced a period of prosperity that led to a great construction activity including synagogues, schools, and hospitals, their traces can be located in many regions like Saad Zaghloul Square, Manshya, Azarita, El Shatby and Moharam Bey where many streets are named after the famous Jewish families lived there like Menasce and Green.

<sup>2</sup>Most of the monuments are closed for public and the references describing the Jewish monuments of Alexandria are very rare, that is why most of the description is the researcher's work depending on limited visits or online pictures.

This rich Jewish heritage of Alexandria includes both tangible heritage like synagogues, cemeteries, religious artefacts, Torah scrolls and documents, and intangible heritage like religious music and rituals, traditions, feasts, food and all interesting stories around the Jewish buildings in Alexandria, especially villas and their former owners, streets and stores.

### 3.1. The Synagogues

The synagogue is the place where the congregation gathered to worship and to receive the religious instructions (Bacher, 1901). The earliest document relating to the settlement of the Jews in Egypt and their adoption of Hellenistic customs was discovered in 1902, it is a marble slab inscribed with Greek text says: "*In honor of King Ptolemy and Queen Berenice, his sister and wife, and their children, the Jews [dedicate] this synagogue*" (προσευχή)". The slab was found in the ancient Schedia, twenty kilometers from Alexandria (Reinach, 1902). Philo expressly states ("De Legatione ad Caium," § 20) that the large population of Alexandria had many synagogues in various quarters of the city (Schürer, 1901).

Most of Alexandria's synagogues are either collapsed or severely declined due to negligence. In the 1930s, there were about fifteen synagogues in Alexandria, all of them are quietly lost, sold and destroyed like **The Zaradel Temple** in Amram Street (fig.2), Gomrok District, according to an inscription on a stone slab once found inserted in one of its walls, it was dedicated by Judah, son of R. Saul of Spain for his soul and the souls of his family, in year 1311, then it was restored in 1880. Unfortunately, this synagogue once housed two valuable manuscripts of the same period, a Hebrew Bible of elegantly written square microscopic Hebrew letters, which are legible only with a magnifying-glass, and also a Pentateuch together with the early prophets, written upon parchment of larger size (Schürer, 1901; Fedida, 2009).



Fig.2 The Zaradel Temple in Amram Street, Gomrok District (Manzoni, 2011)

There were also other synagogues including **Azouz Temple** in Souk el-Hosr street, Gomrok district (rebuilt in 1853), **Green Temple** (1901), **Castro Temple** (1920) in Moharam Bey district, **Sasson Temple** (1910) in Glymenopoulos district, **Chaareh Tefila Temple** (1922) in Camp-Cesar district, **Eliahou Hazan Temple** (1937-1958) in Sporting District (Schürer, 1901).

Today, there are only two intact synagogues; the great Eliahou Hanabi Temple, which is recently restored by the Egyptian government, and the Menasce Temple which is now closed to the public.

#### 3.1.1 The Great Synagogue or Grand Temple of Eliyaho Hanabi

One of the largest and grandest synagogues in the Middle East, the most ancient of all, recognized as the synagogue of the community that could house about one thousand worshippers. Also called "Keneset Eliyahu," because it is said that the Prophet dwelt on that spot for some time (<https://www.wmf.org/blog/important-emblems-jewish-life-north-africa>).

The synagogue is located at the famous street of Nebi Daniel in the center of Alexandria (**fig.3**), and has been closed since September 2012 for security reasons, but in 2017, after a partial collapse of its roof, the Egyptian Ministry of Antiquities allocated forty million Egyptian pounds for emergency repairs and restoration of the synagogue, and in 2018 World Monuments Watch calls attention to twenty five sites facing threats or compelling opportunities for protection and conservation including the synagogue of Eliahou Hanabi in Alexandria, as one of the largest in the Middle East(<https://www.wmf.org/project/eliyahu-hanavi-synagogue>).



**Fig.3 Eliyaho Hanabi Temple, The Façade (right) and The Great Court (left)**(<http://archive.diarna.org/site/detail/public/49/>)

It was originally built on the location of a very old synagogue called Voltera that is dated back to 1354, then it was rebuilt by an Italian architect in 1850 after being bombed during Napoleon's invasion in 1798, and then restored and enlarged in 1856 and 1935 by the prominent men of the community(<http://www.nebidaniel.org/synagogues.php>). The Italian-Style synagogue, which take the basilica form, is situated in a center of a complex that was once owned entirely by the Jewish community of Alexandria, it includes a school (now leased to the city), community offices (including the rabbinate) and a social hall (now sold), as well as apartments and stores rented out for income. These apartments were once accommodated by sick persons, both Jews and Muslims who were believing in the miracles performed there by the prophet Elijah (Tachau,1926).

A large iron gate from Nabie Daniel street leads into the courtyard with a great paved garden in front of the synagogues. In the corner, there is a small water fountain for the ritual hand washing. Through a marble staircase with massive marble columns, one enters the great court that is occupied by rows of wooden benches, each one of them is marked by a metal plaque bearing the name of one of the donors (**fig.4**). Flanking the ark, that still contains the remaining Torah scrolls, there are marble boxes for charitable donations to the poor and the Jewish hospital with the elegant silver lamps are suspended over the ark (<http://diarna.org/exhibits/the-synagogues-of-cairo-and-alexandria-egypt-selected-sites/>).



**Fig.4 Wooden Benches bearing the Names of the Donors**  
(<http://archive.diarna.org/site/detail/public/49/>)

The women's prayer gallery runs round three sides of the hall and can be entered through a door located to the right of the main entrance. A rear room accessed from the side of the ark houses the Chair of Elijah that was used for circumcision ceremonies, but today it is acted as a laundry stand for the synagogue caretaker (Schürer,1901).

### 3.1.2 The Menasce Temple

It is located at Ahmed Orabi Square, Mansheya district between the Majestic Hotel and the Presbyterian Church. In September 2019, the synagogue was added to the Egypt's list of Islamic, Coptic and Jewish National Monuments, it is now closed waiting for restoration (<http://english.ahram.org.eg/NewsContent/9/0/277921/Heritage/0/Menasce-Synagogue-in-Alexandria>).

The synagogue was founded in 1878 by Baron J. L. de Menasce with a cost of about eight thousand Egyptian pound and was supported by the revenues of two houses set apart by the Baron for this purpose. The great opening ceremony was attended by the government officials, including the Governor of Alexandria, as well as members of the Muslim community. In 1882, English forces bombed Alexandria from the Mediterranean Sea including Menasce Temple, but fortunately it remained intact (Schürer,1901;Manzoni,2011).

The Menasce Family was one of the most powerful Egyptian Jewish families in the 19<sup>th</sup> and 20<sup>th</sup> centuries, they contributed significantly to the development of the economy in Egypt. The family is originally from Morocco and Palestine, the earliest family member was Jacob Levi Menasce who was born in Cairo in 1802, became the president of the Cairo Jewish community, and started his career as a banker, then started an important import-export company.

In 1871, when his family moved to Alexandria, they settled in a magnificent palace in Menasce street in Moharam Bey district (Included in the Mobile Guided Tour). Unfortunately it is now occupied by a school under the name of El Mosheer Ahmed Badawy school and almost ruined (**fig.5**).



**Fig.5 Palace of Baron Menasce in Moharam Bey (google.com/map)**

Baron Menasce had built many buildings including this synagogue, a school (**fig.6**) and a hospital that still exists today, he finally died in Alexandria in 1885.



**Fig.6 The Menasce School, Alexandria 1905( Manzoni,2011)**

Unfortunately, there is no many information about the description of the temple and it is not accessible to the public. The whole building is surrounded by a stone enclosure wall with decorative elements, the main façade has two rows of windows. Passing through the door, we get into the main hall that is divided into two sections. The floors are paved with ceramic tiles while the ceilings have domed shapes, the structure features high vaulted ceilings and multiple arches lining the center aisle of the sanctuary. The magnificent Torah ark sits as the visual centerpiece, with its ornate stone and marble edifice (**fig.7**).

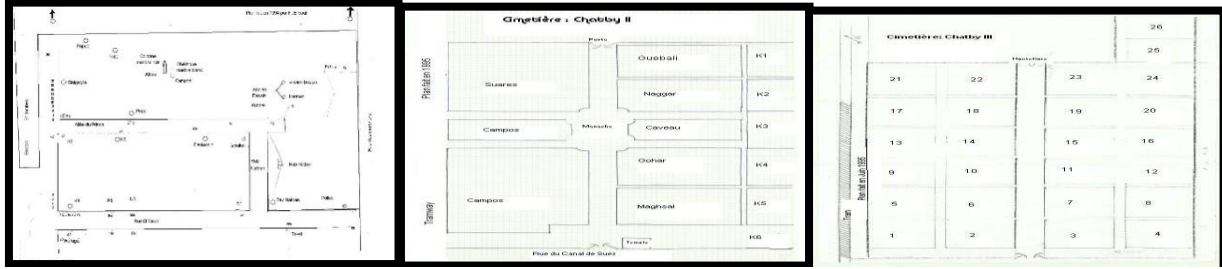


**Fig.7 Menasce Temple (Outside / Right),(Interior with traces of Destruction / Left)**  
(<http://archive.diarna.org/site/detail/public/1177>)

Two small ionic columns sit on either side of the arched wooden doorway leading to the hidden Torah scrolls. A balcony for women rings the sanctuary, although today thick layers of dust coat the whole place, there is a hope that one day this magnificent synagogue will be restored (<https://diarna.org/exhibits/the-synagogues-of-cairo-and-alexandria-egypt-selected-sites>).

### 3.2. Cemeteries

In Alexandria, there are three Jewish cemeteries dated back to about one hundred and fifty years ago, containing more than twenty thousand tombstones and outstanding funerary complexes, the first and the oldest is located at Mazarita or Azareta, the second one or Menasce cemetery and the third one (consecrated in 1908) are located in Shatbyon the tramline (**fig.8**). The cemetery of Azarita remained active from 1836 until 1954 (<https://egyptianstreets.com/2018/12/30/alexandrias-famed-jewish-cemeteries-to-be-registered-as-antiquities/>; <http://archive.diarna.org/site/detail/public/1181>).



**Fig.8 Plans of Azarita Cemetery (Left), Shatby Cemeteries II,III(Middle-Right)**

(<http://www.nebidaniel.org/cimetieres.php>)

The Ministry of Antiquities is preparing to officially register the three Jewish cemeteries in the ministry's records as they contain rare and unique tombs belonging to Jewish figures and rabbies whose tombstones bear many symbols and motifs with beautiful inscriptions, besides nineteen cartons of rarebooks, taletts and tefillins that had been ritually buried in these cemeteries (figs.9-10-11-12).



**Fig.9 Azarita Cemetery, Alley around No.42 (Right), Attia's Tomb and Campo's Tomb (left)**

(<http://www.nebidaniel.org/cimetieres.php>)



**Fig.10 Menasce's Moselum, Shatby Cemetery II, Alexandria (<http://www.nebidaniel.org/cimetieres.php>)**





**Fig.11 Soares' Tomb (Left), Piha's Tomb (Right) Shatby Cemetery II**  
 (<http://www.nebidaniel.org/cimetieres.php>)



**Fig.12 Sachs' Cemetery (Left), Habib Toledano's Cemetery (Right), Shatby Cemetery III**  
 (<http://www.nebidaniel.org/cimetieres.php>)

These beautiful unique cemeteries are totally neglected, never restored, filled with garbage and occupied by some homeless people (**fig.13**) (<https://egyptianstreets.com/2018/12/30/alexandrias-famed-jewish-cemeteries-to-be-registered-as-antiquities/>).



**Fig.13 Forms of Vandalism in Azarita Cemetery (Left) and Shatby III**  
 (Right) (<http://www.nebidaniel.org/cimetieres.php>)

**3.3. Besides the previous monuments, many other public Jewish buildings are still intact, beside streets and regions that still bear Jewish names like Saueres, Menasceand Smouha.**

**3.3.1The Jewish hospital** was founded in 1872 on the initiative of two Misrahi brothers in the France street in the Midan, later, the hospital was transferred to Moharam Beyin 1885on a building made by the Baron Béhor de Menasce, and finally, in 1932, they established a new hospital, located at Aboukir street, opposite the Sporting Club, still exists today under the name of Mustashfa El Talaba or "Students' Hospital" to replace the former hospital of Moharam Bey (**fig.14**). This new hospital designed by doctors from Russia, Germany and Austria with a great reputation in the Middle East, it was sold to the Egyptian army at the beginning of 1961(Manzoni, 2011).



**Fig.14 The Jewish Hospital, now called Mustashfa El Talaba or Students' Hospital, Sporting (Manzoni, 2011)**

**3.3.2 The Jewish home "Le Foyer",** located at Rassafastreet in Moharam Bey, its building still exists and houses a hospital called "New Nozha" (**fig.15**).



**Fig.15 The Jewish Home "Le Foyer" (Manzoni,2011)**

**3.3.3 The School of the Israelite Community of Alexandria (Aghion School)**

It was founded in 1907 and is still located at Shakkour Street in Al Raml Station region, currently occupied by a school for girls called "Toshka" (**fig.16**).



**Fig.16 The School of the Israelite Community of Alexandria (Manzoni, 2011)**

**3.3.4 The High School of the Jewish Union** was founded in 1925 and moved from Moharram Bey to Bulkeley (27 Valensin Street), it provided a teaching in French up to the baccalaureate and currently houses the School of Taha Hussein (Manzoni, 2011).

### **3.3.5 Smouha Sports Club**

It is one of the most famous sports clubs in Alexandria, founded in 1949 by Joseph Smouha who was a Jewish cotton manufacturer, philanthropist, property developer and designer (**fig.17**).

Smouha was originally from Baghdad, in 1917 he came to Alexandria and bought the marshes of Lake Hadara, about seven hundred acres of water and marshland, the whole area was rapidly developed through paving two-lane roads, constructing tennis courts, golf course and racetrack at the site of today's Smouha sports club and finally became the most luxurious regions of Alexandria under the name of "Smouha City"

(<http://archive.diarna.org/site/detail/public/180/>).



**Fig.17 Smouha Sports Club (<http://archive.diarna.org/site/detail/public/180/>)**

## **3.4. Ceremonial Artefacts**

### **3.4.1 Torah Scrolls**

The Sefer Torah is a manuscript on parchment or skins of Kosher animals or an animal permitted in Jewish law. The text is usually laid out over two hundred and forty-eight columns with a minimum of three columns per sheet and predetermined vertical and horizontal margins. The Scribe (Sofer) uses quills from Kosher birds, generally geese, and a special ink made of walnuts, copper sulfate, arabic gum and water. No mistake is tolerated and no correction can be made to the name of G-d.

The Sephardi Sifrei Torah are generally placed in a hinged wooden or metal box, more or less decorated with silver, mother-of-pearl or semi-precious stones (fig.18)(<https://www.bl.uk/collection-items/sefer-torah-or-1462>).



**Fig.18 Torah Scrolls kept inside wooden Boxes (<http://www.nebidaniel.org/objets.php>)**

The Torah is a testimony to the alliance between G-d and the people of Israel and it also represents divine teaching, therefore the object is of deep respect. It is at the center of the synagogue ritual services and at the heart of the passage to adulthood for every young Jew (and Jewess). The Sefer Torah thus embodies significant emotions of identity, especially through its symbolic link to family, synagogue, community, the history of each individual and the Jewish people (<http://www.nebidaniel.org/objets.php>).

Many of the Sefer Torah scrolls are existed under inappropriate conditions in the synagogues of Alexandria and also Cairo, besides other documents and books in the library of Shaar Hashamayim , all these documents must be digitally preserved like those documents that were kept in the genizah of the Ben Ezra synagogue in Fustat (Old Cairo), they are now preserved by Cambridge Digital Library including bibles, Torahs, shopping lists, marriage contracts, divorce deeds, medical book and magical amulets (<https://cudl.lib.cam.ac.uk/collections/genizah/2>).

#### **3.4.2 Kandils**

The Kandils and the Ner Tamid are silver lamps hung above the ark symbolizing the God's eternal presence in the Jews life, many of them are still intact in the synagogues of Alexandria.

#### **3.4.3 Rimonim and Yad**

Rimonim are silver bells that are used to adorn the Sefer Torah, and Yad is a long silver finger-shaped pointer used to follow the Torah reading.

In spite of the number of ancient Synagogues in Alexandria, only ten Rimonim and one Yad were found intact (<https://www.jewishvirtuallibrary.org/torah-ornaments>).

#### **3.4.4 Parochet or Parokhet**

*Parochet* is the Torah Ark curtain hung over the Ark to separate it from the prayer hall, its name related to the Hebrew term *parokhet* which separated the holy section of the Tabernacle from the Holy of Holies (Hays, 2016)

Like other ceremonial objects in the synagogue, the Torah Ark curtains were usually donated by the Jewish families who used to commemorate their donation by embroidering their names and the occasion of donation on the curtain or on an attached piece of cloth. In Alexandria, only sixty two *parochet* were found, but there are many others stored in bad conditions, covered by dust and eaten by moths (<https://www.jewishvirtuallibrary.org/the-parokhet>).

#### **3.4.5 Menorah**

It is a seven-branched candelabrum symbolizing the Jewish faith, many menorahs were found in Alexandria in addition to various cups and trophies of the former Maccabi teams in the community offices.

### **3.5 The other Jewish Documents**

There are many books, pictures of the Jewish buildings and documents that comprise an essential part of the Jewish heritage, as well as hundreds of photos of the Jews of Alexandria in different occasions and places, most of them are still with the grandsons who definitely would like to share their heritage with the whole world.

#### 4. Conservation and Revival of the Jewish Cultural Heritage

Like no other cultural heritage in Egypt, the Jewish heritage is facing a double risk:

**No documentation** of this heritage either tangible or intangible except some efforts achieved by some private Jewish organizations like NabiDanial Association and Diarna.

**The Complete negligence of the government** because of the political and social issues concerning the Jews, all this valuable heritage becomes inaccessible for all people specially researchers, the restoration and reopening of these buildings for the public is a matter of debate mainly because of the political complicated situation in the region and the high cost of this process, therefore the conservation of these monuments and artefacts can only be achieved through the digitizing process.

##### 4.1. Conservation of the Jewish Heritage using Digital Archiving

The recent attention of the scientific community is towards applying digitizing techniques to cultural heritage that quickens data transmission speeds and enables immense amounts of information to be compressed on small storage devices that can be easily preserved and transported. Laboratories of different countries have recently developed and tested systems for this application, and carried out pioneering projects concerning the digitalization of heritage works. (Pieraccini, 2001; Nikonova,2017).

The traditional methods of documenting monuments and artefacts including manual drawing and photographs of different angles are limited, slow, and time-consuming, but the digital archives are durable and unalterable, ensuring a continuous monitoring for the monuments, especially those existed in an open environment, like the three Jewish cemeteries which are continuously and irreversibly damaged by atmospheric agents. Unfortunately, the damages are visible too late, therefore the high accuracy digital acquisitions, at regular times, could detect very small deformations and cracks, allowing opportune interventions using the computer graphics tools that can virtually restore the damaged parts, creating 3D models of the monuments and artefacts in their original aspects (Pieraccini, 2001; Daneshpour, 2009).

Complete digital recording of cultural heritage is a multidimensional process; it depends highly on the nature of the subject of recording aswell as the purpose of its recording. The whole process involves the three-dimensional digitization, digital data processing and storage, archival and management, representation and reproduction (Pavlidis, 2007; Aicardi, 2018).

Since cultural heritage handling requires special care, acquisition protocols are much stricter than the ones required for scanning less valuable objects, as for example in industrial applications. In particular, the surface of the artwork being imaged cannot be touched or physically altered, furthermore the physical access to artworks can be limited by their shape, height or collocation inside a room (Pieraccini,2001).

Available 3D digitizing techniques meet a number of specific needs in the field of heritage conservation and archiving, such as the capability of grabbing the 3D shape of an object with high accuracy and without physical contact with its surface (Berndt, 2000).

Specifications of these models could meet different issues, high resolution models for the more valuable masterpieces can be achieved using mechanical sensors providing hundredths of millimeters of accuracy to make electronic copies. Digital models of lower resolution using of stereoscopy could meet the issues of the museum archives for documenting a great number of pieces (Pieraccini, 2001; Tsioukas, 2002).

Some of these digital techniques can be used for the artefacts, while others can be used for the monuments(**Table 1**), each one of them has advantages and disadvantages(Pavlidis, 2007; Stanco, 2011).

**Table 1 Different Techniques used for Digitizing Artefacts and Monuments**

| <b>Technique</b>                 | <b>Advantages</b>   | <b>Disadvantages</b>   | <b>Applicable to</b>  |
|----------------------------------|---|--|---|
| <b>Laser Scanning</b>            | High accuracy   | High cost  | Artefacts   |
| <b>Shape from Silhouette</b>     | Portable and easy   | Low resolution   | Artefacts   |
| <b>Contact Systems</b>           | High accuracy   | -Very slow<br>- Contact with objects which are sometimes prohibited. | Artefacts   |
| <b>Shape from Texture</b>        | Simple and of low cost  | Has limited applications (such as capture of fabric)                 | Artefacts ( <i>Parochet</i> )   |
| <b>Empirical Techniques</b>      | Simple, productive, portable and of low cost  | -Low accuracy<br>-Physical presence near the monument                | Monuments   |
| <b>Laser Scanning Techniques</b> | -High accuracy<br>-Productivity<br>-Large volume of data produced.  | High cost and difficulties in distinguishing material differences.   | Monuments   |
| <b>Photogrammetry</b>            | -Simple<br>- Low cost<br>-Can be used for complex objects with high surface details.<br>-It is also useful when direct access or contact to the monument is prohibited. | Based on pictures  | Monuments, specially the destroyed Jewish buildings that are available only in pictures |

## 4.2 The Revival of the Jewish Heritage

The digital database will enable the creating of a wide range of customized applications to revive the Jewish cultural heritage. Nowadays all people depend on the smart phones and laptops with various applications, therefore the using of digital applications that can be easily accessed by all people, will help us to revive the Jewish heritage in Alexandria effectively.

### 4.2.1 Mobile Guided Tour

The researcher created a mobile guided drive tour including the most important Jewish heritage sites in Alexandria under the name of “**Jewish Treasures in Alexandria**”, it lasts for about three hours. This tour can be easily downloaded on the mobile phones, including a map of five outstanding Jewish locations through the city of Alexandria taking serial numbers, and every time the tourist click on a specific location, he will read and also listen to the history of the place while standing in front of it (**fig.19**). The starting point is Menasce temple in Manshya and the end point is the palace of Paron Menasce in Moharam Bey, other sites can be included, but the tour will be too long to be conducted, probably another guided tour can be made to include the other sites ([https://voicemap.me/tour/jewish-treasures-in-alexandria/map\\_locations](https://voicemap.me/tour/jewish-treasures-in-alexandria/map_locations)).

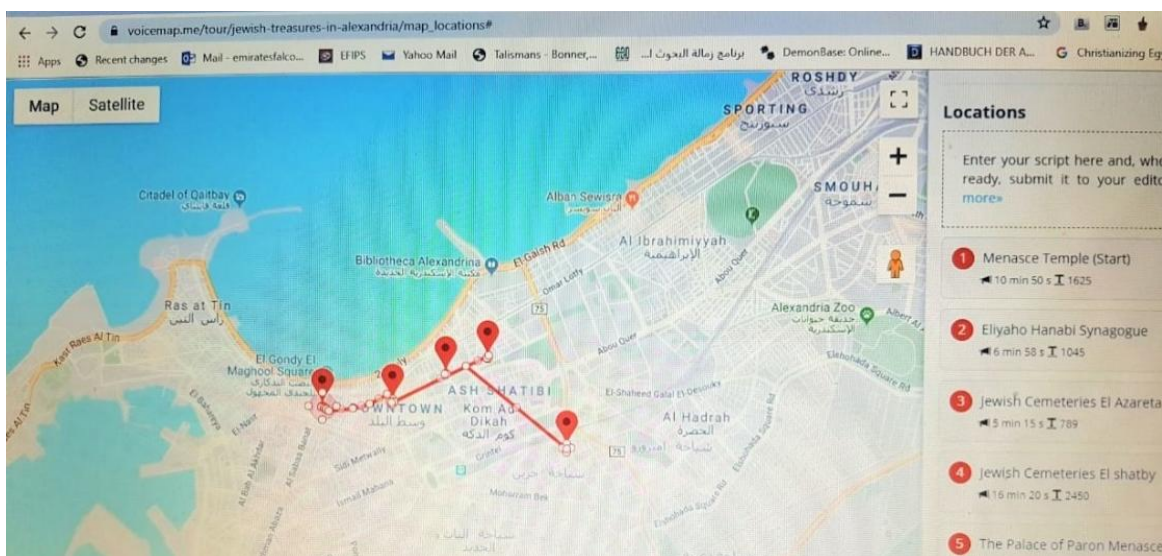
**These five sites were selected according to three main factors:**

- 1- **Importance:** The five sites are the most outstanding Jewish monuments in the city.
- 2- **Accessibility:** the five sites are accessible by car and on foot as well.

- 3- **Variation:** Various monuments are included: synagogue, cemetery and palace to show the different features of the Jewish heritage in Alexandria.

**Five main steps were followed to create the tour:**

- 1- **Mapping** the route: Put the locations on the map of the city properly.
- 2- **Writing** the description script.
- 3- **Editing** the route and the script by an assigned editor.
- 4- **Recording** the audio.
- 5- **Publishing** the tour to be available as an application.



**Fig.19 The Mobile Guided Tour “Jewish Treasures in Alexandria” (Researcher)**

#### 4.2.2 Online Jewish Heritage Museum Simulator

This museum will include all Jewish artefacts in Alexandria with full description and the option to have a conversational interface with users to interact effectively with the content under the so-called Culture Chatbot.

#### 5. Conclusion

Alexandria is a great city with outstanding history that extends from the Pharaonic period until the Islamic era. Through this long period, the Jews constituted a vital element of the Alexandrian society, enjoyed all the civil and religious rights and occupied various positions.

During the modern era, the Jews attained their position among others in Alexandria and their number increased to reach about ten thousand in 1897, they participated heavily in the urbanization of the city as they built many synagogues, schools, hospitals, stores and villas.

In spite of this rich and impressive heritage left by the Jews in Alexandria, all the attempts were to neglect and hide these treasures away of the public because of the political situation with Israel, resulting in destruction of most of the Jewish buildings in the city and deserting the others to be concealed by dust. Because of the previous reason as well as the high cost of the restoration and reopening of these monuments, appeared the need to use the modern digital technology as the only fast and effective option to safeguard and revive this heritage by two main steps:

- 1- Creating full detailed digital database
- 2- Customizing number of smart applications

Many countries and organizations are recently applying the digital technology to conserve and revive their cultural heritage through many applications that can be used by the majority of people including tourists and researchers.

To sum up, the Jewish heritage is a crucial part of the Alexandrian identity and it can't be neglected anymore. It is the responsibility of the government and private organizations to cooperate in revealing, shining up this part of Alexandria's identity and reintroducing it to the world, this research presents only some ideas that will hopefully help to achieve this dream.

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