

E-Learning and sustainable development of the field of Apparel design in the knowledge economy

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▪ Abstract :

The knowledge economy is an economy with a special character derives its specificity from the role played by the economic growth and overall sustainable development, based on the basic tools of modern information and communication and techniques of technology, including "Internet", the basic pillars including investment in the human capital, research and development and continuing education , Where the applications of these tools and pillars have resulted in a qualitative leap in the educational process that contributes to the building and development of human resource "student" creative in many areas through the transformation of "orientation" towards E-learning as traditional education is no longer able To keep up with the age of knowledge.

The study examines how E-learning in the knowledge economy can achieve sustainable development in the field of apparel design, which can be considered the first engine for the apparel industry, which is one of the most important industries in achieving economic growth, which needs continuous development to keep abreast of global developments and changes in fashion trends. The highest level of productivity with the lowest rate of consumption of raw materials and auxiliary materials where the required quality of the final product must be obtained and maintained at the lowest economic costs to meet the needs of the current generations without prejudice to the needs of the Generations On the understanding that building and developing students' technical capacities is not an end in itself but an effective tool for achieving sustainable development goals.

▪ Keywords :

(Knowledge - Knowledge economy - Sustainable development – E-learning).

▪ Introduction:

Education is one of the pillars of the knowledge economy. It is the basis for building it. The acquisition of new knowledge comes through education and training. The spread and use of this knowledge will lead to increased production, growth and sustainable development in many fields, including the field of apparel design, which is an innovative activity that contributes to the production and creativity of fashion lines and trends. It is also a technical activity that helps in the practical and executive work of clothes and thus it is in itself a science and art that needs further study and continuous research and development.

In order to achieve this, the field of apparel design requires the use of a flexible and continuous educational system that offers students to develop their technical skills and help them to think and creativity, as the traditional methods and methods are no longer able to add new educational content provided to students, especially as we live today information age where the richness of knowledge and information flow, This has led to the introduction of educational mechanisms that support traditional education, such as e-learning , which was

imposed by scientific and technological changes as a rich and fertile basic education environment that contributes to building the creative "fashion designer" and provides the market with the skilled workforce. "Knowledge Economy" through the diversity of information, databases, communication technology and multiple forms of knowledge.

▪ **Research Problem:**

The problem with research that has become a sustainable development of the field of apparel design in light of the knowledge economy based on knowledge and creativity, so research seeks to answer the question of the following:

- 1.What are the basic features of the knowledge economy that led to the transformation towards e-learning?
- 2.How can e-learning contribute to the sustainable development of the field of apparel design in the knowledge economy?

▪ **Research Objectives :**

Highlight the basic features of "the concept, pillars, requirements" of the knowledge economy, and how e-learning contributes to sustainable development of field of apparel design.

▪ **research importance:**

It leads to a serious approach towards activating e-learning and the interest in using its various styles in the field of apparel design This is in view of the urgent need for a rich learning and learning environment that provides students with the opportunity simultaneously or asynchronously to communicate continuously with the sources of learning the design of local and international clothing and develop their competence and develop their creative and creative abilities , especially since traditional methods of education can no longer cope with the knowledge and technological revolution in the era of the knowledge economy.

▪ **Search Hypothesis:**

The research assumes that e-learning is the strategic option that is indispensable for sustainable development of the field of apparel design in the knowledge economy.

▪ **search limits :**

Limited to application work as a simple model for an e-learning environment that is used by mobile phones and tablets.

▪ **Research Methodology :**

The research follows the analytical and applied approach to suit the research objectives.

▪ **Research axes:**

First: The theoretical framework: (The field of apparel design in the knowledge economy , e-learning and sustainable development of the field of apparel design) .

Second: application Framework: Includes educational and illustrative steps for use and application possibilities.

▪ **Application Framework**

The researcher applied the application of the Blended Learning for the field of apparel design With the aim of creating an interactive electronic "technical" learning environment as a simple model based on the addition of virtual content that corresponds to reality. This

technique combines both virtual and real representation , This Application is used for mobile applications and tablets, In this e-learning environment, the student is an active participant in the educational process he role of faculty member is facilitator and mentor to help the student to self-learn and acquire skills, As students communicate with each other and with a faculty member to get an answer to their queries and reactions to their performance, this interaction and interaction makes the education process more interesting and more effective and positive. When using this application, a live snapshot of the "human body", And after the transformation of the designs of the dimensional dimensions "fixed image" to the multi-media embodied in the three-dimensional image, The student is trained to dress different styles of "selected designs" on the model body of the district, To integrate the real-time user environment from the "live snapshot of the model" with the chosen clothing designs as virtual virtual environment, And the presentation of the designs and translate and transfer the body as a practical application in the form of 3D "3d" to clarify the design idea even with changes that result from changing the movement of the body, With the possibility of changing the place and the environment and atmosphere surrounding, in addition to the possibility of selection and change colors and fabrics and supplements to highlight the aesthetics and design of designs in line with the living model, , And this helps to open a wide area in front of the student to implement the idea in many directions to reach several alternatives, This stimulates inspiration and imagination and leads to the development of students' higher thinking skills and deepen the skills of analysis, conclusion, criticism and evaluation, which increases their creative abilities, As shown in the models presented by the researcher.



Figure (1-a)



Figure (1-b)

Figure 1(a,b) : Shows entering of various manicans, vocabulary and parts of the "clothing", and its structure, illustrate the three-dimensional image



Figure (2) : Shows the possibility of using color techniques in the Application application to show the embodiment and the vocabulary and parts of the 3D design



Figure (3): Shows the important lines on which the model is based and the possibility of controlling the lengths



Figure 4: Taking and entering a live snapshot of the "human body" model, to create a simulated environment for experimentation through application capabilities



Figure (5): Shows the possibility of showing the effects of fabrics and fernsDifferent design chosen "dress"



Figure (6-a)

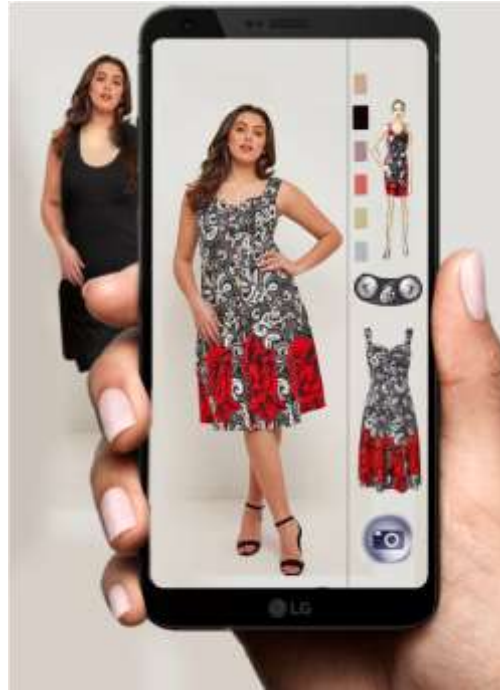


Figure (6-b)



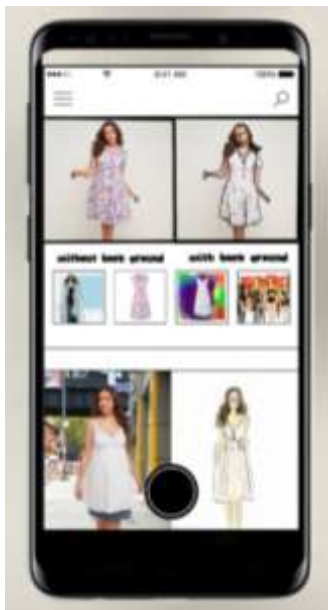
Figure (6-c)



Figure (6-d)

Figure 6 (a,b,c,d) : Shows the possibility of the work of coating experiments on the living model through the selection and installation of different items for each other and at the same time in a homogeneous manner to achieve the aesthetic values of design

With the aim of giving the student the skill of dressing the model easily and with any movement of the model body



Figure(7-a)

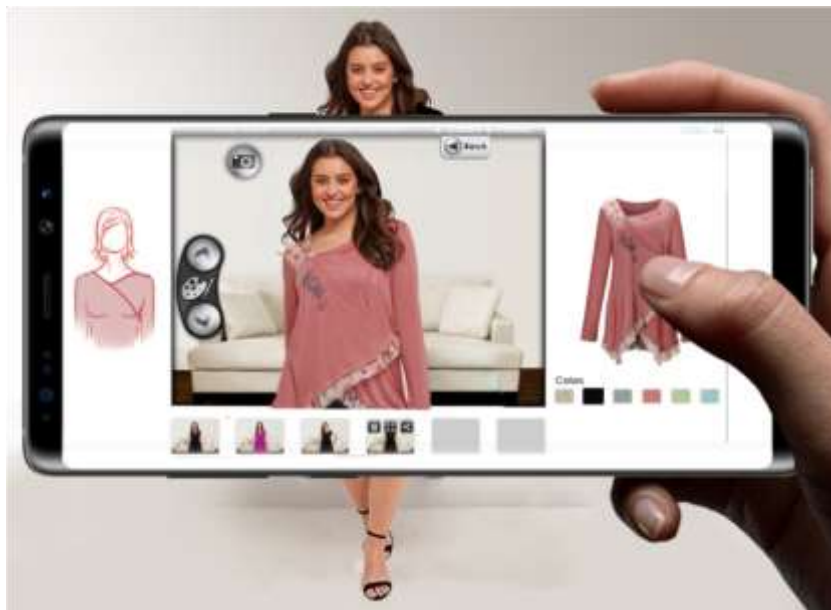


Figure (7-b)

Figure 7 (a,b): shows the possibility of changing the place, environment and atmosphere surrounding the user in real time "from the live snapshot of the model", in order to provide the student with the skill of designing clothes appropriate to the occasion and time and place of wearing

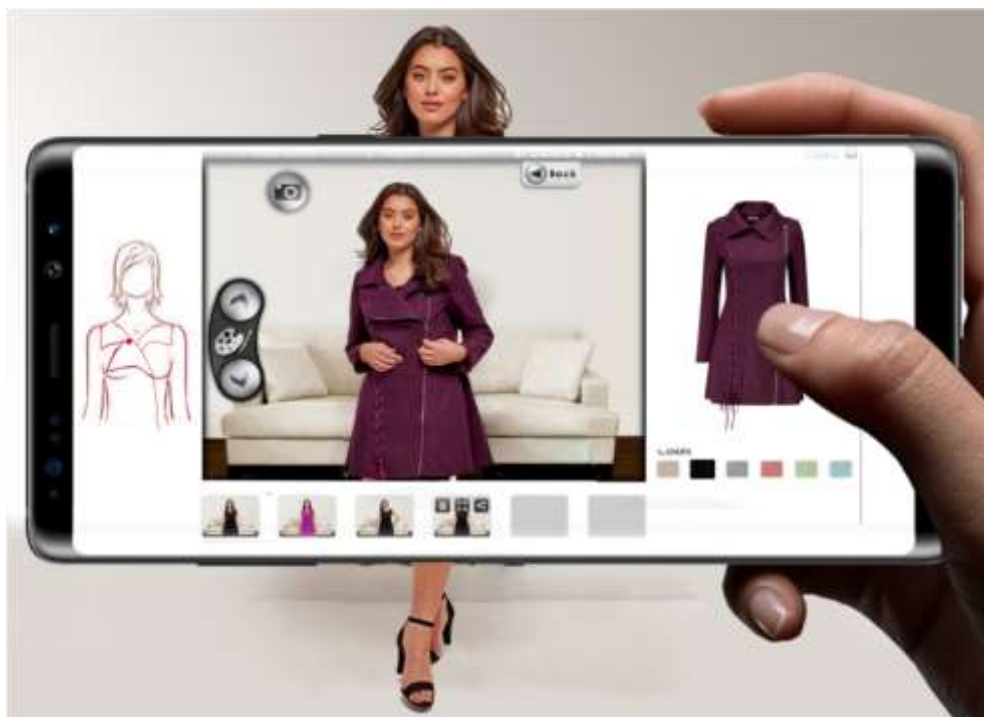


Figure (8): shows the possibility of using the colors in the Application application to color the design, and make some adjustments to them as desired

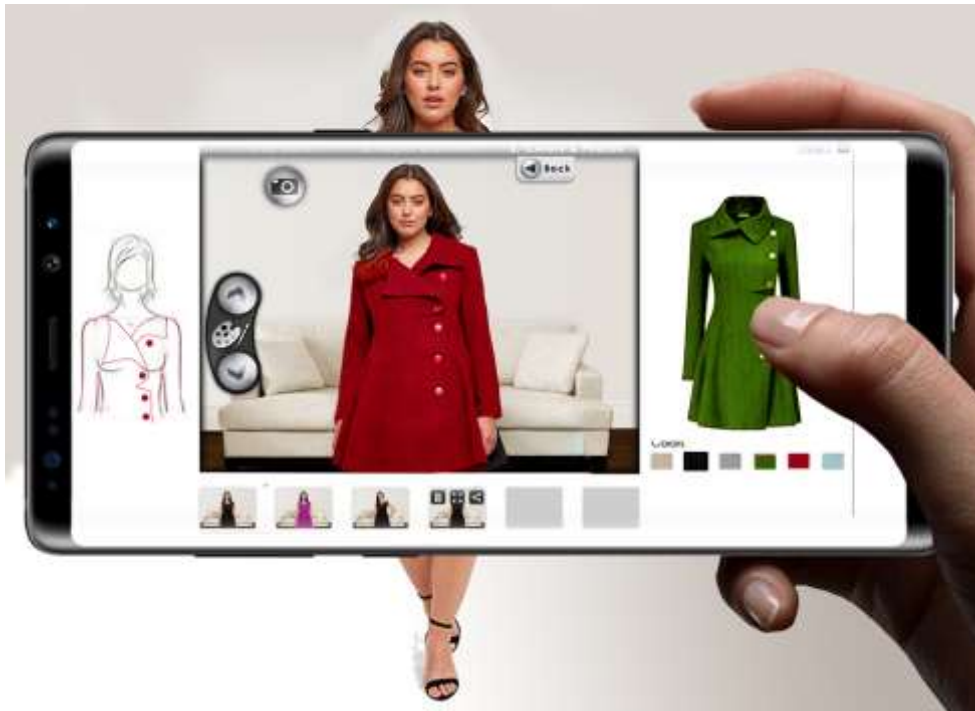


Figure (9): Shows the possibility of changing the colors and choose what suits the design and the living model

In order to give the student the skill to choose the appropriate colors expressed in the design, considering the color of one of the most important elements in the design and the most exciting

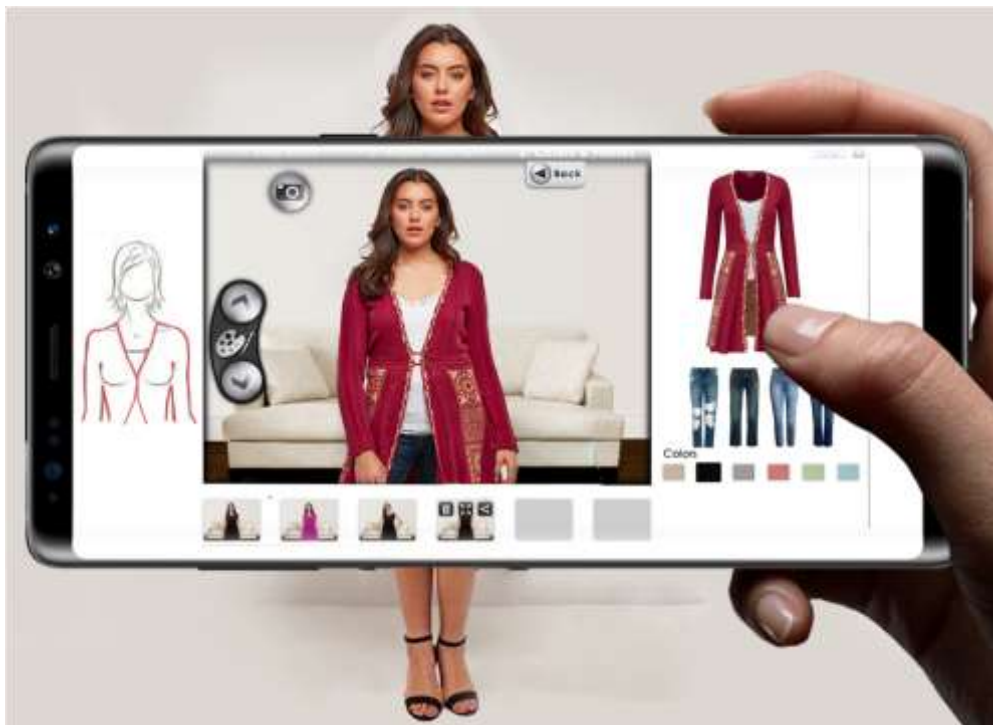


Figure (10): shows the possibility of choosing between different models of trousers, to illustrate how the different styles of the different parts of the garment, and their suitability to the surrounding environment and the body of the living model

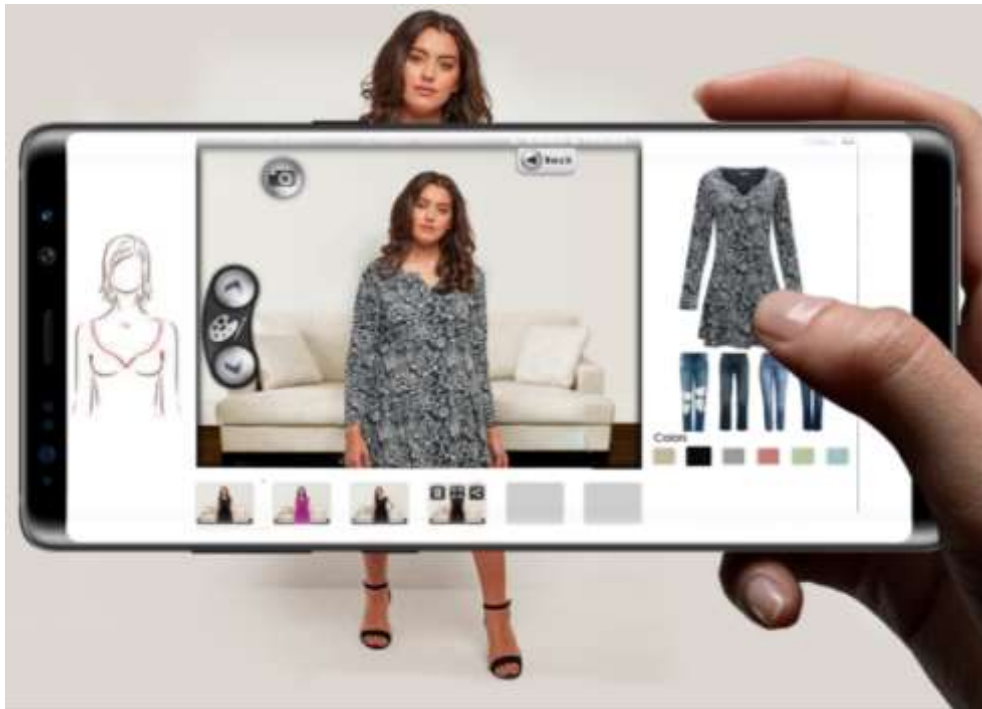
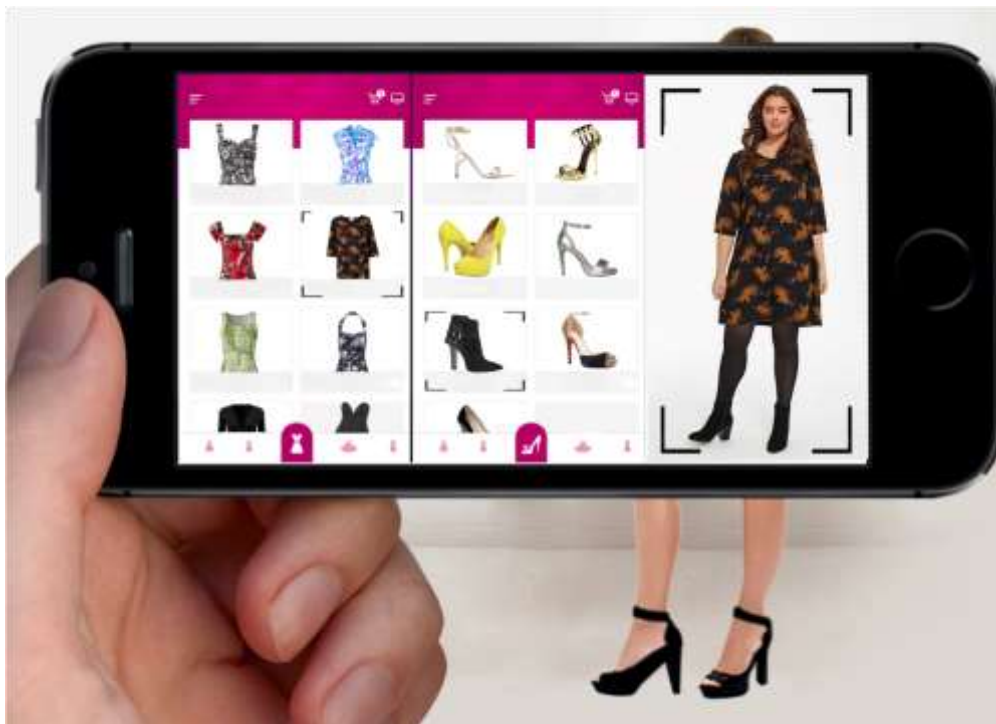


Figure (11-a)



Figure (11-b)

Figure 11 (a,b) illustrates the possibility of adding and changing the decorative design of the fabrics in proportion to the design and structural form, With the aim of providing the student with the skill of choosing the decorative design that supports the design of the fabric in terms of structural and functional, which corresponds to the shape of the shadow of the costume



**Figure (12): Shows the possibility of selecting the appropriate supplements to achieve the complementary touch of the clothing
In order to give the student the skill of designing patterns of clothing "uniform and complementary" integrated in terms of harmony**



Figure (13-a)



Figure (13-b)

**Figure 13 (a,b): Shows the Application menu
In order to give the student "designer" skill dealing with the application application "technology"
And use it to express his ideas and opinions and then output his designs in a functional capacity with the aesthetic touch that helps in the spread and marketing of his designs**

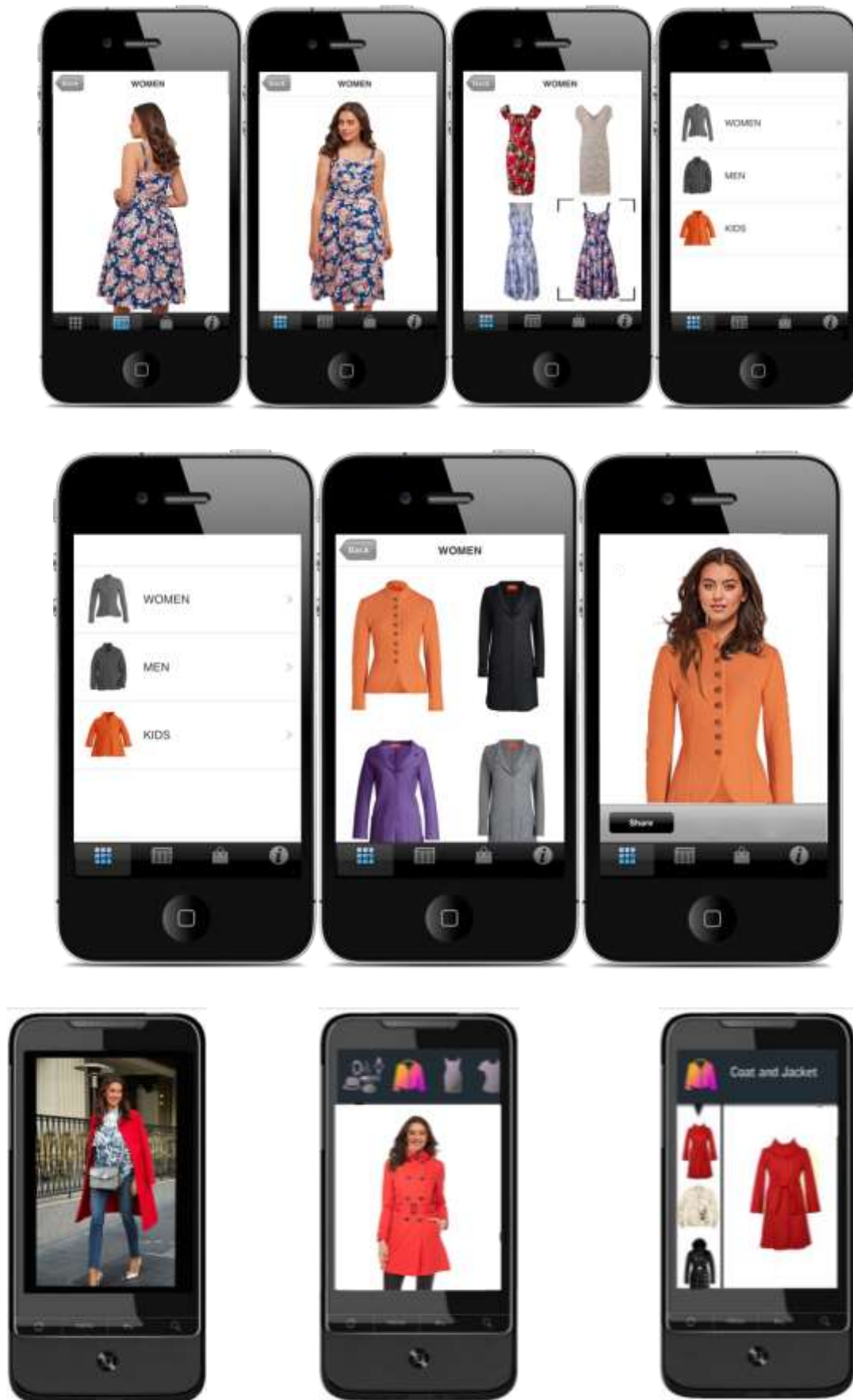


Figure (14): Shows how to handle the application



**Figure 15: Shows the possibility of browsing this application and reviewing all previous steps
In order to provide students with the skill of presenting and arranging ideas according to specific steps
suited to the artistic work "design"**

**Understanding how their experiences are built through experience, and giving them the opportunity to
evaluate their performance**

The researcher believes that this application is used as a representation of blended learning for For the field of apparel designing, the meaning of the knowledge economy is established in the mind of both the faculty member and the student , And pays to provide an appropriate description of the various roles of the faculty member "as a guide and facilitator of the educational process and the student through dialogue" And the student "as an active participant in the educational process" in light of the trend towards the knowledge economy and meet its requirements.

Results:

1. In the era of the knowledge economy, the importance of knowledge and the work force with high knowledge, skills and modernity is growing. Therefore, the transformation from traditional educational systems to e-learning is the strategic option that is indispensable for knowledge,, Raising and upgrading the educational process of the field of apparel design, , and to develop a wide range of flexible and continuous self-education, and to create a generation of fashion designers capable of interacting positively with the latest developments and developments in the world.

2. Provide an electronic learning environment in the classroom during the lecture helps to engage the student in the process of building knowledge and learning, and give feedback fast Giving him higher levels of understanding that encourage him to use the skills of knowledge that allows him to reflect on the process of learning, And develops the skills of higher thinking skills of analysis and conclusion, criticism and evaluation and creativity, which results in effective educational and development results for the field of apparel designing .

3. Building technical capabilities and developing the creative skills of students "fashion designers" through e-learning development of field of apparel design, on the understanding that technical capacity building is not an end in itself but an effective tool for achieving development goals.

Recommendations:

1. E-learning, its applications, and various forms must be adopted and made essential for its importance and necessity in supporting the sustainable educational and development process, for the field of appareldesign, especially in view of the current inability of the traditional educational system to achieve outputs that correspond to the visions and requirements of the knowledge economy.
2. Provide an electronic learning environment in the classroom, and provide technical support and tools and means to develop the process of education for thefield of apparel design during the lecture , And provide consultations by faculty members, so as to create a generation conscious and distinct capable of creativity and innovation "tender" In the field of apparel designing, and can cope with the technological revolution and cope with the continuous changes of fashion.
3. The need to support students and encourage them to self-education and initiative in education, and enhance the ability of students to learn to the maximum extent through e-learning styles and environments , so as to develop cognitive intelligence, prepare the designer possess technical and technical skills and domestic and global competitiveness.

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