



Meeting the Digital-Physical Mashups: Identifying Strategies in the Development of Apparel Design Capstone ePortfolios

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Background

The primary purpose of a design capstone class is to culminate a student's final college years in a project and integrate what they have learned. The project takes the form of an exhibition, a fashion show, an industry sponsored design project, and/or a portfolio to showcase the student's work as a graduating senior (Goldbergh et al., 2014). Especially in recent years, electronic portfolios (ePortfolios) have been emphasized because ePortfolios can be used to compile and demonstrate a student's work as part of the application process for employment and thus make an effective interviewing tool (Thao, 2016). Educators are also focusing on portfolio-based learning and evaluation, and design capstone courses are formed around developing ePortfolios (Seifert & Chattaraman, 2015; Fitch et al., 2008). In general, students present a professional summary highlighting their design philosophy, career goals, and accomplishments (Hanhart & Grahe, 2015). These practices are identified as a high-impact practice by the National Survey of Student Engagement (NSSE) and the Association of American Colleges and Universities' LEAP initiative (Watson et al., 2016).

Purpose, Significance, and Theoretical Framework

Despite the importance of having effective ePortfolios, practical strategies in terms of contents (physical and digital artifacts) and layout formation of the website are not discussed in the literature. Students must use ePortfolios to archive their learning, progress, and achievement. Thus, this study develops a framework that helps design students create effective ePortfolios that meet the current needs of the apparel industry. Current textbooks and studies are limited to discussions of general use or contents of design portfolios such as fashion illustrations, technical flats, and mood boards. However, more attention should be given to exploring how to archive and present physical and digital contents effectively on a website platform. In particular, previous researchers have highlighted the importance of the process of personal identity formation—"a self-reflective process of turning thought inward to analyze and reflect on intrapersonal views, values, and convictions" (Berzonsky & Barclay, 1981, p.207)—since portfolios become a "living portal" and provide students a means to present themselves to others (Nguyen, 2013, p.143). Instructors can use the proposed framework as a guideline for teaching senior capstone classes to ensure students develop effective ePortfolios for the job market that meet the current needs of the apparel industry.

Method and Strategies

This study comprised two phases. In the first phase, researchers analyzed the contents (e.g., web layout, menus and pages, navigating options, key words, visual and written contents, and aesthetics) of 91 active ePortfolios retrieved from senior design capstone classes at two different universities. The researchers created two ePortfolio samples based on the most commonly used

formats by the students; in each site, the general designs and contents stayed the same but they had different layout options and aesthetics. In the second phase, 10 industry professionals reviewed the two ePortfolios and gave feedback by completing an online survey. The survey included 15 closed-ended questions asking about the effectiveness of the contents and layouts of each ePortfolio and three open-ended questions asking about the strengths and weaknesses of each site along with their perceived attributes of an ideal apparel design ePortfolio. Descriptive statistics analysis and content analysis were used to explore the content of the qualitative data from the survey (Creswell, 2014). Based on the content analysis of the student ePortfolios and the industry professional's feedback, a digital framework of effective apparel design ePortfolio was proposed that highlights the apparel and technical designs.

Results and Discussions

Ninety-one active ePortfolios created between 2016 and 2019 at two universities (46 and 45) were reviewed. The ePortfolios were made by graduating seniors and included 11 male students. The results indicated that most students used *wix* as the main platform and 6% used *squarespace*. A horizontal layout was most commonly used for the home page, where 40% of the students had the word "Welcome" along with their name as the title (94%), a brand name (44%), and graphic logos (34%). The most frequently used main menus included *Collection, Senior Line, Project Names, Resume, Contact, About, Internship/Industry Experiences, Fashion Illustration, Textile Designs, Computer-Aided Design (CAD), Styling, Illustrator, Photoshop, and Technical Flats*. Other titles included *Drawings, Print and Graphics, Research, Technologies, Visual Merchandising, Costume Designs, and Blog*. The contents were mostly divided into two categories: *skills* and *projects*. The two most common types of visual layout were an all-over page layout and an all-over expandable page layout. The results from the industry participants indicated that the most important factor of an effective ePortfolio is that it must be *easy to navigate* and avoid hidden drop-down menus: "*Clarity is the most important.... I need to navigate things easily*" [P9]. The participants also highlighted the importance of having "*key words*" or buzz words that align with current industry trends such as explicitly stating words like "*CAD, 3D, sustainability, and visualization*" [P2; P5; P9; P10]. Based on the results, two digital frameworks of effective apparel design ePortfolios were proposed. The first template is categorized by skills such as *technical sketches, digital pattern making, fashion illustration, garment construction, and market research*. The second template is categorized by projects and themes such as *sustainability, capstone collection, and other projects by name*. Each digital framework emphasizes the importance of presenting documentations of design process and visualization methods to showcase both physical (e.g., garment constructions, prototypes) and digital artifacts (e.g., screenshots of CAD work). The presentation of this study includes graphics of the most commonly practiced ePortfolio layouts based on the content analysis and the two proposed layouts for future adoption. The framework can be used as a base, and apparel design students can flexibly customize the framework to suit their professional goals, whether they are seeking internship, entry-level apparel design, or technical design positions.

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