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Managing Education at a Distance: An Interim Review of Instructional Project Management at the University of West Indies Open Campus

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Abstract

The Course Development Department of the University of the West Indies Open Campus (UWIOC) was experiencing challenges with developing online courses in a timely and efficient manner. These challenges included insufficient infrastructure and human resources, diverse experience in online environments, and delivery across geographically dispersed sites. In an effort to address these and other challenges, UWIOC employed instructional project management strategies specifically tailored to online environments. This reflective case study reports how these strategies facilitated improvements with online course development in one university setting. The findings support the nexus between project management strategies and instructional design principles, and its potential to create an online community of learners and on online community of practice.

Résumé

Le service d'élaboration des cours de l'University of the West Indies Open Campus (UWIOC) éprouvait des défis à élaborer des cours en ligne à temps et de manière efficace. Ces défis incluaient une infrastructure et des ressources humaines insuffisantes, des expériences diversifiées dans des environnements en ligne, et la livraison dans l'ensemble des sites dispersés géographiquement. Dans un effort pour relever ces défis et plusieurs autres, l'UWIOC a employé des stratégies de gestion de projet spécifiquement adaptées aux environnements en ligne. Cette étude de cas réflexive rapporte de quelle façon ces stratégies ont facilité des améliorations avec l'élaboration des cours en ligne dans un milieu universitaire. Les résultats confirment le lien entre les stratégies de gestion de projet et les principes de conception pédagogique, et son potentiel de création d'une communauté d'apprenants.

Introduction

Developing effective, learner-centered, high quality online course material has always garnered the attention and efforts of distance educators (Irlbeck, Kays, Jones & Sims, 2006; Panda & Garg, 2006) including those at UWIOC. Independent of a particular organizational structure and instructional design model, online course material may be fraught with the following recurring challenges: 1) late submission of materials by course developers, leading to their hasty completion, and 2) inconsistency in the course development processes and procedures, resulting in the development of poor quality educational material and complaints from disgruntled students (Panda & Garg, 2006). Compounding these challenges is the increased demand for quality online courses that may or may not take full advantage of the rapid developments in Information and Communication Technology (ICT). Examples of these developments include the ability to personalize and share content in a community of learners using two-

way synchronous communication, access to a vast array of quality educational resources and information via the World Wide Web, which are readily available and affordable, and learning environments where flexibility, diversity and choice are commonplace (Garrison, 2000).

The Course Development Department of the University of the West Indies Open Campus (UWIOC) was experiencing challenges with developing online courses in a timely and efficient manner. These challenges included insufficient infrastructure and human resources, diverse experience in online environments, and delivery across geographically dispersed sites. In an effort to address these and other challenges, UWIOC employed instructional project management strategies specifically tailored to online environments. This reflective case study reports how these strategies facilitated improvements with online course development in one university setting.

The UWI Context

In 1982, the University of the West Indies (UWI) formally began incorporating distance education offerings (Brandon, 1996; Kuboni, Thurab-Nkhosi & Chen, 2002). Central to this move was the pursuit of fulfilling the institution's mission of unlocking the potential of the peoples of the Caribbean (Thurab-Nkhosi & Seecheran, 2005; Thurab-Nkhosi, 2006). A large proportion of the institution's constituents was geographically dispersed and experienced time and place constraints in accessing their education. Early in the history of the University of the West Indies Distance Teaching Experiment (UWIDITE) and University of the West Indies Distance Education Centre (UWIDEC), curriculum development was faculty driven and print-based. Staff were assigned to each of three campuses (the Cave Hill Campus in Barbados, the Mona Campus in Jamaica, and the St. Augustine Campus in Trinidad) to support course development.

In August 2008, the UWI amalgamated its distance education component, the UWIDEC, with its outreach sectors and formally established a fourth campus – the University of the West Indies Open Campus (UWIOC). Course development became the sole responsibility of the newly established campus, with four departments created specifically for this purpose: The Pre-University Department, the Undergraduate Department, the Graduate Department and the Special Projects Department. In 2011, in addition to replacing print-based with 100% online course material, UWIOC underwent another structural adjustment whereby all aspects of course development became centralized in a single department, the Course Development Department (CDD).

The formation of the Course Development Department (CDD) served as the catalyst for a recognition by UWI that, in order to respond effectively to the challenges of timely and efficient development of course materials, it needed to radically rethink its course development processes and procedures. Specifically, UWI needed to adopt a systematic approach, one that would ensure standardization, structure and consistency in the course development processes and procedures and that allowed for collaboration, team work and seamless communication across geographically dispersed campuses. In this regard, stakeholders recognized that, specific to the UWI context, there was a disconnect between theory and practice (Cheng-Chang, 2012). Moreover, throughout the years, the focus had been solely on the

epistemology and pedagogy of creating learner-centered course material (Irlbeck, Kays, Jones & Sims, 2006). Essentially, UWI now needed to complement its existing instructional design model with clearly articulated project management strategies (Brandon, 2004) that would translate into the blending of academic and business processes and procedures (Chin, Yap & Spowage, 2011; Kenny, 2004; Kenny & McNaught, 2000; Staley & Ice, 2009; Ward, West, Peat & Atkinson, 2010; Williams van Rooij, 2009; Wozniak, Scott & Atkinson, 2005), a permutation that UWI had never previously considered.

Underpinning its efforts to address online course development challenges was UWI's desire to create an online working environment in which members would think critically and problem solve as well as communicate and collaborate openly and freely in order to achieve common objectives (Hurst & Thomas, 2004; Staley & Ice, 2009). Ultimately, it was the intention of UWI to create an online critical community of student learners (Housego, 2002; Laxton & Applebee, 2010; Schwier, Campbell & Kenny, 2004; Staley & Ice, 2009; Swan, Richardson, Ice, Garrison, Cleveland-Innes & Arbaugh, 2008); and an online community of practice that included institutional administrators, instructional design (ID) and project management staff, and faculty.

Committed to quality distance and online education, UWI explored a model that combined the best of project management methods described as useful in a variety of industries as well as for projects of diverse types and sizes (Byers, 2005; Chen, Qiang & Wand, 2009; Robichaud & Anantatmula, 2011; Williams van Rooij, 2011; Zwikael & Globerson, 2007) with instructional design strategies in order to address some of the aforementioned issues. The combination of these is referred to throughout this paper as "Instructional Project Management (IPM)".

Review of the Related Literature

Instructional Design Approaches

A review of the related literature reveals that the various ID approaches that have informed online course development to date have been in response to effectively addressing issues that have directly impacted particular disciplines. The most significant have been changes in our understanding of how people learn, rapid advances in ICT, the increasing use of the Internet in delivering education online (Irlbeck, Kays, Jones and Sims, 2006; Kenny, 2004; Kenny & McNaught, 2000; Sharma, 2011) and having to effectively respond to and cope with 21st century challenges impacting the field of education in general and distance education in particular (Abdous & He, 2008; Li & Shearer, 2005; Morrison, Ross & Kemp, 2004; Williams van Rooij, 2009).

According to the literature, when course material was print-based the focus was on learning, i.e., its quality and effectiveness as well as the learner support systems in place, i.e., their responsiveness in supporting the learner (Panda & Garg, 2006). The corresponding traditional or first-generation ID models, based on the ADDIE model (analyze, design, develop, implement and evaluate), followed a planned, prescriptive, linear, logical, sequential approach, viewing ID as a product (Cheng-Chang, 2012; Irlbeck, Kays, Jones & Sims, 2006; Kenny, Zhang, Schwier & Campbell, 2005). Changes in our

understanding of how people learn and how information is processed resulted in the incorporation of systems thinking, constructivism, and interactive, learner-centered approaches to the ADDIE model (Akbulut, 2007; Cheng-Chang, 2012; Irlbeck, Kays, Jones & Sims, 2006; Kenny, Zhang, Schwier & Campbell, 2005; Sims, 2006). This period saw the move away from ID being viewed as a product to a process consisting of needs assessment, task analysis, objectives formulation, content and assessment development, as well as the implementation and revision of the developed product (Irlbeck, Kays, Jones & Sims, 2006; Morrison, Ross & Kemp, 2004; Smith & Ragan, 2005).

Rapid advances in ICT and increased use of the Internet to deliver education online has provided instructional designers with the flexibility and capability to cater to the wide variety of learning styles and meet learners' individual needs, as well as providing technologically savvy and experienced learners with a wide array of choices, using an assortment of dynamic delivery platforms (Irlbeck, Kays, Jones & Sims, 2006; Oblinger & Oblinger, 2005; Sims, 2006; Wozniak, Scott & Atkinson, 2005). The consequences are twofold. First is the need to adapt, modify and expand the array of existing ID models to better reflect and meet the specific needs, conditions and peculiarities of the online environment (Akbulut, 2007; Hurst & Thomas, 2004; Irlbeck, Kays, Jones & Sims, 2006; Kenny, 2004; Sims, 2006; Soto, 2013). Examples of changing ID approaches include: 1) emergent models that reflect a multidisciplinary approach to ID as well as the problem-solving, adaptive, collaborative, iterative and complex nature of the ID process within the environment (Irlbeck, Kays, Jones & Sims, 2006; Maina, 2009; Sims, 2006), 2) the customization of existing models to address specific circumstances (Kenny, 2001; Staley & Ice, 2009), and 3) and team-based approaches that are based on the principles of theories of learning (Rahman, 2006). Second is the recognition that improved productivity leads to improved student learning and that this can be achieved through systematic planning in the form of systems thinking (Morrison, Ross & Kemp, 2004), acknowledging for the first time the business component of ID.

Contemporary ID Challenges and Contexts

Initially, transitions to more business-like approaches were achieved through the incorporation of the systematic planning and instructional processes, which focused instructional designers' attention on the value of the processes involved in designing effective instruction from an academic as well as a business perspective (Cheng-Chang, 2012; Morrison, Ross & Kemp, 2004). More recently however, 21st century challenges find educational institutions and business enterprises faced with the imperative need to increase organizational efficiency, effectiveness and productivity, attend to issues related to quality assurance and accountability, and the need to maximize the use of human and financial resources (Kenny, 2001; Morrison, Ross & Kemp, 2004).

Instructional designers now find themselves operating in environments challenged by financial constraints, limited numbers of staff, the increasing use of virtual instructional design teams, pressure to complete quality instructional design in the shortest possible time (Williams van Rooij, 2010), and to do so on schedule and within budget, as well as realize a return on investment for the institution (Kenny & McNaught, 2000; Li & Shearer, 2005). These challenges have brought to the fore ID and management of ID, and production processes and procedures that are inefficient, resulting in poor quality course design,

delays in course delivery and cost overruns (Abdous & He, 2008). The result was the realization that the overall management of online course development had to improve (Abdous & He, 2008), and that the systematic planning processes afforded by ID models in and of themselves were inadequate given the present circumstances (Morrison, Ross & Kemp, 2004). Increasingly, one solution to effectively address these issues and operate successfully in this type of environment has been the incorporation of strictly business management processes and procedures with existing ID models (Abdous & He, 2008). Specifically, an expanded approach to ID, one such as IPM adopted by UWIOC, that incorporates a systematic approach to the planning, collaboration, quality assurance, resource and time management aspects (Abdous & He, 2008) of ID processes and procedures as well as the ability to formally monitor, keep track of and report progress, stay within budget, assess risk and identify and resolve problems as they arise (Staley & Ice, 2009).

Integrating two seemingly disparate concepts, project management and ID, have been referred to as an oxymoron, 'mission impossible', incongruous, and the proverbial mixing of oil with water (McGriff, 2000). Despite these epithets, instructional designers have found that project management methodology, with its strong emphasis on efficiency, complements ID models (Brandon, 2004; Cheng-Chang, 2012) and as such, provides a relevant and viable solution to current problems experienced in the field (Williams van Rooij, 2011). The result is the increasing adoption and integration of various forms and components of IPM, which has previously been used effectively in business, industry, government and the military, and in the field of ID (Abdous & He, 2008; Irlbeck, Kays, Jones & Sims, 2006; Laxton & Applebee, 2010). Examples include the blending of Microsoft Office Project Server 2003 (Enterprise Project Management) with online course development practices as an attempt to apply a systematic approach to online course development (Abdous & He, 2008), the APUS Instructional Design and Development Model (Staley & Ice, 2009) representing an amalgam of ID and instructional systems design models that suited institution-specific design needs, the selection of project management tools and principles to assist in monitoring, reporting and problem-solving and the application of the Community of Inquiry (COI) framework to facilitate communication and collaboration among geographically dispersed team members (Laxton & Applebee, 2010; Staley & Ice, 2009). It is now recognized that project management, although complementary, is a methodology that is separate and distinct from any model of ID (Williams van Rooij, 2009; 2011) and that instructional designers need to include the related competencies and skills as an integral part of their repertoire (Brandon, 2004; Cheng-Chang, 2012; Williams van Rooij, 2011).

The following reflective case study reports on how the CDD applied the IPM approach to the development of courses for the B Ed in Early Childhood Development and Family Studies at UWIOC. Issues that arose, how they were addressed, lessons learned and recommendations for future online course development are also discussed. This case study is based on the reflections of the author of this paper who functioned as the lead project manager, curriculum development specialist, and principal coordinator of the IPM initiative.

The IPM Framework Implemented at UWIOC

This reflective analysis provides a tangible framework to guide and inform online course development at any post-secondary institution. It also addresses the experience of UWIOC as it attempted to address its own challenges and strived to meet the demand for quality online courses that take full advantage of rapid developments in Information and Communication Technology (ICT). This reflective analysis seeks to answer the following questions:

1. How can the IPM framework improve the overall efficiency and timeliness of online course development?
2. To what extent can an IPM framework create an online community of learners?

IPM refers to the incorporation of project management methodology with instructional design models. In this regard, instructional systems design refers to the systematic design of instruction that results in practical and effective solutions to performance problems that have been detected (Cheng-Chang, 2012). It has its foundation in systems theory where instructional design is deemed systemic as well as systematic (Cheng-Chang, 2012). Project management refers to the application of a body of knowledge, skills, tools and techniques to project activities to meet project requirements (Williams van Rooij, 2011), its purpose being to provide a structured framework that strives to ensure that project goals and objectives are met (Klein, 2006). Overall efficiency and timeliness refer to planning, collaboration, quality assurance, time management and resource allocation (Abdous & He, 2008; Morrison, Ross & Kemp, 2004). An online community of learners refers to the process of developing meaningful learning experiences built on the cognitive, social and teaching presences as espoused by Garrison and Anderson (2003) through the community of inquiry (COI) framework (Garrison & Anderson, 2003; Staley & Ice, 2009).

Applying the IPM Framework

Every project has a life cycle that, using principles of project management, equates to five distinct phases: 1) initiating the project, 2) building the project team, 3) project planning, 4) project control and, 5) terminating the project which includes creating reports that review what the project accomplished, lessons learned and recommendations for future projects (McGriff, 2000; Williams van Rooij, 2009). At UWIOC, nine courses were developed for the Bachelor of Education in Early Childhood Development and Family Studies (B.Ed). Because the project is still in process, only four of the five phases are described in the following sections.

Initiating the Project

By sheer coincidence, the author of this paper recently took a course in IPM and, convinced of its benefits, initiated a series of online discussions and email exchanges with members of the CDD regarding the framework. Fully supported by the Head of the Department, a unanimous decision was

made to incorporate project management methodology into the development of the courses for the B.Ed. in Early Childhood Development and Family Studies.

No formal project proposal was produced for a number of reasons. Foremost among them was pressure to begin course development for this program as quickly as possible, since it had already been advertised and applications were being received from prospective students. Compounding this situation was the fact that incorporating IPM strategies into course development was new to the CDD. Time constraints meant that familiarization with and exposure to this methodology had to take place concurrently with course development.

Despite these constraints it was determined that the overall objective was to improve the efficiency and timeliness of the Department's course development processes and procedures. Team members agreed to refine and revise current processes that resulted in: 1) deadline for course development were increased from four to six months, inclusive of a one month review period, 2) course development training material that already existed was used to inform and guide the process, 3) all milestones and deliverables were scheduled to occur within the six month timeframe and 4) reporting procedures and communication plans were applied to the project. No official budget was required because a fee for course development already existed and was used as part of normal operating procedures.

Building the Project Team

Individuals responsible for online course development generally work on geographically dispersed "virtual teams" with minimal face-to-face interaction (Malhotra, Majchrzak, & Rosen, 2007). At UWIOC, virtual teams were composed of staff and subject matter experts (SME) who collaboratively developed the online content. Staff and SME possessed diverse levels of experience and were collectively responsible for varying but complementary levels of activity in the course development process. They were hired for the specific purpose of developing online courses on a contractual basis and the duration of the contract was generally between 4 and 6 months.

The CDD was in transition where members of staff worked together as a single unit for the first time, having belonged to different departments or units previously. During the transition to new responsibilities, staff were responsible for outstanding previous work commitments which created a few challenges to overcome. As in many universities, staff also worked on other programs that had been assigned to the them, which meant that they were unable to fully commit their time and attention to one particular project.

SMEs selected to develop the online courses were required to possess at least a Master's degree in the field of Early Childhood Development and Family Studies. Once identified, course developers were asked to submit expressions of interest for particular courses they wished to develop. Of the nine courses, five were developed by one SME and the four remaining courses were developed by two SMEs. With the exception of one course, developers did not know each other prior to the start of course development.

Planning and Developing the Courses

All aspects of course development and planning focused on mitigating deterrents to course development, i.e. developers falling behind schedule. In this regard, planning was based entirely on the one basic rule - the rule of thirds (Berkun, 2005). According to this rule the developer should: 1) determine what needs to be done (e.g., Design), 2) carry out the appropriate tasks (e.g., Develop), and, 3) refine, analyze or verify what has been done (e.g., Review) (Berkun, 2005). A work breakdown structure (WBS) specified the activities to be accomplished, their sequence, the relationships among them,the timeframe for completion of key activities, as well as the individual responsible for completing them. Figure 1 highlights the WBS for the project.

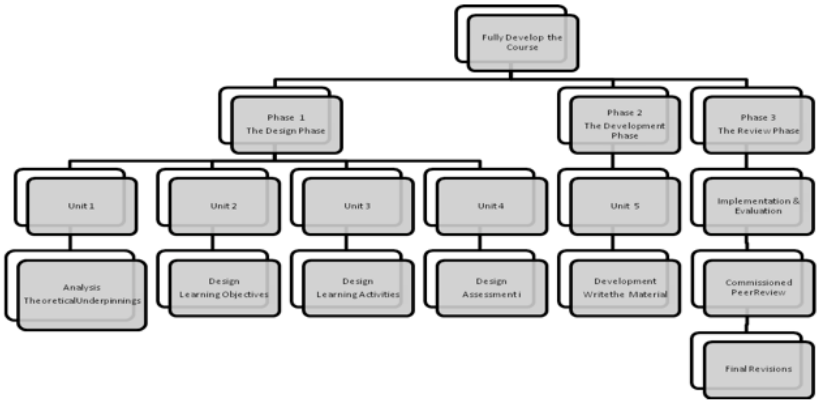

Figure 1: The CDD Version of the Work Breakdown Structure (WBS)

The three major phases of the project fell in sequential order in a linear dependency or a predecessor dependency fashion (Harvard Business School Press, 2004; Russell, 2000). In other words, although course development is an iterative process, the first task had to be completed before the next one could begin. In addition, within each 'third' there was no slack period; all tasks took place sequentially as illustrated in Figure 2.

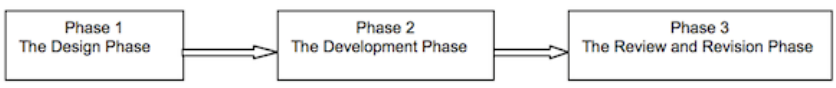

Figure 2: The Three Phases of Online Course Development at UWIOC

Managing the Project

One of the key strategies for the managing the project was to develop course templates that SMEs were expected to follow. The Learning Management System Moodle was used for team members to access the training material, templates and other related documents, hold discussions, communicate with one another, and provide a means for the CDD to track progress (Abdous & He, 2008). The dual intent was to expose developers to all aspects of the asynchronous online teaching and learning environment that UWIOC students would use, as well as create an environment conducive to building a community of practice.

Blackboard Collaborate was used for synchronous meetings, which could be recorded if team members were unable to attend a live session. This medium was used for the initial meeting that included all members involved in the project as well as the assigned course developers. The purpose of the meeting was to introduce staff, assign roles and responsibilities, explain the IPM framework, outline expectations, reporting procedures, milestones and deliverables, as well as clarify information (Morrison, Ross & Kemp, 2004). For ongoing communication, emails and Skype were used (Staley & Ice, 2009).

Communication took place at various points throughout the course development process. Use of the Moodle wiki and blog tools provided opportunities for ongoing comments and feedback to designated members of the team. Microsoft Office Excel and Word were used to generate spreadsheets, timetables, etc. and allowed for tracking of the various aspects of the course development process. Google Docs/Drive was used to store and share these documents. There were numerous opportunities for team members to communicate with each other and this proved to be invaluable in managing the project.

Observations and Recommendations

Employing the IMP strategies resulted in a holistic approach to course development in the CDD. As a consequence, planning, quality assurance procedures and resource allocation improved. Course development is now being managed at the macro (program) rather than at the micro (course) level. Human and capital resources are now allocated across programs for scheduled periods of time, thereby improving departmental efficiency and productivity, as well as providing some modicum of consistency in how courses are developed. Utilizing the WSB approach highlighted in Figure 1, it is now possible to examine connections and relationships, to observe and determine what is functioning efficiently and effectively, and have the flexibility to make the necessary adjustments between iterations.

Integral to our ability to do this is the existence of documentation (Brandon, 2004; Kenny, 2004; Ward, West, Peat & Atkinson, 2010) representing the various components of a project. Examples that were created and now utilized include training material, course plan templates, multimedia scripts and request forms, as well as course developer and peer reviewer contracts. All documentation is now freely available for use by all members of a course development team. Moreover, review of documentation

has provided the means for course development team members to systematically and critically evaluate processes and procedures; the ripple effect is that team members are now critiquing, revising, refining and improving all projects. This has created more meaningful collaboration within and across all units of the department than existed previously. Importantly, if nurtured and allowed to develop naturally, these two factors have the potential for creating a community of practice within a department (Staley and Ice, 2009; Wozniak, Scott & Atkinson, 2005).

Employing new ways of managing course development provided a framework through which to critically analyze issues related to time management. Moreover, it became apparent that even with IPM strategies in place, Murphy's Law is alive and well – what can go wrong does and will go wrong (Berkun, 2005). At UWIOC, this issue was compounded by the fact that departmental staff members were working on multiple, concurrent projects. While McGriff (2000) recommended 90% workload for a project, it might be prudent, based on the UWIOC experience, to reconsider project workload between 70% and 85% in order to accomplish project goals on time and to a high standard.

Another observation from the project is that numerous skill sets are required to implement the IPM framework. All projects require individuals who take on the roles and responsibilities of a project manager and these skills are different than those of an instructional designer (Ally, Cleveland-Innes & Wiseman, 2010; Brandon, 2004; Kenny, 2004). For one two individuals to take on both functions is a difficult undertaking and, therefore, requires intentional effort to ensure that neither function is neglected to the detriment of the overall project (Morrison, Ross & Kemp, 2004).

Although the project has not yet been formally terminated the initial phases are now complete. Several key recommendations based on the UWIOC experience are:

1. Make concerted efforts to action anecdotal information from team members as the project progresses.
2. Assign course development to at least two individuals to make the work doable and to maximize outputs.
3. Include frequent checkpoints at the end of each of the three phases in Figure 2.
4. Incorporate monthly, synchronous meetings for the entire team to discuss and resolve challenges, monitor deliverables and milestones and to guard against any feeling of isolation team members might experience (Ally, Cleveland-Innes & Wiseman, 2010).
5. Require key formal, quantitative and qualitative evaluation strategies to inform course development decision-making and practice (Ward, West, Peat and Atkinson, 2010).

While these recommendations specifically emerge based on the UWIOC context, each of them might be easily extended to other university environments. This reflective case study highlights the importance of ongoing communication between all members of the team and the delineation of roles and responsibilities based on the IPM framework in order to develop quality online programming.

Conclusion

Results from our initial foray into incorporating IPM strategies suggest that there is still room for improvement if the CDD is to meet its objectives and ultimately reach project management maturity (Laxton & Applebee, 2010). However, the achievements realized thus far represent a solid foundation and a promising start. The framework also supports McGriff's (2000) position that incorporating IPM with ID elements is not only possible, but it is a viable and valuable option for educational institutions to adopt. There is a clear need to conduct research that establishes the effectiveness of the IPM framework to develop quality online programming and this is an endeavor that UWIOC is considering as the next step in its evolution

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