



PERSONALIZING EDUCATION: THE DIGITAL CONVERSION PLAN

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VISION

The Upper Arlington City School District is a premier school district in Ohio and in the nation. Our legacy is built upon a history of focusing on what matters most for our students and taking a leadership position in education. We focus on continuous improvement and adapting to the changing needs of our students as we seek to fulfill our vision of *uniquely accomplished students prepared to serve, lead and succeed*. Over the past year our school district, under the visionary leadership of the Upper Arlington Board of Education, has engaged in an innovative strategic planning process that has taken the best of private-sector and public-sector models to develop a hybrid approach to planning. Our new three-year plan, developed with input from more than 4000 residents, families, student, and staff members, has a relentless focus on learning and includes goals in five areas: personalization, performance, accountability, efficiency, and ownership.

The personalization goal asserts, “All Upper Arlington students experience a personalized learning environment that maximizes time and resources to support their success” (Upper Arlington City School District Strategic Plan, 2014, p.4). The rationale for this goal is “Upper Arlington Schools has a solid tradition of seeing and serving the whole child as well as promoting service learning within and across all grade levels. This means all students have a rich variety of opportunities to engage in learning environments that feed their passions and serve a greater purpose” (Upper Arlington City School District Strategic Plan, 2014, p.4).

Our focus on personalizing education and reviewing relevant literature on the topic led us to begin planning for the implementation of a digital conversion plan in support of the personalization goal. In fact, objective 2.1 of the strategic plan states “Students have direct one-to-one access to a technological device that appropriately supports and maximizes their learning” (Upper Arlington City School District Strategic Plan, 2014, p.4).

Our personalization program will enhance the educational experience of our learners from kindergarten through grade twelve. By continuing to provide exceptional instruction and adding appropriate technology for students and staff, we will better meet the educational needs of our 21st century learners, customize instruction for each child, and prepare all students for college and/or career. It is a key point to realize that technology should not be viewed as a replacement for the classroom teacher. Other than the student’s family, the most important person in the education of a student is the teacher. The strong relationship between student and teacher is at the heart of the educational process.

In order to prepare our students for the world beyond our classrooms, it is essential that we personalize learning to provide them with the tools and the opportunities that will both enhance educational experiences and ensure their readiness for the next phase of their lives. The use of technology is a critical tool that will allow us to achieve this goal for every student. Futurist Ian Jukes said it well when he said “We must prepare students for their future and not our past.” The personalization of education and using technology as an appropriate tool to achieve this personalization is the logical next step for



the Upper Arlington City School District as we build upon our legacy as a district that is a leader in Ohio and the nation.

HISTORY

The Upper Arlington City School District Strategic Plan draws upon our rich tradition and looks to the future of our school district. The Upper Arlington City School District has always prided itself upon being adaptable and innovative. For the past seven years, the Upper Arlington staff has embraced the process of integrating 21st Century learning in every classroom. Focusing on the areas of communication, collaboration, complex thinking, creativity, self-direction, and global citizenship, students have been engaged in learning experiences that prepare them for future college and career opportunities.

The digital conversion plan is another way we are focusing on our strategic plan goal of personalization. By putting devices into the hands of our students, teachers can design lessons that encourage students to think and learn differently. By integrating technology, we give teachers more time for direct, individualized instruction. Students are able to easily access internet-based information and online and blended coursework, have a new means of communication with their teachers and peers, and practice the skills necessary to be successful outside of the educational setting. This plan also allows multiple students to share their thoughts, collaborate on projects and receive immediate feedback from the teacher.

It is also important to point out that students with a variety of learning needs are benefiting from this digital conversion plan. For students who have a disability that impacts their ability to learn, computer-based technologies can play an essential role in making the curriculum more accessible. Educational technology can further facilitate a broader range of educational activities to meet a variety of needs for students with mild learning disabilities. Furthermore, adaptive technology (specialized software and hardware) now exists that can enable even those students with severe disabilities to become active learners in the classroom alongside their peers who do not have disabilities.

The Upper Arlington City School District closely followed the International Society for Technology Education (ISTE) recommendations in the development and implementation of this plan. ISTE maintains an international presence in research, training, and support for expanding the successful use of educational technology. Based on both qualitative and quantitative research, ISTE has identified fourteen essential elements necessary to effectively leverage technology for learning. These elements offer educators and school leaders a research-based framework to guide implementation of the ISTE Standards, technology planning and system-wide change. The Upper Arlington Schools Digital Conversion Plan is based on these elements, which are further highlighted throughout this report. Details on each element and the supporting research can be found at <http://www.iste.org/standards/essential-conditions>.



LITERATURE REVIEW

When examining the research related to the digital conversion plan, it is clear that there is a wide range of results. Over the past ten years, many districts have rushed to buy every student a digital device and placed a lot of hope in the impact it would have on student success. This has not been the approach for the Upper Arlington City School District. Instead, we have moved carefully and thoughtfully to ensure that the digital conversion plan is not about the device but instead about providing limitless opportunities for personalized learning.

This plan is based on a thorough review of the literature. The research supports that digital conversion programs produce more engaged learners, better technology and writing skills, and cost efficiencies. For example, a study of the impact of Florida's Leveraging Laptops Initiative indicated positive results. The study included 447 classrooms in various subject areas K-12. The study found notable increases in student attention, interest, and engagement and a decrease in the use of traditional, independent seatwork (Dawson, Cavanaugh & Rizhaupt, 2006). Other notable differences included teachers acting as coach/facilitator, high academic focus of class time, and a decline in the use of direct instruction. Ken Kay, Chief Executive Officer of EdLeader 21, co-founded the Partnership for 21st Century Skills to emphasize the importance of developing skills in critical thinking, communication, collaboration and creativity. He stated, "It is worth noting that technology support systems are not merely ends, but means to a greater goal—to help children develop the cognitive, academic, emotional and physical competencies they need to succeed in 21st century life."

A recent study of 997 schools across the United States (Greaves, Hayes, Wilson, et al., 2010) identified nine factors that, if present, appear to contribute to higher levels of achievement in schools that have adopted one-to-one technology programs. The top three factors are listed below.

1. Ensuring uniform integration of technology in every class.
2. Providing time for teacher learning and collaboration (at least monthly).
3. Using technology daily for student online collaboration and cooperative learning.

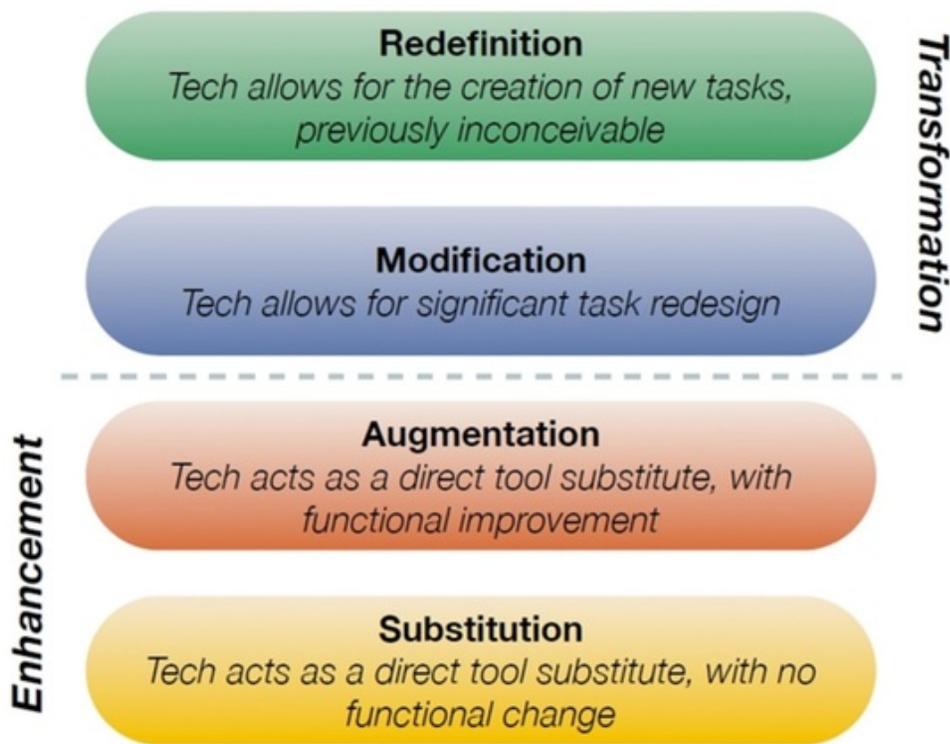
It is perhaps no coincidence that these factors mirror key predictors of effective schools and districts in general. For example, ensuring uniform integration of technology in every class implies a district with a clearly articulated, district-wide approach to instruction—a key trait of high-performing districts (Marzano & Waters, 2009). Similarly, teacher collaboration is an important school-level predictor of achievement (Marzano, 2003), and meaningful cooperative-learning experiences have been linked to higher achievement (Marzano, Pickering, & Pollock, 2001). The Upper Arlington School District is dedicated to providing a sound curriculum and standards-based grading that ensure high achievement by our students.

It is important to further emphasize the essential role of the administrators and teachers in the effective implementation of a digital conversion plan. Bebell and Kay (2010) concluded that, "It is impossible to overstate the power of individual teachers in the success or failure of 1:1 computing" (p. 47) and that "teachers nearly always control how and when students access and use technology during the school day" (p. 47). In another study conducted in Texas, the authors concluded that "committed leaders, thorough planning, teacher buy-in, preliminary professional development for teachers, and a commitment to the transformation of student learning were keys to successful implementation of technology Immersion" (Shapley et al., 2010, p. 46). The professional staff of Upper Arlington is



modeling the way with the use of digital devices and is committed to the successful implementation of the plan.

The district has committed resources to the continued professional growth of our staff, which is outlined later in this report. Based on the research, the district has placed the SAMR Model at the forefront of training and instructional practices. The **S**ubstitution **A**ugmentation **M**odification **R**edefinition Model, developed by Dr. Ruben Puentedura, helps teachers design learning experiences that integrate technology into their lessons. The SAMR Model is a means of measuring how technology is used in lessons, with a goal of increasing student engagement and achievement through lessons taught “above the line.”



To more thoroughly explain this model, the substitution level is when the teachers and students are simply using technology tools to replace more traditional tools. For example, using an electronic form in lieu of paper and pencil. Augmentation is when students are still substituting devices for more traditional measures but they are also beginning to add some basic technology functions. An example of augmentation would be using Google Docs to create and share documents across devices and with others in the classroom.

The key is for the professional staff and students to move “above the line.” In the level of modification technology is being used more effectively, not to do the same task using different tools. It becomes about transforming students learning. An example of this would be using the commenting service in Google Docs to collaborate, share feedback and develop content with others. Finally, the highest level of instruction occurs at redefinition, which means that students use technology to create new and



authentic learning opportunities. It could be students connecting to a classroom across the world, creating websites that reflect their knowledge of new information, and solving real-life problems through project-based learning activities.

New York Times best-selling author Jim Collins (2001) noted in his book *Good to Great* that, “Technology alone never holds the key to success. However, when used right, technology is an essential driver in accelerating forward momentum” (p. 159). The Upper Arlington City School District is committed to utilizing technology to accelerate and enhance the achievement of our strategic plan goals.

IMPLEMENTATION PLAN

Early in the development of the strategic plan, it became clear that personalized learning would be a major focus of the plan. Therefore, the district launched into a planning process for the digital conversion as the strategic plan itself was being finalized. The district recognized that without embedding technology into the school environment, it would be difficult to fully implement the objectives and goals that were emerging as part of the strategic plan.

To begin planning for the digital conversion, both the elementary (kindergarten through grade five) and secondary (grades six through 12) levels established digital conversion teams. The teams included representation from the Upper Arlington Board of Education, administrators, teachers, instructional leaders, media specialists, technology staff and families. The teams were tasked with investigating exceptional instruction in a digitally rich environment and were responsible for creating the plans for the digital conversion at the elementary and secondary levels. As part of this work, members of the digital conversion teams conducted site visits to selected premier school districts across the country to observe instructional practices, speak with students and teachers, and garner ideas from schools in which every student has access to a device. These teams were instrumental in developing plans that included strategies for professional development, communication with families, digital citizenship, and device rollout.

While the elementary and secondary teams followed the same protocol to establish their portions of the Upper Arlington School District Digital Conversion Plan, they did so in a staggered time frame. The secondary team conducted its research and planning phase during the 2014-2015 school year and began implementation during the 2015-2016 school year. The elementary team conducted its research and planning phase during the 2015-2016 school year with implementation set for the 2016-2017 school year.

At both levels the selection of devices was a key component of the plan. The first step was narrowing the focus to Apple products based upon the district’s long history using Apple devices. The secondary team then took into account site-visit classroom observations, reading materials, and input from colleagues to determine that MacBook Air laptops were the most appropriate choice for students in grades six through 12. The elementary team followed a similar process leading to the recommendation of iPads for students in kindergarten through third grade and MacBook Air laptops for students in grades four and five.



During the 2015-2016 school year, devices were distributed to secondary students and during two weekends in December. Students and their parents/guardians came to a central location, Hastings Middle School, to learn more about the personalized learning initiative, complete paperwork, pay fees and receive their devices. Separate parent meetings were held at the building level to allow families to learn more about digital resources such as iCurio, PowerSchool, Schoology and Google Docs.

At the elementary level, informational meetings will be held at each school in May 2016. During these meetings, families will learn more about the personalized learning initiative as well as the dates and times for device distribution in the fall.

FUNDING

The implementation of the secondary digital conversion plan requires 3,200 student laptops. The purchase of these laptops will be financed through Apple over four years at an annual cost of approximately \$750,000. The elementary digital conversion plan requires an additional 955 laptops as well as 2,040 iPads. The purchase of these devices will also be financed through Apple over four years at an annual cost of approximately \$524,500. At the end of the four-year lease, the Upper Arlington School District will have the option to sell back the devices. The district will reallocate the sources listed below to pay for costs related to this financing and other digital conversion costs:

- *Permanent Improvement Funds*
In 2007, the Board of Education proposed and the community approved a permanent improvement levy. These funds are to be used for improvements such as the construction or repair of buildings and grounds, improvements to school property and assets, textbooks and technology. In past years \$800,000 annually was allocated for technology and textbook purchases.
- *General Fund Textbook and Professional Development Funds*
Each year the district sets aside funds to purchase textbooks and contract professional development. Moving forward portions of these budgets will be reallocated for costs supporting the digital conversion.
- *Technology Department Funds*
Existing funds in the technology department budget will be reallocated over the next several years as the district purchases less district-wide technology and focuses in on individualized technology for each student.
- *Student Technology Fee*
A new student technology fee of \$50 annually will be established to assist in providing technology.
- *Sell Back of Technology Assets*
The final source of funding will be the revenue generated by selling back the devices at the end of the lease. Apple devices are known to hold their value over time and it is anticipated these assets will be worth 15-20% of the original cost after four years. The money derived from the sale of these assets will be used to offset a portion of a new four-year lease.

It is anticipated with the reallocation of current budgets, along with a new technology fee and funds generated from the sell back of used technology, the district's budget will not increase over time due to this digital conversion.



The chart below illustrates how costs have or will be funded through the use of carryover funds from prior years and/or reallocation of current and future funds:

DESCRIPTION	APPROXIMATE COST	FUNDING SOURCE
Wireless Network (Aruba)	\$ 480,500	Prior year carryover budget (permanent improvement fund)
Teacher 11" MacBook Airs (415)	\$ 374,032	Prior year carryover budget (permanent improvement fund)
Student 11" MacBook Airs (110)	\$ 106,867	Re-allocated technology budget (general fund)
Teacher 11" MacBook Airs (15)	\$ 15,180	Re-allocated technology budget (general fund)
iCoaches (stipends, summer work, substitutes)	\$ 62,000	Re-allocated professional development budget (general fund)
Professional Development (Apple)	\$ 24,394	Re-allocated professional development budget (general fund)
Professional Development (Apple)	\$ 24,634	Re-allocated technology budget (general fund)
Secondary - Student 11" MacBook Airs (3200) 4-year financing (\$750,000 annually)	\$ 750,000	Re-allocated future permanent improvement funds
Secondary - Imaging and preparation of MacBook Airs	\$ 52,000	Re-allocated technology budget (general fund)
iCurio	\$ 27,877	Re-allocated textbook budget (general fund)
Elementary - Student and Staff iPads (2,040) Elementary - Student 11" MacBook Airs (955) 4-year financing (\$524,500 annually)	\$ 524,500	Re-allocated textbook budget (general fund) Re-allocated technology budget (general fund) Sell back of technology assets (general fund)

Additionally, the district will offer technology insurance to students and families. This will be a voluntary program and is anticipated to cost \$50 a year per device.

PROFESSIONAL DEVELOPMENT

A plan for professional development has been put in place to ensure teachers are prepared to support students in a digitally rich environment and can leverage technology to personalize instruction for all. At the center of the professional development is training in the use of the learning management system Schoology, iCurio and Google Apps for Education. In addition to our in-house professional development on instructional practices and use of district digital resources, Apple Professional Development provides support to augment our existing offerings.

To highlight examples of in-house professional development, the iTeach Institute was a professional learning institute held in August and November of 2015. The events included hundreds of teachers and offered dozens of sessions in the areas of innovation, instruction, and impact. Presenters included classroom teachers, iCoaches, district administrators and Apple professionals. Teachers in attendance earned continuing education hours for licensure renewal, Ashland University credit, or simply further

developed their ability to support instruction in the classroom. Additional iTeach opportunities are planned for the 2016-2017 school year.



Continuous, job-embedded professional development by iCoaches was also put in place during the 2015 - 2016 school year and will continue during 2016-2017. The responsibilities and expectations for iCoaches are listed below.

- Collaborate with Instructional Leaders, who will provide support at the school buildings, on the fulfillment of the ISTE Standards for Coaches through regularly scheduled meetings after school.
- Participate in the early adoption of technology tools and strategies, including development of presentations and participation at the UA iTeach Institute.
- Initiate communication with colleagues regarding use of technology tools and strategies.
- Develop model lessons to be shared with colleagues through videos of lessons, cataloguing of lesson plans/documents, etc.
- Document instances of assistance provided to determine needs and support provided.
- Be willing to attend state and national conferences to support instructional technology in the classroom.
- Take provided professional days out of the classroom to be available in your school building to co-teach, model, and allow time for colleagues to work together and observe each other.

The instructional support team will also work intentionally to support teachers and principals through this work as support personalized learning environments in every classroom.

TECHNICAL SUPPORT AND INFRASTRUCTURE

A key component of this process is to provide reliable network connectivity and infrastructure to support student and staff use of electronic devices including supportive hardware, servers, communication lines, and reliable wireless access. As a part of the overall plan, the district has carefully examined the current infrastructure and has allocated resources to continuously upgrade and maintain a reliable system. An outside consultant was used to audit the district's current infrastructure and inventory. This audit provided a comprehensive inventory of district assets, showed areas of need regarding bandwidth and storage, and made recommendations as appropriate. Using this information, the Upper Arlington Board of Education approved funds to upgrade bandwidth and wireless access throughout the district to ensure reliable internet access.

Most recently, the district installed a new wireless network to support the addition of devices both now and in the future. We have also recently added management tools that will allow us to provide software updates and additions, maintenance, remote access for support and cloud storage via the wireless network.

As a district we are committed to expanding our software options to provide greater access and convenience to our families, students and staff. Among programs already implemented are software systems for student registration, bus routing, electronic grading, and online payments.



Finally, of utmost importance is the availability of around-the-clock support for the devices. Students and staff will be able to access Applecare resources, and the district is committed to having building-level support immediately available in order to maintain service. The district will have a pool of loaner devices if an issue cannot be resolved immediately.

CURRICULUM RESOURCES

The Upper Arlington Schools use Google Mail (Gmail) as the source to support both staff and student assigned accounts. This system provides quick access to school communication from anywhere. Further, Gmail easily integrates with other Google services that are ideal for education such as Google Docs, Spreadsheets, Slides, and Hangout.

Schoology has been selected as the district's learning management system. It has been in use for the past year at the secondary level and will debut this year at the elementary level. This curriculum tool combines the ability to provide resources for students, as well as host online discussions, give online tests, quizzes, or surveys. The system synchronizes with the grading features in PowerSchool and allows for integration of Google services so that students can submit items that are stored in Google Drive. The last integration is with iCurio, which makes curated standards-aligned resources available within the Schoology interface. Resources include videos, articles, activities, quizzes and opportunities for students to collaborate. This resource will allow for true differentiation in instructional delivery, options, and help reach students through a variety of options. These tools provide a one-stop shopping location for students to interact with their curriculum electronically.

Although students using a personal technology device is a new endeavor for Upper Arlington City Schools, students and teachers have been using electronic curriculum resources to enhance learning for several years. Several examples of these resources are listed below.

- Reading A-Z is a web-based resource that provides individualized reading experiences, vocabulary development, and other literacy skill practice for students both at school and home.
- Lexia is a web-based resource to help students who need support with the acquisition of phonemic awareness and phonics skills.
- Digits is an online textbook and activity resource used for mathematics instruction in grade 6-8.
- INFOhio and other web-based resources such as BrainPop, Artcyclopedia, Science News for Kids, Discovery Education Streaming Video are used frequently in our schools.
- Students at UAHS have access to ebooks through school library.
- UA Schools' libraries are linked to Upper Arlington, Columbus, and Grandview Public Libraries. Students and teachers are able to access their resources as well.
- The UAHS Community School is entering its tenth year and has been using devices for each student since its inception.

Through excellent classroom instruction and the use of digital resources, our students will benefit from a personalized, challenging learning experience.



SUPPORT POLICIES

All school districts operate under a set of policies and administrative guidelines that support the implementation of various programs. Policies supporting the use of technology and the internet in schools are particularly important for protecting our students while being open to the rapidly changing opportunities that technology brings to the learning environment. Our goal in reviewing and updating policies is to ensure we develop a comprehensive set of policies that outline student and staff responsibilities. Our policies support the safe and responsible use of technology while not limiting the innovative and expansive potential for educational opportunities through those tools.

Our staff understands the importance of student safety in the digital world. One teacher stated, “We can better teach our students about digital citizenship when they have a device in hand.” Our staff is committed to incorporating components of digital citizenship throughout the school year in daily instruction, as well as in student and parent rollout meetings, and school-wide town meetings and assemblies. We are also currently developing curriculum materials that will support instruction in digital citizenship for all elementary and secondary students. We take seriously our obligation to comply with the Children’s Internet Protection Act (CIPA) and federal guidelines mandating how schools give internet access to students. Finally, we regularly review and update the Acceptable Use Policies for both students (Policy 7540.03) and staff (Policy 74530.04). More information on support policies can be found at <http://www.neola.com/uacsd-oh/>.

COMMUNICATION

Communication with all stakeholders will be of paramount importance during the digital conversion process. In order for this to result in more personalized learning experiences for students, all stakeholders - families, students and teachers - must feel knowledgeable, prepared and supported. To that end, the district is planning several informational resources for both stakeholders and the Upper Arlington community as a whole. Below is a sample of the many of the resources that will be available.

Families

- Informational meetings
- Website resources
 - Video tutorials
 - Answers to frequently asked questions
- Parent help sessions
- AppleCare support lines

Students

- Informational meetings
- Classroom teacher support
- Website resources
 - Video tutorials
 - Answers to frequently asked questions
- AppleCare support lines



Community

- Community updates at Board of Education meetings twice annually
- Guest column submissions to UA News
- Regular updates in the community newsletter, UAiNSIGHT
- Text and video updates on the district website and social media platforms

Teachers

- Staff meeting updates from building administrators
- Regular updates and support from iCoaches and Instructional Leaders
- Regular professional development and collaboration opportunities
- AppleCare support lines

ASSESSMENT AND EVALUATION

The Digital Conversion Plan is not about the successful use of devices but it instead focuses on providing limitless opportunities for personalized learning. Ultimately, the success of the Digital Conversion Plan is embedded in the overall success of the implementation of the strategic plan and the impact it has on the learning environment. Therefore, the Digital Conversion Plan will be measured through the same metrics as the Upper Arlington City School District Strategic Plan, including the following:

- measurements on the Quality Profile;
- student, family and staff surveys;
- evaluation by an outside agency to garner scientific opinion data;
- observational data; and
- a variety of student learning assessments that include high-quality standardized tests and effective classroom formative and summative assessments.

The data gathered through these metrics will be used to examine the strengths and weaknesses of our personalization program and the impact the digital conversion has had on the education experience of students in kindergarten through grade twelve.

We are excited to build upon the Upper Arlington City School District's legacy of being a state and national leader in education by implementing this personalization program. Successful implementation of this goal in our strategic plan will not only fulfill the expectations of the Upper Arlington community, it will also bring us one step closer to realizing our vision of *uniquely accomplished students prepared to serve, lead and succeed*.



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