AN ITALIAN SOCIAL LEARNING EXPERIENCE IN HIGH SCHOOLS

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ABSTRACT

This work focuses on an experience of social learning realized in six Italian high schools in the 2012-2013 academic year. In this experience we used ThinkTag Smart, a new learning platform, to train 400 students. After an introduction concerning Information and Communication Technologies in Italian schools, this contribution will describe the ThinkTag Smart platform and will also focus on the experience, underlining particular aspects connected to the social construction of knowledge.

KEYWORDS

Social learning, Web 2.0, Platform, Italy, High School, Case Study.

1. INTRODUCTION

One of the most prominent features of contemporary schools is that students are born and raised within a context which takes for granted the existence of Information and Communication Technologies (ICTs) and the Internet and considers them as "natural". They have been diversely labeled: iGeneration, Generation Y, native speakers, digital natives (the opposite to digital immigrants), Generation Me (Twenge, 2006), Millennial Generation (Howe and Strauss, 2003) and Net Generation or Net Gens (Oblinger and Oblinger, 2005). Regardless of the name, this generation is composed of students born between approximately 1980 and 2000 (Sutherland and Thompson, 2001; Howe and Strauss, 2003). As Diana and Jim Oblinger (2005) point out, "as long as they've been alive, the world has been a connected place, and more than any preceding generation they have seized on the potential of networked media".

In Italy notwithstanding the programs implemented by the Ministry of Education, ICTs are coming very slowly into schools. Italy is clearly a "two speed" country: from one side widespread computer illiteracy and on the other side a country with second place in Europe for the possession of mobile phones and with children, the Net Gens, who govern and control the technological tools better than their parents and teachers, who are not always able to exercise adequate control for their proper use (Movimento Difesa del Cittadino, 2007; Pieri, 2008; Pieri and Diamantini, 2010) or to use them in the learning process (Pieri, 2012). In the national study on Digital Schooling (Avvisati et al., 2013) presented to the Ministry of Education in Rome it clearly emerges that regarding the use of technology in schools we are "late compared to most other countries: in 2011 only 30% of Italian students in their third year of middle school used ICTs as a learning tool during science lessons, compared to an average of 48% in other countries of the OCSE". In elementary schools on average there is one computer for every 15 children: approximately one per class. There is one PC for every 11 students in middle school and one for every 8 students in high school. One classroom out of five in Italian schools has an interactive multimedia blackboard. Eight schools out of ten have internet connections, but only half of the classrooms have access to the Web. According to OCSE, the Italian project for the Digital School, which was launched by the MIUR (Ministry of Education, University and Research), in 2007 had too few resources "that limited the effectiveness of its initiatives. Above all, the report shows that the lack of resources, more than a lack of interest on the part of schools and teachers, is the reason why the presence of technology is still very low in the classroom". OCSE reports that for multimedia and ICTs "30 million Euros per year for four years was allocated for the project or less than 0.1% of public expenditure for education, which is less than 5 Euros a year per student in primary and secondary schools".

In this contribution we will present an experience of social learning, as the last frontier of learning supported by ICTs, in six Italian high schools realized in the 2012/2013 academic year. With the term e-learning 2.0 we refer to a type of computer-supported collaborative learning (CSCL) (Stahl and Hesse, 2009) system that developed with the advent of the Web 2.0 (Kerrer, 2006). From an e-learning 2.0 perspective, conventional e-learning systems were based on instructional packets, which were delivered to students for assignments. Assignments were evaluated by the teacher. In contrast, the new e-learning places increased emphasis on social learning and the use of social software such as blogs, wikis, podcasts and virtual worlds (Redecker, 2009). Social learning, assumes that knowledge (as meaning and understanding) is socially constructed. Learning takes place through conversations about content and grounded interaction about problems and actions (Brown and Adler, 2008). In addition to virtual classroom environments, social networks have become an important part of e-learning 2.0. As underlined by Sie (2012) "e-learning 2.0, is social learning through and through". One of the most important features of e-learning 2.0 is social learning, which assumes that the best way to learn something is to teach it to the others (Bonfils, Pieri and Dumas, 2010; Pieri, Diamantini and Bonfils, 2011). The prosperity of social networking sites has met this demand. Open source social networking software has made it possible to create social networking sites with only a little effort (Ben and Chi, 2011).

2. THINKTAG SMART: A SOCIAL LEARNING TOOL AND METHODOLOGY

ThinkTag Smart, the learning platform focus of this paper, was designed to aggregate the power of Web 2.0 with that of the social networks.

The ThinkTag Smart platform, created in 2005 by the Goaling enterprise, is a quick and simple way to archive, organize, link and discuss information such as websites, articles, documents, books, movies and music. This platform mixes the learning opportunities offered by the Web 2.0 with the learning opportunities offered by social networks. This platform is a tool to support users to combine the requirements of knowledge management and the opportunities of social networks to share, build and spread knowledge and information. ThinkTag Smart is a place for sharing knowledge, organizing contents, comparing different kinds of knowledge and supporting collaborative work.

The main characteristic of ThinkTag Smart is the "hyperpertinence", different from the "ipertinence" coined by sociologist Derrick de Kerckhove to signify the particular property of the search engines of the latest generation that can return multiple answers pertaining to a question (query) at different levels, both of language (i.e. texts, images, videos) and content, in short, whatever has been uploaded to the network and has a relationship with that query. The hyperpertinence makes this platform different from social networks and search engines. The main social networks in fact, focus on the relationship between people, do not have systems for structuring and organizing contents with one or more materials; thus, they are irrelevant with respect to our needs for managing information. The search engines are able to reconstruct the networks of citations, but they are nothing more than the result of mere algorithmic processing. In fact, the results we get from search engines like Google are the result of an algorithm that can attribute more importance to the most "linked" pages, which in this way acquire a high ranking.

The ThinkTag Smart platform is able to aggregate the richness of the network with the social construction of meaning. This is possible because each resource present on the platform must be necessarily accompanied by at least a title and one or more tags. The network environment is in fact "hyper", meaning that the amount of resources that can be identified through it is beyond our means of fruition/management. At the same time the net is approximate, uncoordinated and often irrelevant and leads to an "information overload". This indicates that the more information you have, the more information you must have in order to manage. To avoid "information overload" and "confusion", every resource in the platform must have a title and one or more "tags". These tags are carried by all the users. In ThinkTag Smart the construction of meaning and the organization of resources is self-determined and bottom up.

As time goes by, the resource cumulates the tags of all the users; this means that the more ideas exchanged on a subject the more tags we will have on that subject. This artifact is used by other social networks and is called "tag cloud". The tag cloud is used to reconstruct a visual map of the tags used by users or the main tags used. In the tag cloud each tag is a link to the resources that use that word and appears in different sizes depending on the frequency of use, so the tags displayed in large characters are among the ones most used by users.

In addition to the standard tag cloud, ThinkTag Smart has developed an innovative feature called "hyperpertinent tag cloud" that provides users with a graphical output that can display not only the occurrence of the different tags but also the relationships between the different tags. Starting from an initial tag (identified through the search engine or by clicking on a tag of a resource) the user gets a new cloud that shows (with different sizes) all the tags used by the users along with the initial tag. With the hyperpertinent tag cloud, it is possible to reconstruct the network of relationships emerging between the resources reported by users on a particular subject.

It is important to underline that the tag will not be made by leaders or by experts, but by all the users. The construction of meaning and the organization of resources are then bottom up; it is self-determined and follows the bottom up logic. This is certainly a source of added value, in that it allows to read the same resource from different points of view; in this way knowledge is not flat, but is a prism.

The main elements of ThinkTag Smart are:

- RESOURCES: any type of document or material produced by users or derived from the productivity of others, which users decide to share (ThinkTag Smart can handle more than fifty different types of resources).
- SHELVES: containers can be used as a virtual file. The shelves allow to bring together a range of resources that are considered relevant or related to a unique concept. The shelf is born as individual/personal and only the person who created it can modify it and add content to it, even if everyone can see it.
- COLLECTIONS: follow the same logic of the shelf, but they are not personal but of the group; all members of the group can add and edit content.
- CONNECTIONS: tie a content to another content without putting them in the same "container".
- GROUPS: groups of people, a collaborative community with a common goal to work on. Administrators have the possibility to edit the group settings, manage members and in general to change several aspects of the group, the members however, participate in the "life of the group," but without having the possibility to handle it.

All in all, we can compare ThinkTag Smart to a bottom-up process, where the initiatives, the materials, the creation of groups and the sharing of knowledge are derived from the spontaneous initiative of users surfing the Web following their own personal interests. The main objective of this approach is to make explicit, and therefore more accessible, the tacit and implicit knowledge that every user has. The users sharing opinions and knowledge enrich their own personal baggage, automatically helping to enrich and update the knowledge of the network of users connected to them.

Thanks to the tags and the connections between resources, users can organize the knowledge collected, interpreting, refining and assembling it in an appropriate way for re-use. The platform instantly processes a map that graphically depicts the connections created between resources related to the same topic, in order to provide an overall clear and immediate picture of the network. The set of resources, with their labels, in this way becomes a dynamic and ever-changing system of relationships between objects.

With the use of tags we are witnessing a change in the classification of documents: the "taxonomies" (the so-called "folksonomies"): users can assign semantic labels to documents to facilitate classification and research. To assign labels users must put themselves in the shoes of others, thinking about the words that other people would use to find the resources connected to the specific topic.

Another important aspect of knowledge management is the ability to use the knowledge generated to create new knowledge. The premise of this activity is the internalization of exchanged knowledge, to take possession of new thought patterns that are applicable to daily and professional life. Even wikis support collaborative learning by allowing users to create shared documents so that everyone can intervene by modifying and adding parts quickly and easily. In conclusion, this kind of platform offers tools and opportunities for the kind of activities (school, work and personal) which require a broadening of perspectives in a social perspective. The users, by sharing and comparing, will evolve while enriching themselves (creating new knowledge) and others (sharing).

Regarding the safety of the platform, this platform is dedicated only to schools, and though it is available on the internet it does not provide access to users who are not part of the project. All students were able to have only one account corresponding to their first and last name. Users with different nicknames were not accepted; when different nicknames were created by some students, they were canceled without informing the users. Constant monitoring of the platform identified some (few) enrollments made by external users (in some cases teachers who were accepted, in other cases unknown users who were blocked/refused). Apart from the enrollments to the platform, the main issue is the access to groups and the possibility to add resources for the groups. The task of managing the groups was entrusted to teachers and students who wanted to take on this responsibility. The author of the resource assumes responsibility for what he publishes, while the administrators of the group in addition to deciding who joins the group can also decide whether resources to be published should be subjected to a preliminary assessment within the group. Following the issue of crowdsourced content validation, the contents developed and proposed were consistently evaluated by the community. The platform was continuously monitored, and there were no cases of problematic content. Just a few cases of generally offensive comments were reported, but thanks to the incisive and rapid intervention of some users, we decided not to remove the comments.

3. CASE STUDY: "SOCIAL LEARNING LABS FOR SMART LEARNING COMMUNITIES"

This experience, realized in the 2012/2013 academic year in six Italian high schools, involved 18 classes, 400 students and 50 teachers. In December 2012 we held the training of teachers (about the methodological aspects and about the use of the platform); in January 2013 we started the activities with the students.

The project applied the methodologies and instruments of the Web 2.0, directly involving the students and teachers in the creation, search, management and organization of suitable contents in order to structure 18 learning areas (i.e. "The theatre: the spaces, the words, the experiences over time"; "The revolutions of the 1700s"; "Adolescents and alcohol").

The activities began in January 2013 and continued until the end of April, involving teachers and students in the construction of contents for the various subjects – literature, social sciences, history, geography, art, math, natural science, foreign languages and literature (English, French, Spanish and German), artistic and creative arguments – as part of the project in the creation of 54 groups using over 3,800 resources, more than 800 shelves and 100 collections, with countless connections among resources in a constant and significant activity of interaction.

During the learning path, the creation of resources had a constant progression over time with the development of the didactic activity (Figure 1). Regarding the creation of the shelves there is a regular trend, with an increment corresponding to the need to organize contents and information that was acquired and used in the project during the last three weeks of the experience (Figure 2). Regarding the collections, which are an instrument for organization shared inside groups, their use was seen after the first month of work and constantly grew, which confirms the acquisition of a shared and active work style inside the groups (Figure 3). Regarding the connections, which represent the organization of the contents in a network, it became more intense in the last month of the project (Figure 4). This confirms the acquisition of the value of this tool for handling the multiplicity and variety of the contents. Finally, regarding the groups, after an intense development in the first phase (in the first week) to create project communities, the situation stabilized with the creation of a few communities focused on specific topics which emerged during the project (Figure 5).
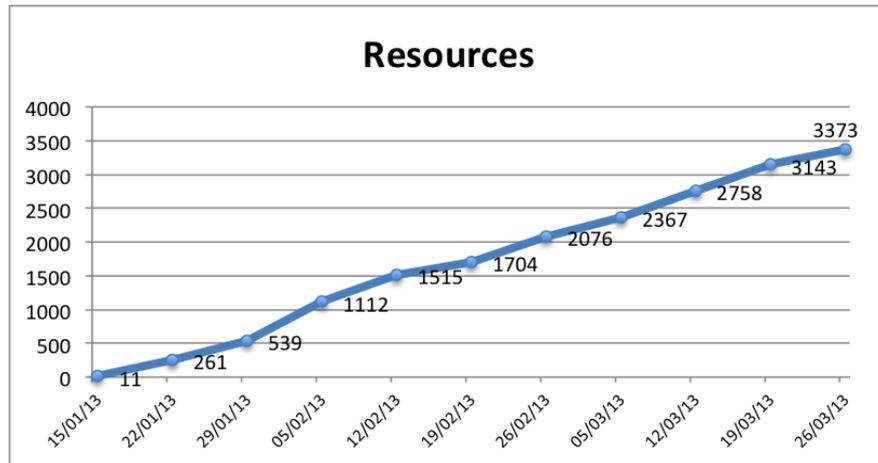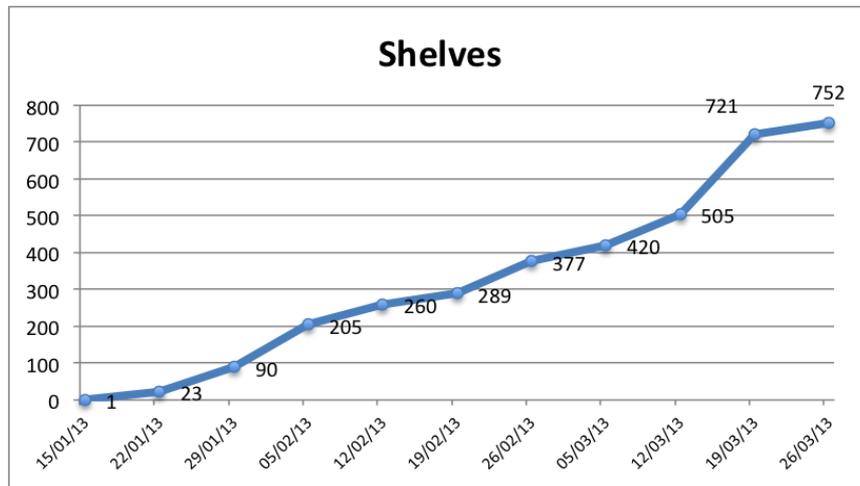
Figure 1. Resources
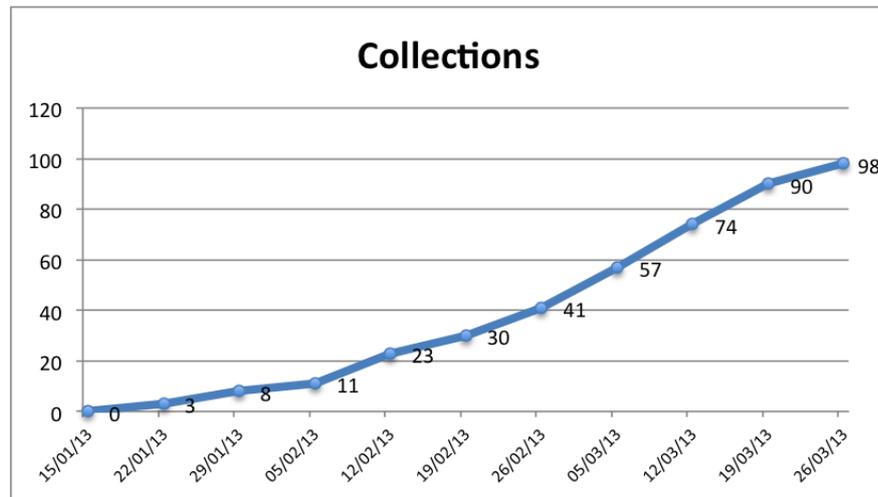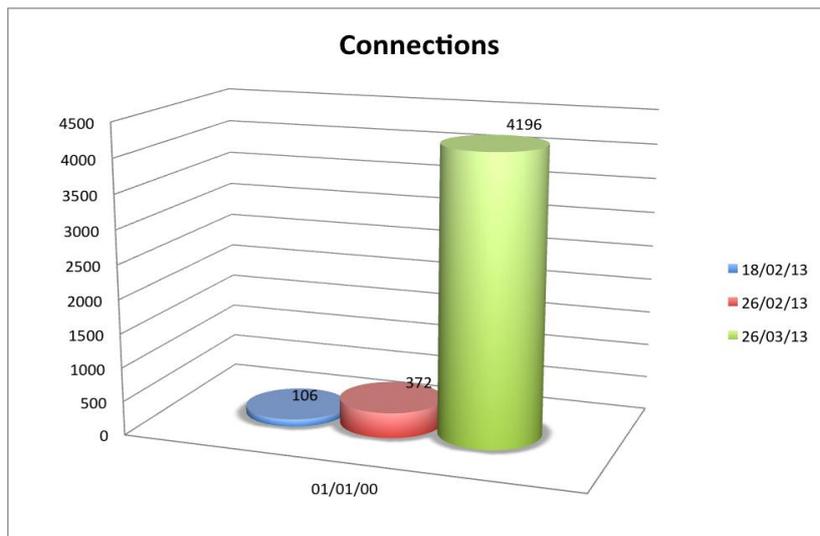

Figure 2. Shelves

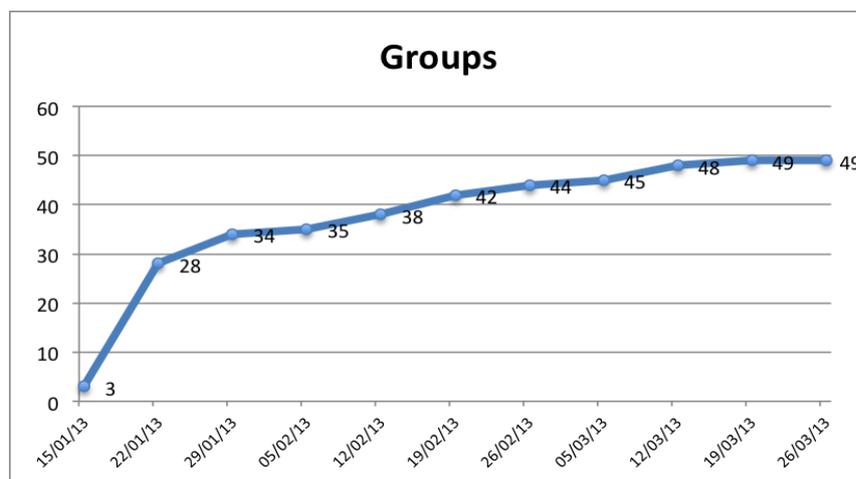Figure 3. Collections

Figure 4. Number of connections

Figure 5. Groups

A distinguishing feature of the learning process was the identification of a tutor among the members of the "project group" of the community. The tutor is a student, who gives advice and indicates corrections that need to be made.

The specific modality given by the platform, which is the real method of social learning, has helped some students to overcome difficulties in their social relationships and in communications, taking on a new role with the possibility to construct new relationships inside the group they belong to.

The use of "comments" was transversal and involved most of the users:
- the teachers used it to support activities, to offer suggestions, work strategies, corrections or areas to focus on
- the students used it to indicate how they used the platform, to suggest ideas to work on and for their opinions on contents.

A distinguishing and particular feature Smart platform to evaluate contents negatively or positively. As can be seen in the chart "Reputation score", 55.1% of the participants significantly increased their reputation (from 10 to 100 or more points, specifically 34% of the experience was the use that was made of the possibility given by the ThinkTag Smart with more than 200 points) (Figure 6).
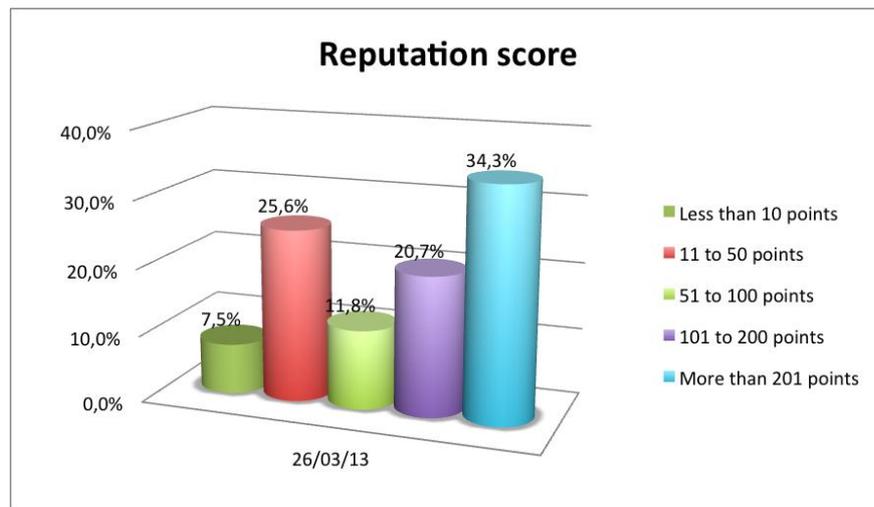
148

Figure 6. Reputation score

4. CONCLUSIONS

In this experience students were guided to: actively participate in the different communities; not search only for learning models that were delivered; construct together the course contents and materials based on the lessons and follow up activities; organize their own learning path; participate in the shared assessment of the contents and materials; organize their own materials in a useful way during the whole learning process; identify their approach to the complexity of the knowledge and of the learning. The project obtained the following results: activation and involvement of the students in the "construction" of their learning path, availability of an explicit body of knowledge to use in the different courses and availability of a network of knowledge for the development of interdisciplinary approaches to educational fields.

As reported by a student "When I enrolled on this platform, honestly I was not very enthusiastic, but then during the course, learning new things, being together with friends and teachers, I liked it a lot. I believe that by working on the computer, using the technology we learn better, and it is much more fun and easier. The great thing about this platform is that you can also add different resources, such as: images, texts, pictures etc. ... I mean, maybe even in the future we will use this method because it's really helpful". Another student underlines that "This platform proved to be especially useful for my homework, my reports, my comments, and my careful selection of resources on the network; none of this has remained confined within the four walls of my classroom, but in fact it was appreciated and judged by other people, so that maybe my resources have proved useful for the study of some of the content or for a more in-depth review of the assignment. In a certain sense, through ThinkTag Smart I am also able to express myself more". In conclusion, with the words of one of the teachers who participated in the experience, <<a student, who really worked hard said: "Professor, I have worked on many projects in this school: I took a course on Public Law at the Faculty of Law with a final exam, I went to Rome to present a project to the BCE, but this project has been the most difficult one." I asked him to explain why and he answered: "it was very complex; there were too many connections to remember, which then needed to be clarified and then carried over into our work in a simpler format in order to make them clear for the students using the e-book. It was a real brain-teaser." I asked him: "But in the end you did it, right?" He answered simply: "Yes." "Then", I told him, "you reached the objectives that this activity aimed to have you reach: learn how to manage the complexity of the knowledge of the overall picture and to see the connections in order to make critically aware choices. Outside school there isn't the reality of math, business economics, or law. There is reality and stop, knowing how to discern the various aspects and how to work in a relevant way is a competence which is acquired with hard work that you yourself experienced." Your smile of satisfaction that you gave us coming out of the lab made up for the immense work that we did all together in order to reach this small result, a drop in an immense sea of things to do in school.>>.

In the Italian context, and not only, experiences of this kind can contribute in an important way to:
- sustain the switch to digital in schools, trying to bridge the digital divide which is still strong among teachers and students, the Net Gens
- update schools to the ongoing transformations
- support the "educational reconversion" of the new social media and social networking
- reconnect the break between the cognitive experience of students and the school
- overcome the current logic of schools
- directly involve students in the creation, management and organization of contents to create greater awareness and administration of what is learned
- give value to interaction and collaboration
- give methodologies and instruments to administer informal learning integrated with formal learning
- produce digital contents using a bottom up process.

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