

# D5.1 Evaluation plan



## **D5.1 Evaluation Plan**



**Transversal Programme:**

**Mus4VIP project: Music for visually impaired people**

**LLP - KA3 ICT: Multilateral Projects**

**Project N° 530990-LLP-1-2012-1-IT-KA3-KA3MP**

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**Education and Culture DG**

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This document is also available on the Internet ([www.music4vip.org](http://www.music4vip.org)).

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## Executive summary

In this document we will describe the evaluation activity plan, along with the information concerning the deliverable D4.1, dealing with contacts with users, who have been selected after due analysis and investigation of the possible categories of users. This deliverable also includes different questionnaires, administered to corresponding users' categories.

The assessment framework was proposed by EKMS - WP coordinator, who initiated discussion on the document form through the consortium list and Skype meetings. During the Skype meeting the partners discussed and agreed on the general goals as well as methods, deadlines and expected outcomes. The Polish partner afterwards circulated draft questionnaires to be analysed, commented upon, refined by all the partners and finally approved.

The Skype meetings, led by EKMS partner, took place on the following dates:

June 17, 2014 from 17:00 to 19:00

July 4, 2014 from 10:00 to 12:00

September, 5 2014 from 11:00 to 13:00

October, 20 2014 from 11:00 to 13:00

November, 21 2014 from 16:00 to 18:00

The various assessment procedures, as well as the questionnaires, have been tested in advance during the month of September 2014 by a focus group who checked the validity of the questionnaires, the related documents and schedule. In addition, the questionnaires' length and content were purposely constrained, to assure a good level of accessibility and suitable time for completion for the users.

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# 1. The Mus4VIP Project

The Mus4VIP project aimed to develop the best possible use of new technologies in the field of Braille music, so as to prevent further disadvantage to visually impaired people and in order to reverse the dramatic decline in music literacy among blind people. In recent years there have, in fact, been signals (New York Times articles by Rachel Aviv, Published: December 30, 2009) of a serious return to musical illiteracy, due to the fact that new basic technologies (I-Pad, smart phones, and similar technologies based purely on listening), have discouraged the visually impaired from learning Braille, offering them the easy, but inferior, alternative of relying on learning by ear. This method is indeed very easy to implement; in fact today, the Internet allows the retrieval of almost anything, as well as offering immediate results. On the other hand, as we point out in all our documents, it is also known that learning only on the basis of listening tends to limit the ability to conceptualize learning contents. In fact, hearing / listening recalls written symbols in those who are literate, while, for those who are not literate, it does not produce concepts, but only labile shadows in the memory, which cannot easily be refreshed, corrected or enriched, through the continual, flexible and personal reference to a written source. This turns out to be a very significant obstacle to genuine education, and denies the principle of equal opportunities.

Mus4VIP sought to overcome these problems by exploiting the best of available resources, both in terms of the functioning senses (touch and hearing), and the best possible use of existing technology based on these two senses.

Mus4VIP has therefore drawn maximum advantage from the sense of touch, which offers the only true means of achieving real literacy for a blind person. The sense of hearing, instead, gives an "overview" of a musical score but, crucially, it does not allow the same

degree of accuracy in examining details. With regard to the available technologies, Mus4VIP has combined the use of tactile devices, such as Braille display and Braille embosser, with acoustic devices, including sound cards and speech synthesis.

The outcome of this has been to promote Braille music literacy, because hearing and touch have proved to be capable of supporting each other in the complex process of deciphering and comprehending music as a language.

In particular, the project achieved the following results:

- Developed an educational methodology that has proved to be more attractive for students and has proved to be an effective support for teachers in the field of accessible music.
- Offers the opportunity to develop training materials in a collaborative way, taking into account knowledge and understanding of the cultural differences between the various participating countries. In fact, each country has developed its own local Braille language, with small, but significant differences; the project has considered this aspect, by collecting and systematically organizing the differences between countries.
- Helped young visually impaired students to develop a more attractive and accessible method for studying music, bearing in mind what an important contribution music can make to an individual's intellectual and psychological development.
- developed appropriate tools in order to help new generations of teachers, teaching assistants and lecturers to acquire specific basic skills in the area of accessible music, by offering them powerful resources and workplace opportunities, both in special schools and in institutions devoted to training the visually impaired.
- Has developed, tested and disseminated new teaching models in the areas of Braille music theory, reading and writing, based on the use of new technologies.

- Created a collaborative process among schools at European level, aimed at improving both basic training and services for music teachers and other categories of people working in schools, such as teaching assistants for visually impaired students. The purpose of this collaboration is to exchange experience, with a view to developing new teaching strategies aimed at improving music teaching quality and the use of Braille both in schools and special institutes, particularly in those classes with one or more visually impaired students.
- Developed a guide to the use of available computer tools that will meet the training needs of teachers at primary, secondary schools of theoretical and practical subjects in music conservatories and music high-schools, taking into account the conditions in each participating country in terms of school integration and education provided by special institutes.
- Has activated a very promising dialogue with projects and networks that operate similar themes
- Has improved the quality and European dimension of training for teachers of visually impaired students;
- Has promoted the development of resources, services, pedagogical solutions and innovative practices based on IT in the field of permanent learning.

## 2. Methodology

### 2.1 Protocols and evaluation tools

The demonstration and testing activities have been planned in combination with the evaluation activity, in order to match each demonstration and test activity with corresponding evaluation activity. For this purpose, deliverables D4.1 and D4.2 are based on information and on outcomes of the investigation questionnaires. Therefore, as described in our work plan (page 52), we have two different demonstration phases: *a*) Preparation of work material; *b*) practical use of the work material from phase *a*. Likewise, we have two phases:

- 1) selection and involvement of users for experimentation and practical teaching / learning activity;
- 2) Result evaluation of above mentioned experimental activity.

With regard to evaluation process, it is worth while mentioning that the teachers involved will most likely present different needs and interests. This means that they will be interested in experimenting with only some of the resources made available on our portal.

In order to facilitate the teachers' work we listed the resources available on the portal, in order that the testing could be done, as far as possible, using the resources already available, whilst recognising that not all of the resources would be relevant to the work of every teacher involved. Here is the list of resources:

1. Inclusive Music Theory Manual with Braille music examples in BMML
2. Inclusive Manual of Acoustics with examples in relief ready to be printed
3. Development of a music program (called Braille Music Learning)
4. 21 didactic units.
5. Lessons for distance learning (video lessons)

6. Database with Braille symbols on the project portal
7. Database with music glossary
8. Online activation of two conversion programs for automatic transcription of music from MusicXML and Lilypond to Braille BMML
9. 2 Tutorials for XML and MIDI.

As can be seen from the above list, due to its complexity, and due to the considerable amount of available materials, the Mus4VIP project requires various checking methods to provide useful information on the several aspects investigated.

Considering this particular aspect of our work, we have decided to draw a list of goals, which would be the basis of our evaluation tools, in order to assess the effectiveness and adequacy of our resources, and how far they meet our interlocutors' main professional interests.

The interlocutors were invited to access our portal Mus4VIP and to navigate through its pages / resources, on the basis of the following evaluation criteria and according to the following work hypothesis.

- didactic units' quality as models for the construction of similar materials by the teachers.
- Completeness and quality of material,
- the usability and accessibility of BMR and BME2;
- the potential of BMR and BME2 as educational tools;
- the completeness and functionality of the BMML notation system;
- the clarity and cohesion of the Braille music code;
- the accuracy of the conversion tool (MusicXML to Braille)

The plan involves three types of evaluation:

- recording and checking of responses from all those who took part in meetings, conferences, exhibitions and other events which were organised by the consortium, in particular during the period from May 2014 until October 2014, that is after the portal had been completed with all planned materials.
- Direct contact by phone or personal contact.

- specific tests on available materials, carried out in real concrete learning situations, and the filling in of an evaluation questionnaire;
- reports by experts on automatic production (conversion module).

Demonstration activities and corresponding evaluation tasks have been subdivided into different working phases, some of which have been arranged in a timeline order and therefore have been numbered as V1, V2, etc.

This grouping method offers some advantages, such as a clear idea about which activity should be carried on, by whom, how and when, with how many users, appropriate goals in a given experimentation activity, about which tools are best suitable, appropriate protocols for administering questionnaires, and finally suitable evaluation criteria.

Please note that:

The first working phase includes making sure that there exist necessary conditions / requirements in view of the real demonstration work. For this purpose, we have designed specific questionnaires, in V1 the Q1, in V2 the Q2, in V3 the Q3, as specified below:

V1 is intended to describe the first contact with each interlocutor. The contact can occur for different reasons and in different occasions. E.g. The interlocutor (e.g. teacher) can be one of the contacts belonging to the contact network of a given partner. Two further contacts will take place (V2 and V3) in order to support the teacher in the comprehension and use of the project resources with the aim of having his participation during the demonstration phase.

V2, in particular, aims at assessing the interlocutor's need for help / support, with a view to preparing specific learning material for his / her student /s, if necessary. If help / support is needed, the interlocutor notifies this need by phone, or via mail, and the Consortium takes charge of the preparation of the required material.

With V4, the demonstration phase can be considered accomplished, and the following activity will be focused on gathering information about testing activity, and on gathering every useful feedback from our interlocutors, including comments, suggestions, criticisms, new ideas, offers for further cooperation.

The V5 and V6 are technical tests aimed at evaluating the performance and accuracy of the conversion modules created on the web site. This stage does not involve users, but the consortium members and some expert of the user group.

## 2.2 TARGET GROUPS

Our plan takes into consideration several target groups, namely:

- 1) Music teachers and teaching assistants, working in either inclusive schools or special schools or teaching privately
- 2) blind users active in the field of music, e.g. university students, composers, self learners

### TARGET GROUP 1: Music teachers

#### Current situation and framework information:

**An inclusive school** whose curriculum includes music, for example lower compulsory school or higher school, may be asked to enrol one or more students with visual impairment. Consequently, nowadays a growing number of teachers, especially those who could attend special training courses or those who achieved their qualification in recent years, have had the opportunity to get to know basic concepts concerning special education and didactic strategies for students with disabilities.

**In special schools** for visually impaired students, we generally find some typical extra-curricular activities, aiming at compensating for the negative consequences deriving from visual impairment, and aimed at education of the remaining senses. One of these extra subjects is music, in the form of music literacy, or the study of one or more instruments, music theory, choir, etc. Almost all those special schools / colleges tend to enrol a certain number of normally sighted students, thus promoting a better level of school and social integration. Those schools can rely on stable and expert teaching staff, including teachers with a long experience in Braille music.

At present only a small number of VI students attend special schools, although the proportion of pupils studying music at such schools is high. It is important for the project to contact the maximum number of teachers in special schools. We presume that many of them will be met through the several dissemination activities.

A school system based on *special education teachers* is very common in some countries, as in Italy. In fact there is a specific type of professional teacher called a “support teacher”, who has specific competences concerning all kinds of students with disabilities. These teachers have the same rights and duties as their curricular peers, they participate in every common activity, such as planning and evaluation, and work alongside their curricular colleagues, either in the same classroom or, if necessary, in separate classrooms. Their task is to develop and to implement didactical work in cooperation with curricular teachers in such a way that all students can share didactical goals, timing and activities as much as possible. In many cases resource teachers are not specialists for music, but they can be employed also for music lessons, in order to support the curricular teacher. For this reason it is very appropriate to offer them general information about our project and its benefits.

In many European countries, VI students receive help and support from some specific professionals, called *school assistants, home readers, mediators, communication facilitators, as well as from expert professionals*, such as Orientation and Mobility (O&M) instructors, visual rehabilitation experts, personal care experts and Independent Living Skills instructors. All of these professionals aim to develop the independence of their VI students, both in school activities and in personal activities. They help the students in the use of specific techniques / aids / strategies, in relation to different subjects, such as writing, reading, geography, drawing, maths, foreign languages, the use of IT, and also music if necessary. Financial resources for these professional are provided by Local Authorities. They either employ them or pay for their work entrusted to private companies, associations, or directly by the family. These professionals work mostly at home with the student, and in some cases they cooperate with teachers at school.

## TARGET GROUP 1

**In Italy** all new training courses for teachers of music instruments or for teachers of music theory of all kinds of school include specific modules in the domain of special education and special didactics corresponding to at least 3 credits (see legislation for teachers' enrolment category A031 for music gymnasiums, and A077 and A032 for lower schools).

During these special modules, the trainer has the opportunity to deal with specific issues concerning visually impaired students, considering the fact that those students are most likely to attend music studies.

This kind of organisation of teacher training is to be considered part of a general policy, aimed at raising the level of awareness, competence and responsibility of every single teacher with regard to students with disabilities, and consequently aimed at reducing the need for specialised support teachers or external support during class activities.

Evidence of this tendency can be found if we take into account the growing number of training opportunities in the field of special education, bonuses, grants and allowances for those attending training programmes and Masters courses in this domain, or through official examination programmes for qualified teachers.

In Italy there is a specific professional teacher called "support teacher", who has specific competences concerning all kinds of students with disabilities. The resource teacher has same rights and duties as his curricular peer, he / she participates in every common activity, such as planning evaluation, and works side by side with his / her curricular colleague in, either in the same classroom or, if necessary, in separate classroom. His task is to develop and to implement didactical work in cooperation with curricular teachers in such a way that all students can share didactical goals, timing and activities as much as possible. In many cases resource teachers are not specialists for music, but they can be employed also for music lessons, in order to support the curricular teacher. For this reason it is very appropriate to offer them general information about our project and its benefits.

In France the situation varies enormously.

In the worst case, the music teacher in normal school or in music academy is very disappointed to have to teach a blind person. So the pupils must be helped by parents or other students who read the score for them. They are also helped by assistant teachers but most of these do not know Braille music.

Help can be obtained from associations or institutes like the IJA (Institut des Jeunes Aveugles) but the link with the teacher is not easy. The Mus4VIP project can help teachers to better understand their students and help them to use new technologies.

There is a national centre (Centre National de Formation des Enseignants intervenant auprès des jeunes Déficiants Sensoriels) at the University of Savoie (<https://www.univ-smb.fr/index.php?id=1705>) which runs a certificate course for teachers in specialist schools who teach VI students.

This certificate is CAEMADV (Certificat d'Aptitude à l'Enseignement Musical des Aveugles et des Déficiants Visuels).

This course ([https://www.univ-smb.fr/.../FicheFormation\\_CAEMADV\\_2013.pdf](https://www.univ-smb.fr/.../FicheFormation_CAEMADV_2013.pdf)) takes place over 3 years with two periods (Period 1 : 8 weeks for theory, 300 hours in a specialist school, one week in normal school; period 2 : 8 weeks for theory and one week in a specialist school).

The certification is obtained after two big examinations. It is a very long process and the teachers with this certificate are very few.

In some specialist schools, the music teacher knows Braille music but doesn't use new technologies.

The Mus4VIP project can help them to integrate more technology into their courses.

**In the UK** there is a one-year statutory induction for all newly qualified teachers, including those who start teaching in special educational needs as their first position after qualifying.

Further postgraduate professional development is possible. Options include certificates as well as a diploma or Masters in special educational needs.

The University of Birmingham runs a course for teachers of VI pupils, although this is not specifically geared to Music.

Most VI pupils are educated in mainstream inclusive schools with the support of special needs staff. Very often these staff members have to undertake extra research to learn how to help a pupil with musical studies. This might include attending an Outreach day at New College Worcester.

**In Poland** the system of music education is a separate system, independent of the general education system. There are two music schools for the blind, but nowadays parents are more likely to place their blind children in mainstream inclusive schools. However, if a blind pupil is admitted in an inclusive music school, it is often the case that he/she receives very little special assistance because there are very few teachers with special tyflopædagogic qualifications. Tyflopædagogs are trained on special courses organised by regional educational authorities on post-diploma courses run by universities. They are qualified to provide assistance to visually impaired children in various subjects and techniques, but not specifically in music. Pupils enrolled in mainstream schools have a right to some extra lessons (4-8 hours a month), but such lessons have to be carried out by tyflopædagogs.

Music teachers who happen to work with a blind student usually have to rely on their experience (if they worked with the blind in the past) or to learn how to cope with the situation on the basis of some literature, contacting the Edwin Kowalik Music Society or some individual blind musicians.

It is the teacher who regularly works with a given student (either teaching to play an instrument or theory) and the benefit is simply the extra time for individual work. These teachers, especially, can make use of consultations and information provided by the consortium. One of the major obstacles to the work of music teachers is insufficient knowledge of IT and lack of equipment (especially computers with Braille displays).

When a child attends an inclusive mainstream school in Poland the support role is usually played by the families. The parents often help their children as their guides, readers. They often have to bear the expenses of the necessary equipment and supplementary Braille materials.

#### Pilot activities for Group 1

We believe that any significant evaluation activity should necessarily take into consideration the fact that there are hundreds of music teachers working in inclusive schools.

#### **General goal**

- raising awareness about potentialities of VI students in the domain of music studies, if they can use appropriate tools, such as products / services which have been developed within Mus4VIP project;
- offering the teachers good reference points in case they have to deal with VI students during their professional life.
- to offer precise information concerning our products / services; developing and implementing one didactical unit (regarding activities planned during the school year from September to October.)

- raising awareness of the advantages of cooperation and exchange of experience, especially with regard to European citizenship and European awareness.

Once teachers have agreed to collaborate with the project we listen to their requests and needs, in the light of the resources available on the portal. They will choose a particular student or class with whom to work using resources from the website or prepared specially by the project team. The choice of pupil or class will be made taking into account the following factors:

- Their current educational level
- Their degree of familiarity with IT
- Their knowledge of Braille music notation;

It is important that the testing activity should not limit the school course already begun by students; therefore, the materials used as the basis of training activities will possibly be the same as the ones previously adopted by the school. The project will take note of school curricula to identify teachers' and students' specific needs, as well as the exercises and music pieces for digitalisation and presentation through new ICTs in the form of didactic units. The teacher will be supported in order to design and to develop the didactic unit using appropriate strategies / products / services from our project.

1) **TARGET GROUP 2:** Blind users active in the field of music, e.g. university students, composers, self learners

#### General goal

The questions to this group aim to find out whether they find it more or less interesting to study with the aid of computer rather than with traditional methods. They are asked about the extent to which they already use IT in their work and which software they are familiar with. They are also asked for their feedback concerning all the software and resources available through the Mus4VIP project.

The Summary table of evaluation plan is illustrated below.

## MUSI4VIP Demonstration Phases and Evaluation Plan”

### 1) Initial planning of demonstrative activity

	Contact	Object	Method	Instruments	Beginning Time	Finishing Time	Sample kind	Sample number
V1 First meetings with teachers See also dissemination activities	Personal contact in planned meeting or Info day, participation, exhibition, conference, Contact by email or by phone	Recording and analysis of users' first contact with the project Collect the names (asking consensus) of those who are interested to download and install the programs on the website. Collect data and their phone number. (Such information will remain anonymous and will not be disclosed in a public form.)	Direct observation and simple questions on satisfaction level	P1 and Q1 Recording grid	From March 2014	By September 2014	Teachers (inclusive school or specialised school) Educators	several users in each country (about 10 or more)
V2 Starting the dialogue with nominatives	Phone call of email contact	V2 After 10/20 days there will be the contact with the teachers to know if they have had problems installing programs and opening the various didactical units. They will be asked if they are interested in building their own didactical unit to play with their blind pupils. In this case it is proposed to assist them during the work of realization of unit. From June to September, make themselves available for possible contacts and requests for information to the knowledge and use of resources in the portal.	Direct request by phone or by email, Report of answer on Q2	P2 and Q2 Recording grid	After about 10/20 days after the meeting (V1)	-	As above	All the people who leave the contact phone number, with a minimum of 10 teacher for country
V3 Contact verification	Phone call of email contact	Second contact through the phone by September / October 2014 in order to verify that all material, the installations are ready for use and testing activities that the teacher wants to achieve.	Contact by phone or bay email	P3 and Q3 Recording grid	After about 30 days after the (V1)	-	As above	All the people who answered in affirmative way to the request of V2

## 2) Verification activity on performed tasks

	Contact	Object	Method	Instruments	Beginning Time	Finishing Time	Sample kind	Sample number
V4 Satisfaction questionnaire	Direct interview (by phone or by email) with pre-defined questions.	Analytically record the users' satisfactory level regarding Mus4VIP system; Evaluation of the effectiveness of the system and its usability, based on utilisation of the didactical unit realised. Quantify how much work is accomplished by the new system. There will be a questionnaire aimed at teachers and a simpler one for students and parents. This will make it possible to obtain information on the same activity from different points of view (teacher, parents, students) in order to compare the different data.	With pre-defined questions.	P4 and Q4.1 Q4.2 and Q4.3 Recording grid	From November 2014	Not later than December 2014	As above	All the people of the V3
V5 technical text	Verifying Music XML conversion	The evaluation of V5 will be only technical because it wants to evaluate the correctness of the conversion, the relevance or not to manually international	Technical checks based on different score as Test Suite. The checking of the notation's accuracy and suitability is carried out by expert musicians, who compare the print result with its Braille original version, from which the example has been drawn..	Free Test Suite selected by the users	As soon as the conversion software is completed	Not later than December 2014	Expert of the user group	2 blind music experts
V6 Accessibility of the portal	Technical evaluation..	A specific evaluation on accessibility of the portal web site.	Internet tools.	report		Not later than December 2014	Not applicable	Not applicable

## 3. Valuation Tools

Validations V1, V2, V3 and V4 are associated to:

- a protocol with instructions for evaluators (P1,P2,P3,P4)
- a response form (Q1, Q2,Q3, Q4.1 Q4.2 and Q4.3)

### 3.1 Validations V1

This consists of the first dialogue with the users considered as reference, such as teachers and trainers, self learners.

The first contact can be carried out in two different forms:

- 1) Taking advantage of the several dissemination activities that have been undertaken in 2014.
- 2) direct contacts of the teachers by e-mail and phone.

#### **The first contact in dissemination activities**

During the presentation the portal is presented in order to let the participants familiarise themselves with the many resources available. Information is given about how to download and install the BMR and BME programs and how to carry out the conversions from printed music to Braille and vice versa. Given the variety of dissemination activities planned, the first contact with teachers could be of several kinds, such as:

- Suggestion to leave their own e-mail address at the end of the meeting
- Or to fill in a form that can be handed around among the participants
- Or leaving the project's e-mail address and asking the participants to contact the project in order to be called back afterwards. In case of a direct contact, the contact is recorded on the Q1
- Suggesting that the participants consult the project's portal and download the BMR program during the meeting

During the presentation, it is necessary to observe the general level of interest and to answer the participants' questions. Some of the project's leaflets are given out, and the participants will be asked to give a short interview in order to fill out a brief questionnaire asking their impressions about what has been shown them.

Some basic information (contact details, age, musical level, academic field, computer equipment) is necessary in order that users may be followed up.

At the end of the meeting/first contact, the users are asked to install the BMR/BME program on their PC in the days that follow and to use the on-line conversion modules, to look at the didactic units on the website and, for those who left their phone number, a second contact will be made as stated in the V2

If it is possible to have data on the basis of the information gathered on the meeting day, the Mus4VIP project's partner will fill out the Q1 questionnaire.

For the second teachers' group, that is those able to get in direct contact, a telephone appointment will be fixed or, if it is possible, a face to face meeting to show them the portal resources and expressly asking them to participate in a short demonstrative phase using the resources for the construction of a didactical unit. They will also be asked to answer a few questions in order to gain their first impression on what has been shown them.

Part of the V1 is the registration through the Q1 of teachers that work in inclusive classes and that currently do not have blind students in their school but are, however, teachers who have an adequate preparation in the music and disability fields.

**P1 Evaluator's instructions**

The Q1 questionnaire will be used to gather data from teachers interested in the project and to record their possible interest in collaborating with the project's testing phase. We recommend collecting information discretely and quickly.

One way of doing this would be to make a note of the important information and then, at a later time, to record the data collected in the questionnaire.

It is important to remind the potential users of the reason for recording this information, which is to check their first impressions and to ask about their possible willingness to collaborate in the demonstrative phase. When collecting names, it is important to stress that these data will not be disseminated but kept by the person in charge only for making contact. The users need to be reassured that personal data collected will not be disseminated in any way but that all data published will be anonymous.

If the participating teachers have used the BMR program, or used the website and the conversion pages then they may be asked further specific questions. It will also be useful to include information that can show the teachers' interest in a didactic that takes advantage of the IT aids, their attitude to use new technologies, record the suggestions and impressions of this first test by the evaluating partner.

## 3.2 Validations V2

About ten days after the first contact, if an interest in taking part in the demonstration has been received, a further contact will be made in order to check:

- If the interest shown in the first contact is still present
- If the teacher was able to install the BMR or BME2 program and ask him if he had any installation difficulties.
- If he has had the opportunity to look at the resources on the website and if he has already formed an idea of the didactic unit that he would like to realise and use at the beginning of the following academic year

At this point the partners ask if help is needed for the didactic unit's preparation. It is important that the teacher should choose the subject freely and that the interviewing partner does not influence him. This allows us to understand which of the available resources have proved to be most preferred and selected by the teachers. This will help us to understand which contents to develop rather than others. The inclusive school teachers who showed an interest in carrying out a didactic unit will also be contacted.

### **P2 Evaluator's instructions**

The aim of the Q2 compilation is to make sure that the commitment is still present and ask the teachers if they were able to access the website, download the programmes and use the available services.

It is important that the conversation is perceived above all as an offer of help from the Mus4VIP team and not only as a request for information. The interview should be open, inviting users to express freely how the first use of the programme on their own computers worked.

Once again all questions asked by the user need to be recorded carefully. By gathering the questions we can have a clear idea of what information is lacking in the proposed tutorials on the portal.

At this point the interviewer will discuss the didactical units to be realised, offering all the necessary information and help in producing the materials in BMML format. This will apply both to the teachers that train blind students and to those who work in an inclusive class.

If it is possible the teacher is free to provide his personal e-mail address so as to continue the dialogue via e-mail.

Finally, it is necessary to verify if all the information required in the questionnaire has been supplied.

### **3.3 Validations V3**

A second contact shortly after the beginning of the demonstrative phase (at the end of August or in September or October 2014) will also be carried out by phone or e-mail in order to understand if the suggestions given both of technical and didactic character were useful and, therefore, check how the didactic units are developing and ask whether they need our help in realisation of further material. At this point we would also ask if there are any technical difficulties with the installation and use of the BMR/BME2 program.

Those teachers working in inclusive classes will be asked to show the work carried out, asking them for permission to publish their teaching materials on our website. Such didactic units will be checked by the Mus4VIP partner, corrected if necessary and will be released on the project's website as further material that enriches the existing portal resources

### **P3 Evaluator's instructions**

The third contact is aimed simply at ensuring that the didactic unit has been completed.

## **3.4 Validations V4 Appreciation questionnaire**

The V4 evaluation represents a final check of the users' satisfaction with the activities carried out. It will be carried out through an interview and a questionnaire to the teachers (or self learners).

Finally, we have a short questionnaire for students and one for parents. In order to avoid complicated acceptance declarations, in the case of students under 18 years of age, it would be preferable to ask their teacher to give the interview, with due authorisation by students' parents.

The above mentioned questionnaire includes some items specifically for parents, in order to assess whether they are interested in participating in test activities.

### **P4 Evaluator's instructions**

Questionnaire 4 is more complex, and requires more time to be filled in, but it can be sent via e-mail, or can be administered as a face to face or telephone interview. This questionnaire has a certain number of boxes to mark, but, in case the interlocutor is a visually impaired person, the questionnaire has been duly adapted. Indeed, the questionnaire is delivered in Word format, and an "X" is used as a marker for the selected option. Where participants are asked to give ratings, numbers are used for the convenience of visually impaired interlocutors.

If any of the questions are incomprehensible to the interviewee, the interviewer will try to establish whether this is through a lack of clarity in the question or whether the function/subject on which the opinion is required, is unknown to the

interviewee. In the former case, the question will be explained in another way, in the latter case the corresponding row will be left empty (or cancelled with a horizontal line). Obviously, the row will be left empty if the interviewee declares he/she does not know or, for example, he / she has never used that specific function of Braille Music Reader.

### **3.5 Validations V5**

The evaluation activity under V5 will involve user groups to assess the quality of conversion with respect to a collection of test cases proposed by the users themselves.

At least two experts will be involved in the above mentioned activity.

This kind of evaluation activity will be focused on verifying the effectiveness of the conversion modules, from Music XML to Braille. Partner Arca Progetti will offer support and technical assistance to the experts involved.

For this purpose the experts will be asked to use some specific examples of different types and different complexity, as well as some examples from the New International Manual of Braille Music Notation, as described in our workplan, under Wp55 – “Conversion quality with reference to a protocol of examples found in the International Manual of Braille Music”.

### **3.6 Validations V6 Accessibility**

A specific evaluation activity will be cover technical aspects, particularly the accessibility of the website. This evaluation procedure will be based on automatic accessibility test procedures available online.

## 4. Q Validation Questionnaires

Given below are templates for the different types of questionnaires, including first, second and third contact questionnaires, along with teachers', students' and parents' appreciation questionnaires.



## European Project Mus4VIP Nr. 2012- 4250

### Demonstration phase

### Questionnaire 1

#### Main goal

This interview aims at:

- establishing first face to face / distance contact with a teacher who is in charge of a visually impaired student, or with an adult self-learner VI student.
- introducing learning material available on our portal;
- encouraging our correspondent to try it and if possible to develop new didactical material for his / her specific needs.

#### Section 1 - compiler

Filled in by:

---

Date:

---

Type of contact

- Face to face
- e-mail
- phone
- mobile app
- Skype
- Other (please specify): \_\_\_\_\_

**Section 2 personal data of interviewee**

First name and family name (Optional) \_\_\_\_\_

Country: \_\_\_\_\_

Type of activity

- Teacher
- Educator
- school assistant
- volunteer
- tutor
- self learner
- Other: \_\_\_\_\_

**Questions**

1. How did you get to know about [www.music4vip.org](http://www.music4vip.org) portal?
2. Which class / level is your student attending at present? [not valid for self learners]

Wide range of levels \_\_\_\_\_

3. Your activity in music domain:

- private lessons;
- inclusive school;
- special school;
- private school;
- other (please specify)

4. Does your student (do you) use assistive / adaptive technologies?  
If yes, please describe most familiar technologies

5. What do you generally use for teaching / learning music?

- By ear;
- Braille scores;
- IT solutions;
- spoken music;
- other (please specify) \_\_\_\_\_

6. Are you aware of music editor programmes for sighted persons?

7. Are you aware of music editing programmes for visually impaired persons?  
If yes, please specify.

8. Would you like to be contacted again in order to experiment one or more of the available solutions on our portal [www.music4vip.org](http://www.music4vip.org), in order to carry out a didactical / learning activity? \_\_\_\_\_

*Note for the interviewer.*

*If the answer to this question is yes, the interviewee is encouraged to visit our portal and to devote some time to get familiar with one or more of our resources, and to think of a possible teaching / learning activity based on those new resources.*



## European Project Mus4VIP Nr. 2012- 4250

### Demonstration phase

### Questionnaire 2

#### *Note for the interviewer*

*In case the interviewee is already familiar with resources / solutions available on Mus4VIP portal, this questionnaire can be administered immediately after the previous one. Otherwise, it should be submitted to the interviewee 10 / 15 days after.*

#### Main goals:

- make sure that the interviewee has entered the portal and has gained sufficient familiarity with one or more of the available resources;
- make sure that the interviewee has installed BMR programme;
- gather first feedback;
- investigate about any issue he / she is particularly interested in;
- check whether he / she found what he / she was interested in;
- to have his / her cooperation in experimenting one or more teaching / learning activity based on solutions available on our web portal.

#### **Section 1 – compiler**

Filled in by:

---

Date:

---

**Type of contact**

- Face to face
- e-mail
- phone
- mobile app
- Skype
- Other (please specify): \_\_\_\_\_

**Section 2 personal data of interviewee**

First name and family name (Optional) \_\_\_\_\_

Country: \_\_\_\_\_

**Type of activity**

- Teacher
- Educator
- school assistant
- volunteer
- tutor
- self learner
- Other: \_\_\_\_\_

**Questions**

1. Were you able to access our web portal music4vip?
2. What was your main interest in accessing our portal?

Did you find the information:

- useful;
- interesting;
- helpful for your work.

Other (please specify): \_\_\_\_\_

3. Available resources: did you

**download one or more?**

view one or more?

use one or more?

Can you specify which and how? \_\_\_\_\_

4. Do you have specific questions for us? (Your questions will be published on our web forum);

---

5. Do you have any suggestions, aiming at ameliorating our web portal?

6. After you accessed our web portal, do you think you will be able to use one or more of the available resources in your teaching / learning activity?

---

7. (FOR TEACHERS) - Are you available to carry on one or more lessons with your VI student, using our resources? If yes, do you need any help support by our team? (if yes, please specify which kind of help / support you need); If no, please explain why, because your explanation in negative case helps us to improve our work.

---

8. (FOR TEACHERS). Are you interested in realizing a short didactical unit for your VI student, based on one or more of available resources?

---



## European Project Mus4VIP Nr. 2012- 4250

### Demonstration phase

### Questionnaire 3

#### *Note for the interviewer*

*Once the teacher / self-learner have carried out the agreed activity (see Q. 2), the interviewer contacts his / her interlocutor via e-mail or via phone.*

#### **Main goal**

- check level of satisfaction of interviewee with regard to effectiveness of visited solutions;
- check level of satisfaction about accessibility.
- check whether extra help / support is needed.

#### **Section 1 compiler**

Filled in by:

---

Date:

---

**Type of contact**

- Face to face
- e-mail
- phone
- mobile app
- Skype
- Other (please specify): \_\_\_\_\_

**Section 2 personal data of interviewee**

First name and family name (Optional) \_\_\_\_\_

Country: United Kingdom \_\_\_\_\_

**Type of activity**

- Teacher
- Educator
- school assistant
- volunteer
- tutor
- self learner
- Other: \_\_\_\_\_

**Questions**

1. Did you develop some new material? If yes can you describe please?

\_\_\_\_\_

2. Did you realize also one or more didactical units? If yes, please describe

\_\_\_\_\_

3. In case you received some help / support from our team, please describe in which terms

---

4. Which resources of the web portal are you going to use during your experimentation?

---

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## European Project Mus4VIP Nr. 2012- 4250

### Demonstration phase

#### Questionnaire 4: Final evaluation

This questionnaire has been designed after having accomplished the test activity with teachers, students, parents, self-learners and other users according to our work plan.

#### Main goal

The aim of this questionnaire is to report feedback from teachers, students, parents, self-learners and other users after the planned testing activity has been completed.

On the basis of the information collected, we would like to improve the quality of the resources/learning materials already available on our web portal.

In particular, the following main aspects have been taken into consideration:

- Which resources/materials were used most frequently?
- What activities were most commonly undertaken by users of the Music4VIP Project: didactic units, conversion/transcription of scores, composition, arranging, use of reference resources (such as index of Braille music symbols) etc.?
- What are the advantages and disadvantages of the website (with reference to learning time, organisation of didactic units, availability of resources)?
- What changes are suggested by the interviewees?
- What are the most urgent needs in the area of music education for the blind that have not been fulfilled so far?

Specific questions have been targeted at each of the above mentioned groups separately.

**Section 1 - compiler**

Filled in by:

---

Date:

---

Type of contact

- Face to face
- e-mail
- phone
- mobile app
- Skype
- Other (please specify):

---

Teacher first name and family name (Optional):

---

**Questions for teachers**

1. Extent of experimentation period: (how many days; how many sessions/lessons).

---

2. Please give a short description of the activity performed during the experimentation phase.

---

3. Did you develop and use your own didactical material for the purpose of the project?  
Yes/No
- 

4. Did you use any of the units available on our web portal?  
Y/N If yes, which of them?
- 

5. Please indicate what you consider to be the strengths of such didactic units in comparison with more traditional methodologies?
- 

6. For each aspect of BMR or BME2 listed below please give a satisfaction rating between 1 (the lowest) and 5 (the highest). Please leave blank any row that does not apply to you.

- 1 Insufficient  
2 little  
3 satisfactory  
4 good  
5 very good

	←	Little		a lot	→
	1	2	3	4	5
a. Easy to use	<input type="checkbox"/>				
b. Easy to learn music (easiness and speed)	<input type="checkbox"/>				
c. Fast to learn the operation of the software	<input type="checkbox"/>				
d. Easy to install	<input type="checkbox"/>				

	←	Little			a lot	→
	1	2	3	4	5	
e. Management with the Braille display	<input type="checkbox"/>					
f. Management with the screen reader	<input type="checkbox"/>					
g. Management with the midi music playback	<input type="checkbox"/>					
h. Clarity of spoken music via voice of the screen reader	<input type="checkbox"/>					
i. Clarity of the reproduction of the notes through the sounds	<input type="checkbox"/>					
j. Easy to hide / show elements (fingering, parts, voices)	<input type="checkbox"/>					
k. Clarity and understanding of the reading of the reduced text	<input type="checkbox"/>					
l. Element searching	<input type="checkbox"/>					
m. Entering of remarks	<input type="checkbox"/>					
n. Customisation of the score	<input type="checkbox"/>					
o. Easy to remember the shortcuts (hot keys)	<input type="checkbox"/>					
p. Instruments to select the score to be played (single bar, the whole score, etc.)	<input type="checkbox"/>					
q. Management of very long music scores	<input type="checkbox"/>					
r. Search for a particular point in a line	<input type="checkbox"/>					
s. Search for a particular point in the text (a particular measure, switching between the parts)	<input type="checkbox"/>					
t. Understanding, via the screen reader or description on the status bar, of music symbols never used before.	<input type="checkbox"/>					
u. Clarity of the BMR manual and other documents relating to it.	<input type="checkbox"/>					
v. Completeness of the manual and other documents relating to Braille Music Reader/Braille Music Editor	<input type="checkbox"/>					
w. Give your comments.						

7. Do you believe that BMR is a valuable tool to assist your students while exploring Braille music text?

- Yes, highly valuable
- Quite valuable
- To some extent
- Of little value
- Of no value

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### Questions for students/users:

1. What is your opinion of the materials offered by Mus4VIP? List the materials used and give your personal impression.

---

2. What was the impact of the material implemented by your teacher or used at your choice on your music activity? .

---

3. What were the difficulties/obstacles you came across when implementing new techniques?

---

4. What were the advantages/benefits?

---

5. Is it better / more convenient, in your opinion, to use the traditional media (paper copies, voice guidance) or implement IT? Or would you perhaps like to use a mixture of these approaches while learning music / working with music?

---

6. How do you think you will benefit from the new opportunities offered by IT and music specific software to develop your musical knowledge and skills?

---

7. Do you believe that BMR is a valuable tool to assist you while exploring Braille music text?

- Yes, highly valuable
- Fairly valuable
- To some extent
- Of very little value
- Of no value

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8. If you have tried Braille Music Reader, did you notice any improvement in:  
*Rate from 1 (little or nothing) to 5 (a lot)*

	←	Little		a lot	→
	1	2	3	4	5
a. Speed in understanding the music	<input type="checkbox"/>				
b. Confidence with the Braille music	<input type="checkbox"/>				
c. Greater understanding of the phrasing or musical sections	<input type="checkbox"/>				
d. Detecting/correcting errors in the score					
e. Music text navigation	<input type="checkbox"/>				
f. Self-confidence, self-esteem	<input type="checkbox"/>				
g. Interest in music, motivation	<input type="checkbox"/>				



### Questions for parents:

1. Did your child ask for help/support in order to use new IT tools? If so, who provided the help?

---

2. Do you think your child was satisfied with new learning tools, or did you find he/she would need more instructions or longer learning time?

---

3. Do you think it is more difficult to find electronic music scores than traditional hard copies?

---

4. Have you any additional comments?

---

## 5. Conclusions and further work

One of the main difficulties in assessing effectiveness of our resources is the fact that music literacy has dramatically declined for at least 35 years in all the consortium countries. This is mainly due to the evolution of teaching methods, which tend to rely on visual learning material, visual communication, extemporary access to material, often unpredictable sources of information for education purposes. Another important factor is certainly the very considerable difference between Braille music notation and normal music notation. In fact, a Braille score is nothing else but a kind of text with symbols placed one after another in rows, whereas a score in staff notation gives a 2-dimensional visual representation of the structure of a piece of music, as well as its main musical characteristics, such as melodic design, polyphonic passages, if present, rhythmic patterns, and many more. Thirdly, the introduction of integrated schooling models, although preferable for the development of social skills, very often does not fulfil special needs and is not able to realise the full potential of visually impaired students. Musical literacy, along with mathematical literacy, could well be mentioned as significant examples. The main practical cause of this situation is the lack of well-trained music teachers, even in the countries where auxiliary/support services are widespread and effective. It must be borne in mind that only about 2.5% of all disabled students suffer from visual impairments of different kinds and degrees. This circumstance can explain why musical literacy among the visually impaired in Europe is in decline. As we found in our investigation, only a very small number of students have a degree of familiarity with Braille music notation; this makes it really difficult to identify the desired number of users for testing purposes.

Notwithstanding all these obstacles, our consortium has carried out the planned activity with regard to identification of a meaningful number of users of different kinds, in order to test the effectiveness and usability of the main resources available on our website.

During the project's life information has been collected, showing that, despite the decay of musical literacy among visually impaired people, interest in music and music studies seems to be thriving; the above mentioned obstacles induce a large number of them to adopt different kinds of strategies for learning a musical score, and trying to penetrate its details.

The information we gathered during the project's life confirms our starting hypothesis, that there is still a need for and an interest in musical literacy among visually impaired people, but they never imagined that new solutions were available, capable of reducing significantly the need for external help, capable of offering the real possibility of "unveiling" the score, unfolding all the mysteries which are hidden in the written symbols.

On this basis, we have designed and implemented our battery of questionnaires / interviews / feedback gatherings, in the realistic hope that the outcomes would confirm our expectations.