

**JISC Project Plan**

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| **Project Information** | | | |
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| **Lead Institution** | Teesside University | | |
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| **Partner Institutions** | JISC Techdis | | |
| **Project Webpage UR** | <http://arc.tees.ac.uk/widgat> | | |
| **Programme Name** | JISC e-Learning Programme: Learning and Teaching Innovation | | |
| **Programme Manager** | Rob Englebright | | |

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# Project Overview

## 1.1 Project Summary

The focus of the WIDGaT project is to support the production of widgets that meet the needs of learners with disabilities who may require their learning resources to be adapted or personalised. The project team (Accessibility Research Centre, Teesside University) have already established a body of research on accessible personal learning environments, learning object adaptation services and supporting staff in the creation of accessible learning resources.

The WiDGaT toolkit (Design Decision Maker, Authoring Tool and repository) will support the education sector in the self-design and development of open source, W3C standard widgets. The toolkit will enable staff or students without technical expertise to design, develop and share widgets that can support the personalisation of learning. It will enable the creation of widgets that contribute towards the realisation of Adaptable Personal Learning Environments and address particularly (but not exclusively) the needs and preferences of disabled students**.** We will utilise existing JISC tools and projects where possible to extend our existing Community of Practice (see JISC WIDE project: <http://www.jisc.ac.uk/whatwedo/programmes/elearning/distributedvle/wide.aspx> ).

This project aims to explore, design, develop and evaluate a WIDGaT toolkit that will support the design, development and sharing of widgets by those directly involved in the teaching and support of disabled students. Following on from the successful JISC WIDE project (<http://arc.tees.ac.uk/wide/>), we will build on our established Community of Practice and utilise the JISC Users and Innovation Development Model (UIDM) approach to the specification, design, development and trial of the prototype. By engaging pedagogical and technical experts in the design and development of e-learning support with our intended end users the objective is to produce a prototype authoring tool that will enable teachers or students to develop and share bespoke widgets. The WIDGaT toolkit will contribute towards the personalisation of learning for individual students, complement existing JISC initiatives in the area of personalisation, e-learning tools and the commitment to open access and sharing of tools and resources. Both the toolkit itself and the resultant widgets will be freely available through a range of dissemination methods for use and adaptation by the wider learning community.

## Objectives

The project has a number of objectives:

* Use the expertise of the Accessibility Research Centre (ARC) at Teesside University, and other expert partners to work with established user communities from HE, FE and specialist colleges to develop a system that meets the requirements of non-technical developers
* Through a designer and a developers bash supported by follow up activities, produce a detailed design and technical specification for the authoring toolkit.
* Using an iterative approach that enables prototype production, evaluation and revision of individual components as well as the full prototype, work with the users to develop a toolkit that is intuitive and accessible to the community.
* Develop an open source product with source code and tools freely available to the educational community.
* Provide a means to store the resultant widgets in a searchable repository (WIDER) and on a Wookie server to be hosted at Teesside University during the development and trial phase that can be accessed, downloaded and distributed by the community.
* Host the WIDGaT toolkit on a virtual server at Teesside University and make it freely available for download and installation on any other server.
* Invite evaluation of the Toolkit by teachers and groups external to the project with suggestions on enhancement (through REALISE).
* Utilise existing JISC projects and open source tools in the design, development, evaluation and dissemination of the toolkit. (e.g. Wookie, WIDE, Design for Learning, REALISE, ExtJS, OSS Watch).
* Draw on the experience of other open source e-learning project developers and researchers to determine an effective solution (e.g. GLO –Maker, XERTE).
* Maximise the impact of the project through involvement with end users from the outset, gathering use cases, active promotion, a sustainability strategy and regular feedback.
* Undertake promotion and dissemination through a number of fora including REALISE, the project website, relevant conferences and journal publications, JISC CETIS and Accessibility SIG Workshops, and through the use of social media (Twitter, Facebook).

## Anticipated Outputs and Outcomes

The outputs will be the WiDGaT toolkit that will be a freely available, open source, application that can be downloaded, adapted and hosted by any HE or FE institution or individual. It will support the creation, adaptation and sharing of open source, W3C standard-compliant widgets. The tool will take users through the process, with links to key process information, to enable them to easily produce a widget of direct value to their learners. It will comprise a kind of expert system – the Design Decision Maker that will help the user specify the design and functionality of the proposed widget, an authoring tool with templates and libraries of API’s and services and a database for storage of designs and widgets.

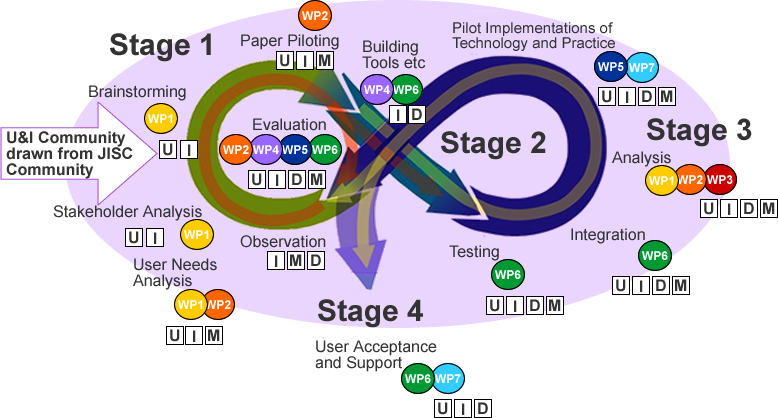
|  |  |
| --- | --- |
| **Output / Outcome Type**  *(e.g. report, publication, software, knowledge built)* | **Brief Description** |
| Report | Freely available on JISC project website and ARC WIDGaT website. |
| Publication | Research papers in a number of relevant conferences in the computer science and educational technology disciplines (e.g. ACM ITiCSE, ACIS, BCS HCI, JISC conference, CEDA |
| Software | The WIDGaT prototype authoring toolkit (and its constituent components) will be freely available, open source application that can be downloaded, adapted and hosted by any HE or FE institution or individual.It will support the creation, adaptation and sharing of open source, W3C standard-compliant widgets. |
| Knowledge built | Increased understanding of community based open source educational applications to support disabled students through mainstream tools. |

## Overall Approach

The WIDGaT project will adopt a mixed methodology that draws on principles from participatory design and HCI under the umbrella of agile development. This methodology responds directly to the call for methods that empower learners to be the ones who highlight the issues which are important to them (Sharpe et al., 2005). Participatory design is commonly used in the fields of human computer interaction and computer science, and incorporates the related fields of inclusive design (Dewsbury et al.,2004); co-design (Druin, 2007) and user-centered design (Newell et al., 2007. The driving force behind the agile perspective is to shift the overall focus of software development to a more agile or lightweight perspective (Cockburn 2002). For this reason, agile methods provide a lightweight approach to development where requirements and solutions evolve through collaboration and through iteration. The nature of widgets lends itself to agile iterative methods (Leeder, 2009) as a basic functional widget prototype is straightforward to develop and deploy to users in a series of design iterations.

In addition, the project will take a combined approach of participatory design and agile development utilising the JISC Users and Innovation Development Model (UIDM, 2007), that identifies and promotes the application of next generation, emergent technologies (in social media, ubiquitous computing and personalised environments) for education, through the establishment of an agile, user-focused development community.

The combination method we employ enables the mapping of the user centred approach of participatory design to the agile development method throughout the project lifecycle. The approach (Figure 1) identifies Users (U), Innovators (I), Developers (D) and Modelers (M).



In the context of the WIDGaT project, the users are the teachers and students, the innovators are the researchers, the developers are the technical experts and the modelers are the designers.

The core project work will be carried out by the project team at ARC. The technical team will support the developer community of practice to contribute individual components while the design team will coordinate the designer community of practice to produce the interface and interaction elements of the project.

This process will begin with a series of workshop ‘bashes’ for designer and technical participants from which the design and technical requirements specifications will be developed. The CoP (supported by consultancy arrangements) will then contribute individual components while the core team will be responsible for the overarching framework. Consultants and CoP members (users) will evaluate the usability of the tool and its effectiveness in producing widgets.

The ARC team will produce standard documentation (derived from other successful open source projects) for developers and users to provide a uniform approach for development, use and sharing.

The workshops will take place at Teesside University and/or TechDis in York.

These activities will be supported through the project blog, the WIDER developers and users resource and through project REALISE marketplace.

The process will be managed closely through clearly defined work packages and monitored by the Project Managers, with support from the University Research Support Officer and by the JISC Programme Manager.

The output of the project will be a prototype authoring toolkit that will support the production of widgets based on a limited number of pre-defined templates. Although it is desirable to produce a toolkit that would support the production of any type of widget, it is not possible within the scope of this project.

Although the aim is to develop a full open source product that will be available to download, adapt and use, it is unlikely within the scope and scale of this project that all components will be available by the end of the project as true open source components and documentation is likely to be limited.

Although the toolkit will be evaluated in practice, it is beyond the scope of this project to embed the toolkit within institutions.

The critical success factors of this project include

* The scalability of the prototype authoring toolkit to demonstrate its potential to accommodate production of any type of widget
* An evaluation of the toolkit that demonstrates its usability and effectiveness as a widget production tool for teachers without the need for programming skills.
* Positive feedback from students on the appropriateness of the widgets created using the tool.
* The wide dissemination of outcomes.
* Tools and documentation that can be adopted and utilised by the open source community

## Anticipated Impact

|  |  |
| --- | --- |
| **Impact Area** | **Anticipated Impact Description** |
| Maintain Research Excellence | Demonstrate a greater understanding of the use of Web2.0 tools and widgets in the educational context. |
| Maintain teaching & learning excellence | Staff able to create widgets that directly support disabled students |
| Be more effective/save money | Toolkit freely available for use and adaption. |
| Positive impact on wider society | The toolkit will be a mainstream tool that supports disabled students but can be used to create widgets that benefit any student in further/higher education. |
| Ready for technology needs in the future | The open source nature of the development means that changes and developments in needs or technology can be addressed – the toolkit can evolve with the technology |

## 

## Stakeholder Analysis

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| --- | --- | --- |
| **Stakeholder** | **Interest / stake** | **Importance (H/M/L)** |
| Teachers of students with disabilities | Creators and users of widgets. Established need for flexible solutions to student support for learning. | **High**  Need to be engaged at all stages, particularly: design, evaluation and use |
| Students with disabilities | End users with specific needs | **High**  Involved indirectly in design, directly in use and evaluation |
| Institutional VLE managers | Need to understand how widgets can be used to provide flexibility to VLEs and consider technical issues. | **Medium**  Not directly involved in project but interested in outputs and implications |
| Researchers (within the project and in e-learning community) | Understand issues of e-learning development to support personalisation. | **High**  Results will inform future research and enable analysis and evaluation. |
| JISC Partners | Financial support and better understanding of us and application of tools to support the concept of personal learning environments. | **High**  Funding support requires successful outcome. Provides greater knowledge and application for the wider community |

## Related Projects

The project will, wherever possible utilise existing JISC or other open source projects for the development and dissemination of the project.

* The learning designs created during the JISC funded project called ‘Sharing the Load’ (Design for Learning Programme).
* The classification produced as a result of the JISC WIDE project (Distributed VLE Programme).
* REALISE (Business & Community Engagement Programme) to invite participation throughout the project and for dissemination.
* The WIDER resource developed as a result of the WIDE project
* The Rave in Context project to apply their generic widget templates for common web application features.
* Apache Wookie for the widget server.
* The design guidance will be drawn from the model used for the JISC Techdis staff packs.

The anticipated synergies with existing projects is illustrated below in Figure 2.



Figure 2: Synergies with other projects

## Constraints

*Time:*

As this is a one year project, the time available to analyse, design, develop, test, evaluate and embed the WIDGaT toolkit is limited. In order to ensure that all aspects of the project are addressed the following steps will be taken:

* The project will be divided into a series of distinct work packages which will be closely monitored by the team’s Project Manager and Project Director.
* The toolkit will be developed as a prototype – although all components of the toolkit will be developed, its functionality will be limited to a fixed set of widget templates.
* As set of templates will be provided for all key documents to ensure a standard approach and a streamlined development process.
* The project plan takes account of vacation time to ensure the workload is manageable.

*Resources:*

The core team is quite small and the funding arrangements do not allow for the purchase of hardware/software to support the project. The following steps have been taken to address these constraints:

* Only open source, or freely available and standard software will be used for the development
* The project team will utilise existing hardware already available and installed and any additional hardware that may be required will be supplied as part of Teesside University match funding.
* The team will engage with its Community of Practice for support in the development of the toolkit, supported by consultancy arrangements to recognise the contribution of core member of the CoP (developers, designers, researchers and evaluators).

## Assumptions

*Scope*

The team will produce a prototype toolkit that demonstrates the functionality of each part of the toolkit limited by the number of widget templates available, a limited number of personas from which to select, and that will be open source ready but may not be mature enough for full launch as an open source product.

*Staff Time*

* Two members of the ARC research team will be working full time on the project (Project Manager and Technical Developer);
* two academic members of the ARC team will be employed for 20% of their time on the project;
* three other ARC researchers will provide additional workshop support;
* consortium team members (principally Dr Simon Ball) will provide workshop and design support.

*Materials*

* All material produced as a result of this project will be prepared as open source and will be documented according to standard practice.
* Technologies used for development will be open source or free.
* Any widgets produced as a result of the project will be subject to Creative Commons licence conditions.

## Risk Analysis

Careful project planning will ensure that risks associated with the project can be monitored and appropriate steps can be taken to ensure that deviations from the critical path are identified and dealt with in a timely manner. The ARC team have a dedicated purpose built research office and laboratory which provides appropriate work space and ensures close daily contact so that any slippage in the project plan can be addressed swiftly. We maintain regular contact with our partners through a monthly research meeting, email, Skype, Twitter, Facebook and the project website so that issues relating to workshops and our Community of Practice can also be monitored.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk Description** | **Probability (P)**  **1 – 5**  **(1 = low**  **5 = high)** | **Severity (S)**  **1 – 5**  **(1 = low**  **5 = high)** | **Risk Score**  **(PxS)** | **Detail of action to be taken**  (mitigation / reduction / transfer / acceptance) |
| Staffing (Loss of staff) | 1 | 2 | 2 | The team is sufficiently experienced to cover any loss through re-deployment. It is led by two academics and involves five disability researchers all of whom can cover absences |
| Organisational (lack of contact between community of practice and partners) | 2 | 4 | 8 | Project management measures will be taken to ensure regular communication between the community of practice including the external consultants. ARC has an established working relationship with its CoP and has worked successfully together on previous JISC funded projects. REALISE will be used to promote the project and increase collaboration. |
| Technical or performance issues | 3 | 2 | 6 | Teesside will use a virtual server for its WIDER resource, templates and toolkit . All resources including the Toolkit will be made available to shadow sites and software data archived regularly. |
| External suppliers | N/A | N/A | N/A | N/A |
| Legal (IPR Copyright Issues) | 1 | 1 | 1 | All software will be open source or freely available for non-commercial use. Widgets and tools contributed by participants will be covered by a Creative Commons License. |
| Design and Technical Specifications too complex | 2 | 4 | 8 | Use of a broad Community of Practice to formalise the knowledge from previous projects and external consultants to contribute to a designer and a developer bash should ensure that designs are technically feasible. In addition there will be an emphasis on standards for interoperability and common understanding of component designs and technical features. |
| Tools development not viable | 3 | 4 | 12 | Existing tools and toolkits will be examined, evaluated and extended and new tools built using existing open source resources where available |
| Too much work for the time and resources | 2 | 5 | 10 | Careful project planning and monitoring to ensure that targets are met and resources monitored with the key element being the development of usable tools and resources |

## Technical Development

The project will follow best practice as indicated in the JISC project management guidelines and with reference to OSS watch for the design, development and packaging of open source products.

* Technical design will be expressed in UML (supported by RDF and XML)
* Interface and interaction design will be expressed with storyboards, navigation charts, flow charts.
* Standard templates will be developed for functions including libraries, widgets, tools with change control documentation.
* A developers’ blog will support the change control functions.
* Development technologies will be open source or free and standards based as detailed in 1.12 below.
* Software and documentation will be securely stored on Source Forge and intermediate versions will be archived on the WIDER repository.
* Testing plans will be developed that incorporate standards compliance as appropriate.
* End user documentation will be produced with support from Techdis.

## Standards

|  |  |  |
| --- | --- | --- |
| **Name of standard or specification** | **Version** | **Notes** |
| W3C Widgets Specification | 1.0 | <http://www.w3.org/TR/widgets/> |
| WCA Guidelines | 2.0 | <http://www.w3.org/TR/WCAG10/> |
| Apache Wookie | Incubating | <http://incubator.apache.org/wookie/> |
| XHTML 1.0 | 1.0 | All the components of the proposed toolkit will be developed using XHTML 1.0 and HTML 5.  <http://www.w3.org/TR/xhtml1/> |
| HTML 5 | 5 | All the components of the proposed toolkit will be developed for HTML 5.  <http://www.w3.org/TR/html5/>  and will adopt ARIA roles, states and properties attributes  http://www.w3.org/TR/wai-aria |
| CSS 3 | 3 | CSS3 will be used in all of our components for describing the presentation semantics (style) of XHTML and HTML5 web pages.  <http://www.w3.org/TR/2011/WD-css3-text-20110412/> |
| JavaScript |  | Within the authoring tool, JavaScript will mostly be used for creating an enhanced interactive interface.  Widgets will exploit JavaScript to create an interactive content.  <http://www.ecma-international.org/publications/files/ECMA-ST/ECMA-262.pdf> |
| PHP5 | 5 | PHP 5 will be used as the server-side scripting language for every advanced functionalities which requires a server-side handling such as configuring the authoring tool according to the result of the DDM process |
| ExtJS | 4 | ExtJS will be used exclusively for developing the authoring tool. It provides powerful features to create dynamic interfaces. The whole tool will be based on an interface developed using the ExtJS library |
| JQuery | 1.6 | JQuery will mostly be used as part of the widgets. It mainly provides a variety of JavaScript functions that facilitate the development of widgets. |

## Intellectual Property Rights

The project outputs will be made available, free at the point of use, to the UK FE and HE community in perpetuity, and may be disseminated widely in partnership with the JISC. The outputs will be freely shared with organisations and communities with which the JISC has close working arrangements.

# Project Resources

## 2.1 Project Partners

The project team is drawn from members of the Accessibility Research Centre which specialises in

researching digital media solutions to support disabled students at all levels of education, and

partners from the JISC Techdis service

**Dr Elaine Pearson**

Role: Main Contact

Elaine Pearson is the Director of the Accessibility Research Centre (ARC) and is the accessibility

consultant and workshop co-ordinator

**Dr Simon Ball (Techdis)**

Role: Accessibility Expert/ Workshop Coordinator

Simon Ball is the Senior Techdis advisor for HE. He will co-ordinate and contribute to the designers’ and technical bashes which will be held at Techdis, York.

Consortium Agreement will be signed by senior representatives for each organisation and a copy sent to the Programme Manager.

## Project Management

**Project Management Framework**

Day to day project management will be carried out by Voula Gkatzidou, reporting to Dr. Elaine

Pearson and Dr. Steve Green, and the Teesside University Finance Officer (Andrea Palfreeman).

There will be weekly meetings of the local Project Team, monthly Skype meetings of the full Project Team, and the Finance Officer.

## Project Roles

|  |  |  |  |
| --- | --- | --- | --- |
| **Team Member Name** | **Role** | **Contact Details** | **Days per week to be spent on the project** |
| Dr. Elaine Pearson | Project Director and Accessibility Consultant  (Adaptability and Inclusion Issues, Interface Design and Evaluation) | Teesside University  Accessibility Research Centre  Phoenix Building  PG.09a  [e.pearson@tees.ac.uk](mailto:e.pearson@tees.ac.uk)  Tel: 01642 342656 | 1 day per week |
| Dr. Voula Gkatzidou | Project Manager  (Day to day project management, financial management, workshop organisation, evaluation, dissemination, reporting) | Teesside University  Accessibility Research Centre  Phoenix Building  PG.09  [s.gkatzidou@tees.ac.uk](mailto:s.gkatzidou@tees.ac.uk)  Tel: 01642 384648 | Full time |
| Dr. Steve Green | Technical Director  (Technical Direction, Manage Technical Specification and Standards) | Teesside University  Accessibility Research Centre  Phoenix Building  PG.09b  [s.j.green@tees.ac.uk](mailto:s.j.green@tees.ac.uk)  Tel: 01642 342670 | 1 day per week |
| Franck Perrin | Researcher/ Lead Developer | Teesside University  Accessibility Research Centre  Phoenix Building  PG.09  [f.perrin@tees.ac.uk](mailto:f.perrin@tees.ac.uk)  Tel: 01642 384648 | Full time |
| Dr. Simon Ball | Expert Consultant | JISC TechDis  [simon@techdis.ac.uk](mailto:simon@techdis.ac.uk)  Tel:1904 717580 |  |

## Programme Support

We would appreciate support in terms of publicising the bashes and advice on the JISC Digital Media services available to record segments of the bashes.

We also understand that the Programme Manager will link us with other similar projects for evaluation

and sustainability.

**The** **Advisory group** made up of individual experts who will be involved with different aspects of the Project (designer bash, technical bash, evaluation stage).

**Matt Harrison,** Portland College

**Dawn Leeder,** University of Cambridge

**Sheila MacNeil,** JISC

**Tom Boyle,** London Metropolitan

**Andy Heath,** AccessForAll

**Scott Wilson,** Wookie

**David Sloan,** Digital Media Access Group, University of Dundee

**Simon Ball,** Senior Advisor, Techdis

**Steve Lee,** Accessibility Consultant

**Ross Gardler,** OSS Watch

**EA Draffan,** University of Southampton

# Detailed Project Planning

## 3.1 Evaluation Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Timing** | **Factor to Evaluate** | **Questions to Address** | **Method(s)** | **Measure of Success** |
| End September | Establish success/limitations of widgets produced during WIDE project | Which widgets best suited users needs?  What other types of widget users would like?  What were the limitations of the design/development process for users? | Questionnaire to members of CoP | Feedback that will establish design requirements for WIDGaT |
| Throughout | Have milestones been met on schedule | Is work progressing according to schedule?  Are stakeholders on board?  Is the team able to cope with the workload? | Regular meetings of project team.  Reference and adherence to project plan | Project achieves stated outputs. |
| End December | Test prototype toolkit | Does the toolkit conform to the design and technical specification?  Is the functionality as expected? | Testing according to a specified test plan by developers. | Toolkit ready for evaluation by wider community |
| End May | Evaluation of toolkit by users | Does the toolkit support end users in the production of widgets? | Evaluation workshop.  Use in practice | Use cases from staff and student end users |
| June | HCI/Usability factors of toolkit | Have the objectives been met for the toolkit? | External expert HCI/ Accessibility evaluation  User feedback. | Independent report on extent to which toolkit meets aims and objectives. |

## 3.2 Quality Assurance

|  |  |  |
| --- | --- | --- |
| **Output / Outcome Name** | Best practice for processes | |
| **When will QA be carried out?** | **Who will carry out the QA work?** | **What QA methods / measures will be used?** |
| Monthly | Project Director and Project Manager | Reference to UIDM model, project plan. |
| Monthly | Technical Director | Ensure standardised and repeatable technical documentation using templates and standard modelling techniques (e.g. UML). |
|  |  |  |
| Output / Outcome Name | Adherence to standards | |
| When will QA be carried out? | Who will carry out the QA work? | What QA methods / measures will be used? |
| During technical specification | Technical Director | Reference to relevant open source standards (e.g. W3C, OSS) |
| During prototype development | External consultant | Expert advice on adherence to appropriate standards |
| During Evaluation stage | Peer review | Checking compliance with Open Source standards (e.g. OSS Watch) |
| Output / Outcome Name | Fitness for purpose | |
| When will QA be carried out? | Who will carry out the QA work? | What QA methods / measures will be used? |
| During design stage | Community of Practice | Evaluation of proposed interface/interaction design |
| During prototype development | External consultant | Expert review of adherence to design specification |
| During Evaluation stage | Peer review | Use cases of the toolkit in practice |
| Output / Outcome Name | Usability, Accessibility, validity | |
| When will QA be carried out? | Who will carry out the QA work? | What QA methods / measures will be used? |
| During design stage | Project Director/Project Manager | Adherence of design to accessibility/usability standard and guidelines |
| During prototype development | Technical Director/ Lead developer | Adherence if technical implementation to standards and guidelines (W3C) |
| During Evaluation stage | Expert consultant | Evaluation be external experts in usability/accessibility.  Evaluation by students and staff users. |

fitness for purpose, , usability, accessibility, validity

## 3.3 Dissemination Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Timing** | **Dissemination Activity** | **Audience** | **Purpose** | **Key Message** |
| 01/07/2011-  31/10/2010 | Promotional literature  (email and blog posts) | HE/FE teachers, students, technical and design experts, disability  practitioners | To invite  participation in  workshops | Community  Involvement in  the project |
| Throughout the project | Creation of project website, hosted by ARC at Teesside. Email project details with link to project website to email lists. Publication of project news in key stakeholder newsletters. | Key Stakeholder groups including Techdis, SEDA, ALT-N, CETIS, REALISE | Awareness (of existence and purpose of project). Encourage participation in CoP. | The website will be regularly updated with information related to the project, sample widgets, widget templates, technical notes etc |
| Throughout the project | Use of social media to publicise key events and developments (Blog posts on project website, Twitter feed and ARC Facebook page) | HE/ FE community | To extend and involve the CoP | Promote and encourage participation in the project |
| 01/09/2011-  31/05/2012 | Attendance at JISC events | JISC SIGs | To promote and  encourage  participation in  the project and  invite feedback | Community  involvement in  the project |
| 01/12/2011-  -post project | Conference and journal publications | Accessibility  /Adaptability  Research  Community | To contribute to  knowledge in the  field of adaptable  learning  resources | Success of the  project in  demonstrating the  effectiveness of  the method |

## 3.4 Exit and Embedding Plans

The WIDGaT project and the separate toolkit components and sample widgets together with the relevant project documentation, website and evaluation will continue to be hosted as part of the ARC research group website. Future research and development funds will be sought to extend the project further to develop the prototype toolkit into a full open source product and to incorporate the toolkit as a component of our APLE (adaptable personal learning environment) initiative.

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| --- | --- | --- |
| **Project Outputs/Outcomes** | **Action for Take-up & Embedding** | **Action for Exit** |
| Project Reports | Posted on ARC WIDGaT Project  website | Report to JISC will be available on the project website. Aspects will be used for articles to be published. |
| Authoring Toolkit: that will support the production of widgets without the need for programming skills to meet needs of disabled students. | Evaluation workshops to get feedback from users.  Demonstration of toolkit at JISC and other related events.  Use of REALISE web site for | Hosting of toolkit and documentation on SourceForge and on ARC web site. |
| Technical documentation and user documentation | Standard templates will be developed for functions including libraries, widgets, tools with change control documentation.  A developers blog will support the change control functions | Documentation on SourceForge, WIdGaT blog and on ARC web site. |
| User documentation | Adopt Techdis standard format for user guides. | User guides in form of Techdis staff packs available on Techdis website and ARC website |
| Sample widgets | Develop sample widgets to demonstrate use cases for the toolkit | All material produced using the toolkit subject to Creative Commons licence, sample widgets to be submitted to JORUM Open. |

## 3.5 Sustainability Plans

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| --- | --- | --- | --- |
| **Project Outputs** | **Why Sustainable** | **Scenarios for Taking Forward** | **Issues to Address** |
| Toolkit components | Can be added to and further developed. Components are developed using standards based tools that are future proofed. | Taken forward by the technical community as an open source product. Developed further to account for changes in standards, additional components added. | Need to be able to extend the CoP  Further funding will be required to extend and develop the work. |
| Toolkit embedded into University systems to support embedding into teachers’ working practice | Toolkit will be open source and available for download, hosting and adaptation according to institutions own requirements. | Groups of early adopters initially from the CoP will lead in promoting the toolkit for wider use. | Further funding required to support embedding and evaluation programme to demonstrate different usage scenarios. |