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| **Minor Award Name** | Graphical User Interface Programming |
| **Minor Award Code** | 6N0736 |
| **Level** | 6 |

**Suggested resources to support delivery:**

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| --- | --- | --- | --- | --- |
| **Theme/Topic** | **Type** | **Relevance** | **Author/Source** | **Web Link** |
| **Software Downloads** | |  |  |  |
| IDE for VB.NET | Software Download | Visual Studio Community is a free, fully-featured, and extensible IDE for creating windows applications. | Microsoft | <https://www.visualstudio.com/en-us/products/visual-studio-community-vs.aspx> |
| IDE for Java | Software Download | Eclipse is a free, open source and cross platform IDE used for developing and unit testing Java applications (but plugins available for other languages including C, C++ and PHP). | Eclipse Foundation | <https://eclipse.org/downloads/> |
| IDE for Java and C++ | Software Download | NetBeans is a free, open source and cross platform IDE primarily intended for developing Java applications (but C++ plugin is available). | Oracle | <https://netbeans.org/downloads/> |
| Design tool | Software Download | Pencil is free, open source software that gives the student a suite of tools that they can use to design solutions for GUI interfaces. Pencil is available for all platforms. | Evolus | <http://pencil.evolus.vn/Downloads.html> |
| Image manipulation software | Software Download | GIMP (GNU Image Manipulation Program) is a free and open-source graphics editor used for image retouching and editing, free-form drawing, resizing, cropping, converting between different image formats, and more specialised tasks. | Spencer Kimball and Peter Mattis | <http://www.gimp.org/downloads/> |
| Image and audio source | Website | Creative Commons is a useful site for downloading graphics, audio and video which can be used in a GUI program. | Creative Commons | <http://search.creativecommons.org/> |
| **General Resources** | |  |  |  |
| Traditional and Modern Software Development Methodologies | PDF | This comprehensive document gives text and diagrammatic information on the Waterfall Model, the Iterative Model, the Spiral Model, the V-Model, Big Bank Model, Agile Model, RAD and Software Prototyping. | Tutorials Point | <http://www.tutorialspoint.com/sdlc/sdlc_tutorial.pdf> |
| Testing Software | PDF | This document contains detailed guidelines on how to fully and comprehensively test a program. It includes Unit Testing, Link/Integration Testing, Function Testing, System Testing and Acceptance Testing. It clearly explains how testing should be conducted and documented. | The Government of the Hong Kong Special Administrative Region | <http://www.ogcio.gov.hk/en/infrastructure/methodology/system_development/doc/g20.pdf> |
| **Tutorials** |  |  |  |  |
| General | Website | Good reference site for specific VB.NET and Java topics. | Tutorials Point | <http://www.tutorialspoint.com/vb.net/>  <http://www.tutorialspoint.com/java/> |
| General | Website | These Java Tutorials are practical guides for programmers who want to use the Java programming language to create applications. They include hundreds of complete, working examples, and dozens of lessons. Groups of related lessons are organised into "trails". | Oracle | <https://docs.oracle.com/javase/tutorial/> |
| General | Website | This YouTube channel contains a series of relatively short videos that instruct the user in basic and advanced GUI programming concepts using VB.NET. | TeachMeComputer | <https://www.youtube.com/playlist?list=PL42055376AE25291E> |
| Connect to a database | Video | Step by step guide to connect VB.NET to a database. | Tutorials Point | <http://www.tutorialspoint.com/vb.net/vb.net_database_access.htm> |
| Communicate with a database | Video | This video details how to connect a VB application to an Access database and how to communicate with that database using SQL. | VB Toolbox (YouTube) | <https://www.youtube.com/watch?v=q19OXha1jDw> |
| **Exercises** |  |  |  |  |
| Quiz Creator | Software | This software is not specific to Object Oriented programming, but Hot Potatoes is a useful piece of software that includes five applications that can help create exercises for students to complete. | University of Victoria Humanities Computing and Media Centre | <https://hotpot.uvic.ca/> |
| Useful Exercises | Website | This site contains some fun maths problems that will make good exercises enabling a student to design suitable interfaces and develop their coding ability. |  | <https://www.mathsisfun.com/> |
| **Quick References** | |  |  |  |
| Dictionary | Website | The Free On-line Dictionary of Computing (FOLDOC) is an online, searchable, encyclopaedic dictionary of computing subjects. | Denis Howe, Imperial College London | <http://foldoc.org/> |
| Reference Sheet | PDF | This one-page document is a useful reference for checking the syntax of basic VB statements.  This site is a useful reference for checking the syntax of Java statements. | DreamInCode  Dummies | <http://www.dreamincode.net/downloads/ref_sheets/vbnet_basics_reference_sheet.pdf>  <http://www.dummies.com/how-to/content/java-for-dummies-cheat-sheet.html> |
| Reserved Keywords | Website | Reserved keywords in VB.NET and Java at a glance, with links to their usage. | Microsoft  Wikipedia | <https://msdn.microsoft.com/en-us/library/ksh7h19t(v=vs.90).aspx>  <https://en.wikipedia.org/wiki/List_of_Java_keywords> |
| Style Guides | Website | Guide to the dos and don'ts of writing VB and Java code. | Microsoft  Google | <https://msdn.microsoft.com/en-us/library/h63fsef3.aspx>  <https://google.github.io/styleguide/javaguide.html> |
| **Books** |  |  |  |  |
| General | EBook | Though this book is based primarily on VB6, it contains good explanations, with accompanying screenshots of concepts that are common across all VB IDEs. It begins by explaining how to install an IDE, and works through creating forms, using controls, defining data types, branching, looping, strings, arrays and files. | Techotopia | <http://www.techotopia.com/index.php/Visual_Basic_Essentials> |
| **Media** |  |  |  |  |
| Pirates of Silicon Valley | Movie | Biographical movie of Apple’s Steve Job and Steve Wozniak and Microsoft's Bill Gates and Steve Ballmer depicting the history of Apple and Microsoft. | IMDB | <http://www.imdb.com/title/tt0168122/?ref_=nv_sr_1> |
| Codes that changed the world. | Podcasts | Interesting podcasts on different programming languages. | BBC Radio 4 | <http://www.bbc.co.uk/programmes/b05qqhqp/episodes/downloads> |
| General | Website | News site | DHI Group, Inc. | <http://developers.slashdot.org/> |

**Useful Organisations:**

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| **Name** | **Contact Information** |
| Microsoft Virtual Academy | [www.microsoftvirtualacademy.com](http://www.microsoftvirtualacademy.com/);<https://www.facebook.com/MSVirtAcademy/> |
| Microsoft Developer Network | <https://msdn.microsoft.com/en-ie/dn308572.aspx> <https://twitter.com/MSDN?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor> |
| Oracle Technology Network | <http://www.oracle.com/technetwork/index.html> |
| Quality and Qualifications Ireland | [www.qqi.ie](http://www.qqi.ie) |
| Further Education Support Service (FESS) | [www.fess.ie](http://www.fess.ie) |
| NITTA (National Information Technology Teachers Association) | Become a member of the Nitta Brown Bag Sessions to share information: <https://sites.google.com/a/cfedundrum.com/nitta-brown-bag-sessions-beta/> |
| **MOOCs (Massive Online Open Courses)** | |
| Free access to online courses  Search regularly for new courses and new start dates | https://www.mooc-list.com/ |